DETERMINANTS OF CHOICE OF PLACE OF DELIVERY BY WOMEN WITH INFANTS IN KAKAMEGA COUNTY, KENYA

BY

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DECLARATION

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I wish to dedicate this thesis document to:

(i) The Almighty God for His gift of life, divine protection and good health.

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(iii) All women for their noble role in propagation of life.

ABSTRACT

Maternal mortality is unacceptably high in Kenya with 8,000 women dying every year from obstetric complications. Kakamega county is ranked fifth among counties with highest maternal death burden in Kenya. Increasing the proportion of skilled delivery is one of the most important interventions in averting maternal deaths. However, 53% of women in Kakamega still deliver at home attended by unskilled assistants contributing to high maternal deaths. The choice of childbirth place is influenced by interaction of diverse determinants within the contextual environment. The study was thus carried out with the main objective of assessing the determinants of women's choice of delivery place in Kakamega County. A cross-sectional design was adopted. A total of 363 women aged 15-49 years who had given birth one year prior to the study were included from a target population of 27,439. Multistage sampling was used to select study participants. A structured questionnaire on fifteen variables was used to collect quantitative data. Qualitative data was obtained using focus group discussions with four groups of women who were not interviewed. Furthermore, in-depth interviews with four key informants including traditional birth attendant, midwife, facility-in-charge and sub county reproductive coordinator were done. The outcome variable was place of delivery measured as health facility or home. Data was analyzed using SPSS v20. Descriptive statistics and logistic regression were used for statistical analysis. Relationship between determinants and place of delivery were analyzed at 95% confidence interval. Factors with *P* value < 0.05 were considered statistically significant. The result showed that 85% of births occurred at health facility and 15% in different locations at home. In this study, women who attended four or more antenatal visits were twice more likely to deliver at health facility (OR 2.180; 95% CI 1.126-4.219; *P*=0.021). Women with knowledge on dangers associated with home delivery were seven times more likely to deliver in the health facility (OR 6.798; 95% CI 2.385-19.376; *P*=<0.001). In addition, an increase in the number of children delivered reduced the likelihood of delivering at health facility by 18.1% (OR 0.819; 95% CI0.709-0.945; *P*=0.006). In conclusion, results from this study indicate that number of ANC visits, maternal knowledge on dangers of home delivery and parity influenced choice of place of delivery. It is recommended that to improve hospital deliveries, health education on importance of at least four ANC visits during pregnancy should be prioritized. In addition, counselling on risks associated with home delivery should be intensified. Finally, women with four or more children should have enhanced focus for health facility delivery.

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LIST OF ABBREVIATIONS

ANC	Antenatal Care
CDC	Centre for Disease Control and Prevention
CHS	Community Health Strategy
CIDP	County Integrated Development Plan
SBA	Skilled Birth Attendant
FGD	Focus Group Discussion
FMS	Free Maternity Services
IDIs	In-depth Interviews
IQR	Inter Quartile Range
KDHS	Kenya Demographic Health Survey
KII	Key Informant Interview
MNCH	Maternal, Neonatal and Child Health
MDGs	Millennium Development Goals
MMR	Maternal Mortality Ratio
MNH	Maternal and Newborn Health
MOH	Ministry of Health
NHIF	National Health Insurance Fund
NHSSP	National Health Sector Strategic Plan
OBA	Output Based Aid programme
PPH	Post-Partum Hemorrhage
SBA	Skilled Birth Attendant
SDG	Sustainable Development Goals
SMI	Safe Motherhood Initiative
SPSS	Statistical Package for Social Sciences
SSA	Sub Sahara Africa

TBAs	Traditional Birth Attendants
UN	United Nations
UNAIDS	United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNFPA	United Nations Population Fund Agency
USAID	United States Agency for International Development
WB	World Bank
WHO	World Health Organization

OPERATIONAL DEFINITION OF TERMS

Place of delivery

Refers to the exact place where the expulsion of the baby (second stage) and expulsion of the placenta and membranes (third stage) occurred. It is defined as either heath facility or home delivery. Health facility delivery occurs when a woman gives birth in a hospital, health centres or dispensary and is staffed by midwives/nurses, clinical officers or doctors. Home delivery is where woman give birth outside a formal health institution.

Maternal mortality

Maternal death is defined as the direct or indirect death of a woman while pregnant or within 42 days of termination of the pregnancy, irrespective of the duration and site of pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes.

Skilled Birth Attendant

A medically qualified provider with midwifery skills (midwife, nurse or doctor) who has been trained in proficiency necessary to manage normal deliveries, as well as diagnose, manage, or refer obstetric complications.

Safe delivery/ skilled attendance

Delivery attended by a skilled birth attendant.

Unskilled Birth Attendant

Delivery attended by any person not medically qualified to provide midwifery services. These include Traditional Birth Attendants, relatives, friends and self.

Traditional Birth Attendant (TBA)

Traditional, independent (of the health system), non-formally trained and community-based providers of care during pregnancy, childbirth and the postnatal period.

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CHAPTER ONE: INTRODUCTION

1.1 Background Information

Pregnancy and childbirth are special events in women's lives and indeed in the lives of their families. Although pregnancy is not a disease but a normal physiological process, it is associated with risks to the health of both the women and neonates (WHO, 2015b). These risks include severe bleeding, infection, unsafe abortion, and eclampsia (Say et al., 2014). These risks are present in every society and in every setting. Around 15% of all pregnant women will develop potentially life-threatening complications (Pacagnella et al., 2014).

Annually, approximately 303,000 women die from complications related to pregnancy and childbirth (WHO & UNICEF, 2012). Developing countries account for 99% (302,000) of the global maternal deaths. Sub-Saharan Africa alone accounts for 66% (201,000) the deaths (WHO & UNICEF, 2012). These deaths are attributed to lack of access to skilled birth attendance by pregnant women and inadequate knowledge and skills of healthcare providers in emergency obstetrics and neonatal care (Turab et al., 2013).

In addition, the Maternal Mortality Ratio (MMR) in developing regions (239 maternal deaths per 100,000 live births) is almost 20 times higher than in developed regions (12 maternal deaths per 100,000 live births) (WHO & UNICEF, 2012). Globally, sub-Saharan Africa has the highest MMR at 546 maternal deaths per 100,000 live births (WHO & UNICEF, 2012). In contrast, less than 1% of the pregnancy-related deaths occur in the more developed parts of the world, making maternal mortality one of the health indicator showing the greatest disparity between developing and developed countries (WHO, 2015a).

Globally, the millennium development goal (MDG) 5 was not attained by end of 2015. Despite the MMR reducing by approximately 44% between 1990 and 2015, this was short of the MDG target 5A of at least 75% MMR reduction (WHO, 2015b). Majority of the countries that contributed to the underperformance were in the Sub Saharan Africa, Kenya included.

The current sustainable development goal (SGDs) aims to reduce the global maternal mortality ratio to less than 70 per 100 000 live births by 2030 (WHO & UNICEF, 2017). This will require reducing global MMR by 7.5% each year between 2016 and 2030. This will be more than three times the annual reduction rate (2.3% annual decline) observed globally between 1990 and 2015 (WHO, 2015b).

In Kenya, it is estimated that 8,000 maternal deaths occurred in 2015 and the MMR stands at 510/100,000 (WHO & UNICEF, 2012). The adult lifetime risk of maternal mortality (the probability that a 15-year-old female will die eventually from a maternal cause) in Kenya is 1 in 55 in contrast to 1 in 4,900 among women in developed countries (WHO, 2012).

Within Kenya, there exist considerable regional disparities in MMR (MOH, 2016). The county with the highest MMR is 20 times that of the lowest county. In addition, the county with the highest MMR has low (21.7%) skilled delivery while the county with lowest MMR has high (92.6%) skilled delivery (MOH, 2016). The Kenya Ministry of Health (MoH) has identified three leading direct causes of maternal mortality as follows; postpartum hemorrhage (PPH) causing 39% of maternal deaths, eclampsia accounting for 19% of maternal deaths and maternal sepsis contributing 9% of deaths (MOH, 2016). Deaths of women arise from delayed emergency care and lack of health personnel skilled in the use of both surgical and non-surgical interventions.

The above situation exists despite concerted efforts by the national government to implement policies and strategies to address the high maternal mortality. Some of these strategies included; the Free Maternity Services launched in June 2013 aiming at increasing access to skilled delivery services thereby reducing maternal mortality (Bourbonnais, 2013). The Beyond Zero campaign launched in January 2014 to response to the country's high maternal mortality and mother to child HIV transmission rates. The introduction of various health payment schemes, such as the National Health Insurance Fund (NHIF) and the Output Based Aid programmes in order to facilitate access for women to skilled care during pregnancy, childbirth and postnatal period by addressing the financial barriers (MOH, 2016).

In Kakamega county, maternal mortality ratio is high at 316 deaths per 100,000 live births, translating in 364 deaths every year. The county is ranked fifth of the fifteen counties that contribute to 98.7 % of total maternal deaths in Kenya. Majority of these deaths occur during delivery (44%) compared to those occurring during pregnancy (20%) and after delivery (36%) (Odhiambo, 2012). A recent study showed that the main obstetric complications that women suffer in Kakamega county are hemorrhage (38%), eclampsia (15%), obstructed labour (13%) and puerperal sepsis (11%) (Liambila & Kuria, 2014).

The percentage of births assisted by skilled providers is still low in Kakamega county. Only 47% of women are delivered under the supervision of a skilled birth attendant (KDHS, 2014). Further, the recent study in Kakamega found out some of the reasons for delivery away from health facility were; undignified care at health facility, high delivery and transport costs, fear of hospital procedures such as HIV tests and inability to access the placenta to be buried in a specific area within the homestead (Liambila & Kuria, 2014).

Consequently, most maternal deaths in Kakamega are attributed to the delay by pregnant women in deciding to seek care from a skilled attendant since 53% of them give birth at home (KDHS, 2014). Secondly, in case of complication they delay in reaching health facilities with capacity to offer basic emergency obstetric care to save their lives.

In order to address the high maternal mortality contributed by the low proportion of skilled deliveries in Kakamega County, a number of strategies were initiated to reduce maternal mortality. This included the maternal and child health programme that commenced in 2015 (Mukabana, 2016). The programme was started by the county government of Kakamega to encourage pregnant women to seek all essential MNH services. The initiative linked conditional cash incentives to improved utilization of maternal and child health services.

The services included: attendance of four antenatal care visit during pregnancy; delivery in a health facility; attendance of postnatal checkup and child immunization at six weeks after delivery; administration of vitamin A at six months; uptake of immunization at nine months; and completion of recommended course of child immunizations at 18 months (Kimani & Namusonge, 2016).

In addition, the free maternity service was started in 2013. The overall objective of this initiative was to increase access to skilled delivery services thus reducing maternal and infant mortality. The free maternity program abolished user fees in all public maternity units in the county. This made it easier for the county's most vulnerable women to access lifesaving delivery services. Furthermore, the free ambulance services were started in 2014. This aimed at helping expectant mothers with complication reach referral health facilities for specialized management thereby reducing incidence of maternal deaths (Liambila & Kuria, 2014).

Delivery outside health facility subject women to obstetric complications such as tears, retained placenta, ruptured uterus, postpartum hemorrhage and puerperal sepsis (Kent, 2011). Coupled with a largely rural terrain, limited transport and inadequate referral system, women are at increased risk of dying from delivery complications (Odusola, 2013). In poor settings, non - health facility deliveries are associated with increased maternal morbidity and mortality and increased newborn morbidity and mortality (Chou, Daelmans, Jolivet, Kinney, & Say, 2015). In developed countries, studies have shown an increased maternal or neonatal risk associated with planned home birth. In the Netherlands, a study of women who had low-risk pregnancies found that two out of every 1,000 women died during home birth and over 50 percent experienced hemorrhaging or extreme blood loss (de Jonge et al., 2013). Giving birth in the hospital reduced the risk of these severe complications by about 26 percent.

In over two decades, the Three Delays model has outlined three phases of delays from the household to facility levels that can postpone provision of appropriate treatment, thus increasing the risk of maternal death (Thaddeus & Maine, 1994). The first delay relates to recognizing danger signs and deciding to seek care. Many complications during childbirth are unpredicted and sudden. Medical knowledge is needed to diagnose and manage them appropriately and in a timely manner. However, with home deliveries most of these complications are often identified too late, thereby increasing the incidence of maternal mortality. Specific client related barriers that contribute to this delay are low educational levels, low economic status of women, poor understanding of complications and risk factors, misunderstanding about when interventions are needed, and cultural beliefs hindering women from seeking skilled care (Abdel-Raheem et al., 2017).

The second delay relates to delays that prevent women with obstetric complications from reaching a health facility that provide appropriate lifesaving services. A lack of access to vehicles or ambulances, passable roads, or limited public transportation options means that it can take hours or even days to reach a health facility (Atuoye et al., 2015). Specific access related barriers that contribute to this delay in communities include long distance to a health facility, limited availability of referral systems for maternity emergencies, unaffordable transport costs and poor roads network (Atuoye et al., 2015).

The third delay refers to delays in receiving appropriate care at a health facility. Even if a woman makes it to a health facility in time, she may receive inadequate care and treatment leading to death. This is a particular concern in low-resource settings. The specific health facility related barriers include lack of trained and skilled staff, insufficient number of staff, poor staff attitudes and lack of motivation, limited availability of commodity, supplies and equipment, and general poor conditions of the facility (MOH, 2016).

On the other hand, skilled deliveries conducted in health facilities have shown to markedly reduce postpartum hemorrhage and other causes of maternal mortality. Much of the benefit of having a skilled attendant at delivery occurs through the process of active management of the third stage of labour. This refers to a concept of minimization of maternal blood loss immediately after birth through administration of uterotonic drug that causes strong uterine contractions thereby averting maternal death (Nieburg, 2012).

Therefore, pregnancy and childbirth should be viewed as a special period during which all women should take particular care and seek immediate treatment in health facilities for certain signs and symptoms such as heavy bleeding, labour continuing for more than 12 hours, elevated blood pressure, and fever.

The three delays model recognizes the complex and interrelated nature of individual, household and facility factors that create barriers to access to high-quality maternal care for women (Abdel-Raheem et al., 2017). In diverse contexts, individual factors; including maternal age, parity, education and marital status, household factors; including family size, household wealth, and community factors including socio-economic status, community health infrastructure, region, rural/urban residence, available health facilities, and distance to health facilities determine place of delivery and these factors interact in diverse ways in each context to determine choice of place of delivery.

1.2 Statement of the Problem

The consequences of delivery by unskilled personnel are devastating and threatening to the life of both mother and the newborn. Every time a woman is pregnant, which is estimated at 200 million times every year around the world, a woman risks a sudden and unpredictable complication that could result in her death or lifelong injury. At least 40% of all pregnant women will experience some type of obstetric complication during their pregnancies. For about 15% these, complications will be potentially life threatening. Such complications can occur in pregnancy, during labor, delivery and postpartum period that require high quality obstetric care.

Kakamega county is ranked fifth among counties with high burden of maternal deaths in Kenya. Every year an estimated 364 maternal deaths occur, translating in one maternal death every day. Majority (40%) of these deaths occur during childbirth, 20% occur during pregnancy and 36% immediately after birth. The main obstetric complications that women suffer in Kakamega county include; hemorrhage (38%), eclampsia (15%), obstructed labour (13%) and puerperal sepsis (11%).

The high maternal death in Kakamega county is contributed by the delay of pregnant women in deciding to seek care from a skilled attendant. Majority (53%) of women in the county give birth away from health facility. This subjects women to obstetric complications such as severe bleeding, eclampsia, ruptured uterus, retained placenta, and puerperal sepsis that increase the risk of death. Secondly, when complications arise at home, they delay to reach health facilities with capacity to offer basic emergency obstetric care to save their lives.

In contrast, skilled deliveries conducted in health facilities have shown to markedly reduce postpartum hemorrhage and other causes of maternal mortality. Compared to unskilled birth attendants at home, skilled birth attendants at health facility possess medical knowledge, essential commodity, supplies and equipment needed to diagnose and manage appropriately obstetric complications thereby averting maternal death.

Therefore, for Kakamega County to address the high maternal mortality health facility deliveries should be increased. This will ensure women have access to basic maternity care during pregnancy, delivery and early postpartum period.

1.3 Justification of Study

Childbirth in a health facility while attended to by trained health professional has been shown to be associated with lower rates of maternal mortality and morbidity compared to home births. Yet, Kakamega County is burdened with high maternal deaths. This is contributed by low health facility deliveries with most (53%) women preferring to deliver at home. The three delays model recognizes the complex and interrelated nature of individual, household/community and facility determinants that create barriers to access to high-quality maternal care for women. These determinants interact in diverse ways in each context to determine choice of place of delivery. Although numerous interventions have been initiated by both the County and National governments aimed at ensuring increased coverage of hospital deliveries, factors that determine the choice of delivery place in Kakamega County are yet to be investigated. These study therefore sought to investigate determinants of choice of place of delivery to better understand and appropriately address challenges faced by women through reproductive health programs. This will help to develop effective strategies for increasing the utilization of health facility delivery in Kakamega county rural areas, with an aim of reducing maternal mortality.

1.4 Research Questions

1. What are the individual determinants that influence choice of place of delivery among women with infants in Kakamega County?
2. What are the household determinants that influence choice of place of delivery among women with infants in Kakamega County?
3. What are the facility related determinants that influence choice of place among women with infants in Kakamega County?

1.5 Research Objectives

1.5.1 Broad Objective

To investigate determinants of choice of place of delivery among women with infants in Kakamega County.

1.5.2 Specific Objectives

1. To determine individual determinants that influence choice of place of delivery among women with infants in Kakamega County.
2. To determine household determinants that influence choice of place of delivery among women with infants in Kakamega County.
3. To determine facility-related determinants that influence choice of place of delivery among women with infants in Kakamega County.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introductory Overview

This section outlines the conceptual framework of the study and cites various literature concerning determinants and their influence on choice of place of delivery. It explains the relationship that has been noted between the variables in studies done elsewhere.

2.2 Significance of Place of Delivery as the primary outcome of interest

The Millennium Development Goal 5 (MDG 5) is one of the MDGs adopted globally aimed at reducing the maternal mortality ratio by three-quarters between 1990 and 2015. By end of 2015, the global MMR fell by nearly 44% over the past 25 years. The MMR fell to an estimated 216 maternal deaths per 100 000 live births in 2015, from an MMR of 385 per 100,000 live births in 2015. The overall aim of MDG 5 was not achieved by the year 2015 (WHO & UNICEF, 2012).

Globally, obstetric hemorrhage is the main direct cause of maternal death accounting for 25% of deaths (WHO & UNICEF, 2012). Other direct causes are puerperal sepsis (15%), complications of unsafe abortion (13%), eclampsia (12%), and obstructed labor (8%). Indirect causes of maternal death include AIDS, anemia and malaria in pregnancy (WHO & UNICEF, 2012). The proportion of AIDS-related maternal deaths are estimated at 10.4 in Sub Sahara Africa. Eighteen countries have a proportion of maternal deaths attributed to HIV of 20% or more including Kenya at 20.2% (WHO & UNICEF, 2012).

Sub-Saharan Africa accounts for 66% of global maternal deaths compared to less than 1% in the more developed countries. One reason for the poor health outcomes among women in resource-poor settings is inadequate access to obstetric care and poor utilization of these services by a large number of women (WHO & UNICEF, 2012). Home delivery is usually associated with increased maternal mortality due to lack of requisite skills by the attendant to manage well the complications when they occur. In addition, they lack the essential equipment, medicines and supplies (WHO & UNICEF, 2012).

Ensuring that all births are attended by a skilled health worker is a key strategy to reduce maternal deaths (Darmstadt et al., 2013). Skilled birth attendant (SBA) is defined as the process where a skilled provider, supported by an enabling environment is able to support women with adequate care during labour, delivery and early postpartum period (Utz, Siddiqui, Adegoke, & van den Broek, 2013).

Skilled birth attendance has two components namely trained personnel (skilled birth attendant), and the enabling environment which includes availability of drugs, supplies, equipment, infrastructure and the right policies. A skilled birth attendant is a healthcare professional who has been educated and trained to proficiency needed to manage normal pregnancies, childbirth, and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns. These include a midwife, doctor, clinical officer, or nurse (Utz et al., 2013). Traditional Birth Attendants (TBAs) are excluded from this definition as most of them (80%) lack formal training in pregnancy and birthing related matters (Choguya, 2015).

Skilled birth attendance facilitates early identification and proper management of complications. This indicator is therefore used for monitoring progress towards reduction of maternal mortality (UNDP, 2011). Secondly, the common factor among countries managing to reduce maternal mortality has been the presence of skilled providers attending most of the deliveries. In high income countries, 99% of deliveries are conducted by skilled attendants (WHO, 2015a).

The trend of maternal mortality ratio (MMR) in Kenya shows that there has been no significant decline in the recent years. The Kenya Demographic and Health survey (KDHS) reports indicate MMR as follows: 590/100,000 (1989); 365/100,000 (1993); 590/100,000 (1998); 414/100,000 (2003); 488/100,000 (2008), and 362/100,000 (2014). The decrease is not significant due to the overlapping confidence intervals (WHO & UNICEF, 2012). The leading cause of maternal deaths in Kenya is postpartum hemorrhage at 34%, eclampsia at 19% and puerperal sepsis at 9%. The high MMR is linked to the stagnation in the trend of skilled delivery over the same period as reported by KDHS. Skilled deliveries were as follow: 50% (1989); 45% (1993); 44% (1998); 42% (2003); 43% (2008), and 60% (KDHS, 2014).

Table 2.1: Trends of Maternal Mortality Ratio and Health Facility Deliveries in Kenya

Year	Skilled attendance at delivery (%)	Maternal mortality ratio (deaths per 100,000 live births)
1989	50	590
1993	45	365
1998	44	590
2003	42	414
2008	43	488
2014	60	362

Source: (KDHS, 1989, 1998, 2008-09, 2014)

Thousands of women in Kenya are still dying due to complications of childbirth each year as a result of lack of timely access to and utilization of basic emergency obstetric care (Essendi, Mills, & Fotso, 2011). Hence, Kenya is categorized among twenty-six countries that made no progress towards attaining MDG 5 (WHO, 2015b).

2.3 Strategies Towards Ending Preventable Maternal Mortality

Maternal health, wellbeing and survival remains a central goal and investment priority in the post-2015 framework for sustainable development. Globally, the United Nations (UN) Secretary-General launched the '*global strategy'* to mobilize commitments by governments, civil society organizations and development partners to accelerate progress towards Sustainable Millennium Goal (SDG) 3 (Ki-Moon, 2010). The strategy takes a life-course approach that aims for the highest attainable standards of health and well-being at every age. A person's health at each stage of life affects health at other stages and also has cumulative effects for the next generation.

Additional political support for reducing maternal mortality, especially in countries with significant HIV epidemics, has come in the form of the *Global plan towards the elimination of new HIV infections among children by 2015 and keeping their mothers alive*, which aims to reduce by half maternal deaths among HIV positive women (UNAIDS, 2011).

The United States Agency for International Development (USAID) has envisioned "*A world where no woman dies from preventable maternal causes and maternal and fetal health are improved"*.

The agency developed strategic approaches to ending preventable maternal deaths. The key pillars of the strategy include: enabling and mobilizing individuals and communities to improve healthy behaviors, expand use of appropriate services, and hold health systems accountable (USAID, 2014). Secondly, advancing quality, respectful care that reduces maternal morbidity, disability, and mortality and improves fetal health. Finally, strengthening health systems and continuous learning to support the system of care needed from pregnancy through the postpartum period (USAID, 2014).

In addition, the '*A Promise Renewed,'* initiative of 2012 is a call to action for countries to focus on three main goals; to mobilize political leadership, to end preventable maternal and child deaths, to achieve consensus on a global road map highlighting innovative and proven strategies to accelerate reductions in child mortality and to drive sustained collective action and mutual accountability (UNICEF, 2015).

At the regional level, an initiative by African Union Commission (AUC) and UNFPA, the *Campaign on Accelerated Reduction of Maternal Mortality in Africa* (CARMMA) seek to intensify the implementation of the Maputo Plan of Action for the reduction of maternal mortality in the African region (Othim, 2015). The Maputo Plan of Action focused on the following areas; maternal and child health, integration of services, reposition family planning, human resources for MNCH quality service delivery and strengthening community health services.

In Kenya, a number of strategies aiming at reducing the burden of maternal deaths and ill health have been put in place. The *Kenya Maternal and Newborn Health* (MNH) model is a six pillar model which include: - pre-conceptual care and family planning; focused antenatal care; essential obstetric care; essential newborn care; targeted post-partum care and post-abortion care. These services are underpinned by a foundation of skilled attendants and a supportive and functional health system. The Kenya MNH model recognizes the potential role communities have in the promotion of their own health as a proponent of the *Alma Ata Declaration* supportive of primary health care (MOH, 2016).

In agreement with all African Union (AU) countries, the Government of Kenya launched the *Maternal and Newborn Health Road Map.* The goal was to accelerate the reduction of maternal and newborn morbidity and mortality towards the achievement of the MDGs through strategic partnerships for enhanced investment in institutional and maternal newborn health programs (MPHS&MMS, 2010).

This was to be achieved through; increasing the availability, accessibility, acceptability and utilization of skilled attendance during pregnancy, childbirth and the postpartum period at all levels of the health care delivery system; strengthening the capacity of individuals, families, communities, and social networks to improve maternal and newborn health, and strengthening data management and utilization for improved MNH (MPHS&MMS, 2010).

2.4 Decision Making Process

The random utility theory is based on the hypothesis that all individuals are rational decision makers, maximizing utility relative to their choices. It assumes that the decision maker in making a choice considers a set of mutually exclusive alternatives. The decision maker therefore ranks the alternatives according to the perceived utility and selects the alternative that maximizes her utility. The utility assigned to each alternative depends on the alternatives attributes and the characteristics of the decision maker (Wittink, Givens, Knott, Coyne, & Barg, 2011).

Therefore, choice of place of delivery by women could be influenced by a number of factors which may include their age, number of children they have, marital status, level of education, traditional beliefs, occupation, means of transport, antenatal care visits, knowledge and attitudes towards quality of care in health facilities or at home. These factors may influence their behavior regarding where to give birth either health facility or home. This study therefore bases its analysis in a random utility theory that assumes that an individual has a perfect discriminatory power, which often would tend to be region specific, driven by factors that include both cultural, social and economic indicators. Hence, women can determine their best choice on where to give birth.

2.5 Determinants Influencing Choice of Place of Delivery

Utilization of health services including obstetric care is a complex behavioral phenomenon. The use of health services is related to availability, quality and cost of services as well as social structure, health beliefs and personal characteristics of the users (Levesque, Harris, & Russell, 2013). This section consists of review of previous studies from different countries and in Kenya, on determinants that influence choice of place of childbirth.

2.5.1 Individual Determinants and Choice of Place of Delivery

Most of the studies reviewed focused on demand factors (that is individual, household and community) which determine the woman choice of place of delivery (Dickson, Adde, & Amu, 2016; Envuladu, Agbo, Lassa, Kigbu, & Zoakah, 2013; Mehari, 2013; Ochako, Fotso,

Ikamari, & Khasakhala, 2011; Tebekaw, James Mashalla, & Thupayagale-Tshweneagae, 2015). The age and parity are determinants for the place of delivery. Studies show that women's current age influence their choice of place of delivery. Young women have no experience in child births and they tend to fear complications related to pregnancy and child birth (Dickson et al., 2016; Envuladu et al., 2013; Tebekaw et al., 2015). Previous studies have also shown that low parity, younger maternal age, have increased likelihood of choosing a health facility for health service use including childbirth.

Women with 35 years and above with more than five children tend to deliver at home because they consider themselves as having experience so they don't need assistance from skilled workers (Fapohunda & Orobaton, 2014). Low parity (that is, the number of children born to a woman) increases the likelihood of a woman using health facility services during delivery while high parity reduces the likelihood of a woman using the health facility during delivery. For high parity women as the number of children increases, women tend to believe that skilled delivery care is not important and they tend to rely on past knowledge and experiences from the previous births (Breen & Ensor, 2011; Mehari, 2013; Obago, Ouma, & Owino, 2013; Ochako et al., 2011). However, other studies Lwelamira et al 2012; Sahoo et al 2015 has shown that the age is not associated with choice of place of delivery.

Previous studies found that the level of education of women significantly influenced the choice of place of delivery (Envuladu et al., 2013; Lwelamira & Safari, 2012; Yegezu & Kitila, 2015). People with higher education are more likely to opt for healthcare services as compared to their less educated counterparts (Kamal, 2013). This is because people with more years of education are more likely to be sensitive towards their health and are better aware about access to healthcare options.

The effect of religion on use of healthcare services during delivery varies significantly from one study to another and from country to another (Anwar, Nababan, Mostari, Rahman, & Khan, 2015). A recent study by Yegezu et al 2014 found out that, being a Muslim reduces the likelihood of a woman using health facility during delivery. Protestant women are more likely to use institutional delivery services compared to women who follow traditional beliefs. In another study, it was observed that religion had no significant association with the choice of a place of delivery (Envuladu et al., 2013).

Earlier studies also show that higher education for women increases the likelihood of women delivering in a modern health facility (Envuladu et al., 2013; Obago et al., 2013;

Ochako et al., 2011; Yegezu & Kitila, 2015). These studies suggest that the positive relationship might be because highly educated women are informed about the benefits of using modern health services during delivery.

The association between marital status and choice of place delivery differed from one study to the other (Say & Raine, 2007). In a study in Nigeria, Envuladu et al, 2013 found that divorcees and widows were more likely to opt for home delivery compared to those married. On the other hand, Lwelamira et al 2012 in Tanzania found that marital status at most recent birth had no effect on odds for reporting delivery in health facility.

Studies show that antenatal care visits increase the likelihood of delivering at a health institution (Dahal, 2013; Envuladu et al., 2013; Lwelamira & Safari, 2012; Yegezu & Kitila, 2015). Women who never attended antenatal care visits were less likely to deliver in a health facility (Kawakatsu et al., 2014; Mehari, 2013; Obago et al., 2013; Ochako et al., 2011; Yegezu & Kitila, 2015). Women who visit health facilities for ANC services receive more opportunities for health professionals to explain the advantages of skilled attendants and information on the status of their pregnancies. Other indicators or markers of a maternal health-seeking behavior may include ANC attendance or being able to interact with the health system and health facility in a more comfortable manner (Kawakatsu et al 2014).
Better maternal health knowledge is also a significant determinant of place of childbirth (Kawakatsu et al., 2014). A study in Zambia found that women who could pin point the danger signs in pregnancy are more likely to deliver in a health facility than those without such knowledge (Stekelenburg, Kyanamina, Mukelabai, Wolffers, & van Roosmalen, 2004). High maternal health knowledge may be able to positively influence a woman's care-seeking behaviors as well as enabling her to recognize the danger signs early.

The safe motherhood demonstration project by Population Council in Western Kenya established that some cultural beliefs which influenced seeking of skilled care at birth was the kindness and "caring" care provided by TBAs in stark contrast to the perceived poor attitudes and behaviors of skilled providers (Onunga, 2012). This overwhelmingly motivated women to continue delivering with TBAs. Some women and families did not seek skilled care first because they believed it will not solve certain problems (Onunga, 2012).

In particular, women in some cultures may avoid health facility delivery due to cultural requirements of seclusion in the household during this time of uncleanness or because of specific requirements around delivery position, warmth, and handling of the placenta (Onunga, 2012).

2.5.2 Household-Related Determinants and Choice of Place of Delivery

The literature review established that the effect of spouse level of education on their women's choice of place of childbirth differed from one study to another. Women whose spouses have no formal education tend to deliver at home, while those educated their women tend to give births in health facilities (Dickson et al., 2016; Sahoo, Singh, Gupta, Garg, & Kishore, 2015). In most African communities, a husband has the last say. The reason for this positive relationship might be because highly educated spouses are informed about the benefits of health facility delivery and risks associated with home delivery. In contrast, a recent study observed that the husbands' education had no association with place of birth (Alemayehu & Mekonnen, 2015). In addition, another study in India found that the spouse occupation had no influence on choice of place of delivery (Sahoo et al., 2015).

Women in higher wealth index are more likely to use health institutions during delivery, when compared to women in poor wealth index. Wealth increases the likelihood of women delivering in a health facility (Envuladu et al., 2013; Kawakatsu et al., 2014; Sahoo et al., 2015). The reason could be wealthy women or women from wealthy households can afford the health facility services. The income influences affordability to spend on health care that in turn influences the type of health care service chosen by an individual. It has been found that with a rise in household income of an individual, there is a likelihood of utilizing healthcare services (Kawakatsu et al., 2014). Households on quite a limited budget could have difficulty paying fees and therefore would tend to be more likely to remain at home for delivery. However, another study found that the monthly household income was not associated with skilled birth attendance (Alemayehu & Mekonnen, 2015).

2.5.3 Facility-Related Determinants and Choice of Place of Delivery

The cost and accessibility to a place of delivery (health facility or home) are important factors which influence the use of health facilities during delivery. Therefore, high costs of services in health facilities may reduce the likelihood of women using the health facility services during delivery.

(Breen & Ensor, 2011) noted that the derived utility and the subsequent decision of whether to seek skilled delivery care is a function of costs and perceived benefits. Costs are made up of the direct costs of reaching the health facility and receiving the skilled care and the opportunity cost of time (Khan & Zaman, 2010). The perceived benefit is a function of individual education, quality of health care and societal attitudes surrounding the access of health care.

Distance to a health facility is an important determinant of place of delivery among women. Moreover, it is clear that transportation issues are a major factor in the decision to go to a health facility (phase 1 delay) (Kawakatsu et al., 2014). This factor also influences the delay caused by distance from home to the health facility (phase 2 delay). Studies show that proximity to health centers has higher odds of using skilled birth attendants (Alemayehu & Mekonnen, 2015; Envuladu et al., 2013). The availability and cost of arranging emergency transportation can be prohibitive in choosing a place for birth. These costs include the price of hiring a private vehicle and fuel expenses.

The opportunity cost, or loss of productive time of the person accompanying the sick woman, can also pose an obstacle (Matovu, Nanyiti, & Rutebemberwa, 2014). In another study Kawakatsu et al 2014, the mode of travel to the nearest facility was not significantly associated with facility delivery. Most labor begin in late evening, and at that time it is usually difficult to find the usual transportation especially in the rural area (Kawakatsu et al., 2014).

Lack of quality care at health facilities limits women's access to skilled delivery. Women may deliver in health facilities, but still have poor prenatal and neonatal outcomes because of the substandard quality of care. A study in rural Tanzania showed that even at higher-level facilities where well trained health workers were supposed to be available, women experienced delays in receiving emergency obstetric care and had poor quality of care. Consequently, women experienced severe birth injuries and stillbirths (Mselle, 2011).

2.6 Study Gap

Previous studies have found that the choice of place of delivery (home delivery or hospital delivery) is determined by demographic, social, economic, cultural and access factors.

These factors include; maternal age, parity, education and marital status, household factors including family size, household wealth, and community factors including socio-economic status, community health infrastructure, region, rural/urban residence, available health facilities, and distance to health facilities determine place of delivery.

In diverse contexts, these factors interact in diverse ways in each context to determine choice of place of delivery. Different studies show areas of agreements and disagreements about the determinants of place of childbirth. Based on the literature reviewed, most studies have focused on individual and facility related factors influencing choice of place of delivery. None has focused on specific household related factors or a combination of individual, household and facility related factors. Thus, this study will also focus on household factors in addition to individual and facility related factors. In addition, no similar study has been carried out in the specified study area and its surroundings. There are also wide variations in the reasons women give for delivering at home in different settings, between and within countries.

This study will identify specific determinants that influence the choice of place of delivery in Kakamega County, and recommend ways to improve women's access to skilled attendants at childbirth. This will inform interventions to increase skilled deliveries and reduce maternal mortality thereby contributing towards attainment of SDG 3.

2.7 Conceptual Framework

The direct causes of maternal deaths, such as hemorrhage, obstructed labor. infection and unsafe abortion are well known (Say et al., 2014). However, majority of these deaths could be prevented with timely medical treatment. Delay, therefore, emerges as the pertinent underlying factor contributing to maternal deaths (Thaddeus & Maine, 1994). The delays are viewed as having three phases. Phase one delay describes delay in deciding to seek care on the part of' the individual, the family, or both. The phase two delay involves delay in reaching an adequate health facility. Finally, phase three delay involves delay in receiving lifesaving care (Thaddeus & Maine, 1994). In the study, the determinants were considered in line with the above model and recognized the complex and interrelated nature of individual, household and facility factors that create barriers to access to high-quality maternal care for women. The determinants interact in diverse ways in each context to determine choice of place of delivery.

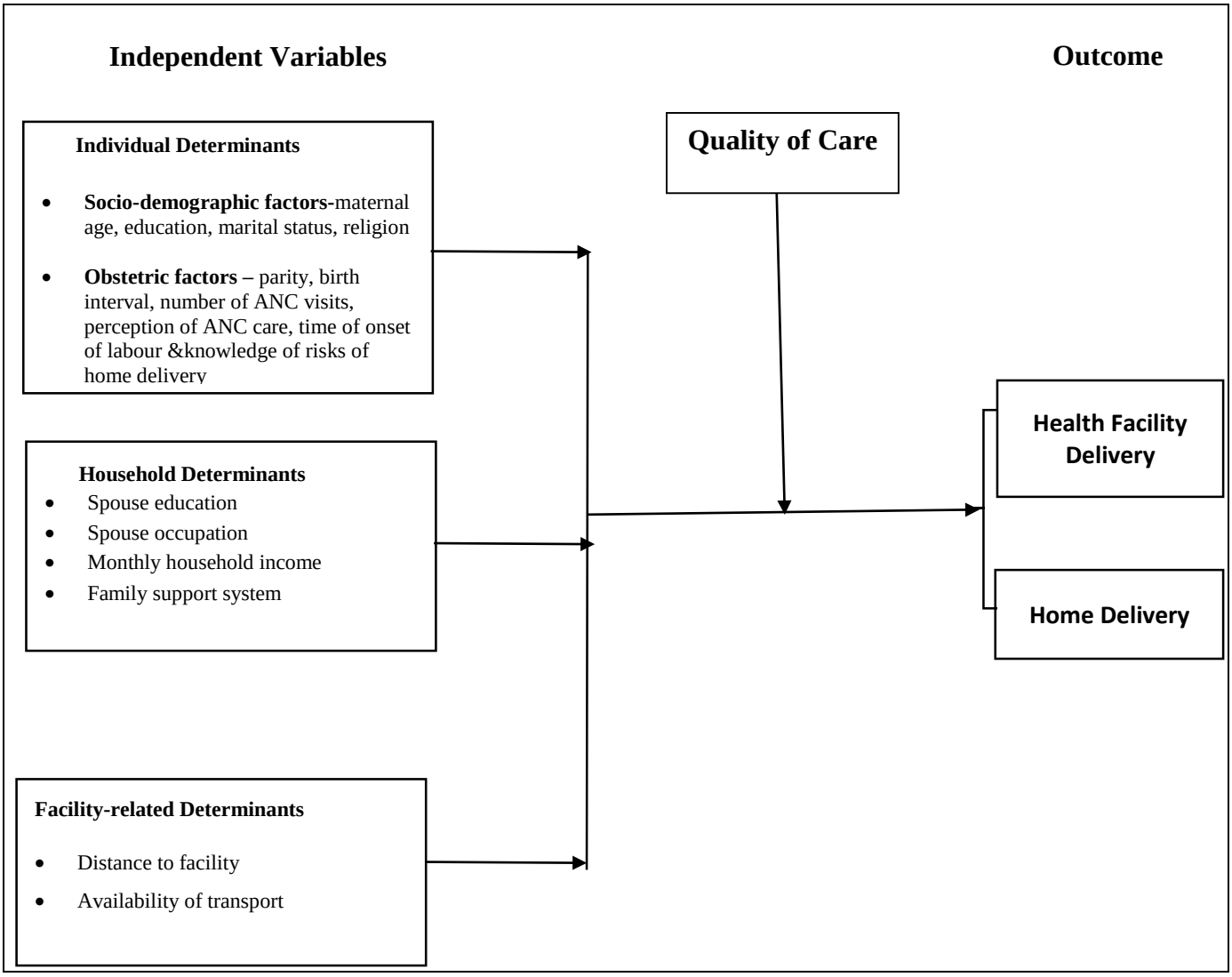

Figure 2.1: Conceptual framework for determinants of choice of place of delivery
(Adopted from the Three Delays Model of Maternal Mortality)

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter elaborates on the research design and methods used in this study. It describes the study site, the study population, study design, sample size, sampling design and eligibility criteria employed. It outlines the data collection methods, data analysis and ethical considerations made.

3.2 Study Site

The study was conducted in Kakamega County, the most populous rural county in Kenya. Kakamega is located in the western part of Kenya, about 400 kilometers from Nairobi. The county has a total population of 1,881,764 and covers an area of 3,244.9km^2. The population density is 572 people per km^2 and high fertility rate of 5.6 children per woman (KDHS 2008/2009). The proportion of the county's population living below the poverty line is 57%. Five (5) sub counties of Kakamega county namely: - Lurambi, Navakholo, Mumias East, Mumias West and Matungu (Appendix I) were chosen for the study. The five sub counties have a total population of 744,223 persons and served by 32 dispensaries, 13 health centres, 2 sub county hospitals, 1 mission hospital and 1 County General Hospital. The sub counties are generally rural and largely rely on agriculture. The cash crops include mainly sugar cane; and food crops include maize, beans, ground nuts, sweet potatoes, cassava, millet, and peas (KCIDP, 2013). Kakamega County was purposively selected because despite better access to healthcare including maternity services with almost half (49%) of the population living less than a kilometer to a health facility, utilization of skilled delivery remained low at about one third and was ranked fifth county in Kenya with highest maternal mortality ratio at 316 per 100,000 live births.

3.3 Study Design

The study adopted a cross-sectional design of women aged 15 to 49 years with children less than one year. It was conducted from November 2015 to January 2016. This study design was chosen because it is relatively fast to conduct and allows study of multiple potential factors of an outcome in a background of limited financial and time resources (Levin, 2006).

3.4 Study Population

A total of 363 women aged 15 - 49 years who had given birth one year prior to the study were included from a target population of 27,439 women with infants.

These women resided in 28 community health units in Lurambi, Navakholo, Mumias East, Mumias West and Matungu sub counties of Kakamega County.

3.5 Study Variables

The primary outcome of interest was place of delivery for women with infants measured as whether at health facility that is dispensary, health centre or hospital or at home that is TBA's place, mother's home or friend or neighbor's place.

Review of previous studies (Envuladu et al., 2013; Kawakatsu et al., 2014; Lwelamira & Safari, 2012; Mehari, 2013; Obago et al., 2013; Ochako et al., 2011; Tebekaw et al., 2015; Yegezu & Kitila, 2015) showed the following independent variables were appropriate for this study; Maternal individual factors that were assessed using ten (10) variables; mother's age, education level, marital status, religion, parity (number of previous births), birth intervals, ANC use, perception of care during pregnancy, time of onset of labour and knowledge of dangers associated with home delivery; Household factors were evaluated using three (3) variables; spouse education, spouse occupation and household monthly income and; facility-related factors measured using two (2) variables; distance to the facility and availability of transport.

3.6 Sample Size Determination

3.6.1 Sample size of Community Health Units

A community health unit (CHU) is Kenya's lowest health service delivery structure within a defined geographic area covering a population of approximately 5,000 people. Each unit is linked to a specific health facility and is assigned two (2) Community Health Extension Workers (CHEWs) and about ten (10) Community Health Volunteers (CHVs) who offer promotive, preventative and basic curative services *(National Health Sector Strategic Plan 2005–2010 - NHPP II).*

According to Mugenda and Mugenda, a sample size of between 10% and 30 % is a good representation of the target population and hence the 30% is adequate for analysis. The number of primary units, that is community health units (n) was determined using the formula by (Mugenda & Mugenda, 1999) that considered 30% of the total community units in the study area. The total number of CHU in the five sub counties was 94. Total CHU selected for the study was 30% of 94 giving 28 community units.

Table 3.1: Number of Community Health Units Selected per Sub County

	Sub County	Number of Community Units	Proportionate distribution per Sub county	Number of CUs sampled (30% of total CHUs)
1	Lurambi	25	27%	7
2	Mumias East	20	21%	6
3	Mumias West	13	14%	4
4	Matungu	23	24%	7
5	Navakholo	13	14%	4
	Total	**94**	**100%**	**28**

3.6.2 Sample Size of Women of with Children Less than One Year

In calculating the sample size, the Single Population (Cochran 1963:75) statistical formula was applied as follows:

$$\mathbf{no = \frac{z^2[p\ (1-p)]}{e^2}}$$

Where:

no = the required sample size
z = critical value associated with significance set at 1.96 at 95% confidence level
p = proportion of the population estimated to have a particular characteristic being measured (facility-based delivery in Kakamega county i.e. 31.3% *(County Factsheet second edition, June 2013).*
q = 1- p
e = Margin of error set at 5%

$$\frac{(1.96)^2[0.313\ (1-0.313)]}{0.05^2}$$

= 330 women

Given that the pilot study had 10% of missing data and non-response, an inflation factor of 1/0.9 = 1.1 was applied (to cater for missing data) making a sample size of:

330*1.1 = **363 women**

The sample was then proportionately distributed across the five (5) sub counties as follows;

Table 3.2: Number of mothers with infants sampled per Sub County

	Sub County	Number of women with children <1year per sub county	Proportionate sub county distribution	Number of women sampled
1	Lurambi	6541	23.8%	86
2	Navakholo	5595	20.4%	74
3	Mumias East	5212	19%	69
4	Mumias West	3475	12.7%	46
5	Matungu	6616	24.1%	88
	Total	**27,439**	**100%**	**363**

Source; Ministry of Health Population Estimates, 2015

3.7 Sampling Design

Multi-stage sampling technique was used. In the first stage, a sampling frame consisting of 94 CHUs in the study area was developed. A sample of 28 community health units was then selected using simple random technique. This was done using the Microsoft excel, the random function. In the second stage, the sample of 363 women of reproductive with infants was equally distributed to the 28 community health units. About 13 women were randomly selected from each of the 28 CHUs using a sampling frame developed from information derived from CHIS on women with children less than one year. The Community Health Volunteers in the 28 CHUs provided lists of women who had given birth within one year prior to the study. This information was routinely collected and reported every month through the Community Based Health Information System (CHIS). In case the recruited mother did not consent, the next eligible mother in a nearby household was included. Simple random sampling technique was adopted since it gave an even distribution of the sample across the units and could yield good estimates for the population parameters.

Four FGDs groups were conducted. In addition, four key informants were purposively selected and included; a Traditional Birth Attendant, the Sub County Reproductive Health Coordinator, Nursing Officer – In-Charge of a health facility and a midwife currently conducting deliveries in maternity unit within the study area.

3.8 Data Collection Methods

Primary data was collected using a structured questionnaire (Appendix IV). The questionnaire was designed in English and thereafter translated and administered in Swahili by the research assistants.

There were ten (10) research assistants who supported data collection for the study. They were trained on the data collection tools, sampling, community entry, interviewing skills and how to record their findings.

Additional qualitative data was collected using Focus Group Discussions (FGDs) guide (Appendix V) and In-depth interviews (IDIs) (Appendix VI). Participants of FGDs were purposively selected, matched by the place of delivery and consisted of 10 women aged 15 to 49 years with infants who did not participate in the household survey. Focus Group Discussions were held after the individual questionnaires had been administered. Four (4) group discussions were conducted in Swahili and participants selected based on their age groups that is 15 - 19 years, 20 – 24 years, 25 - 34 years and 35 years or older. This allowed for homogeneity among participants based on age and reduced chances of reluctance to speak by younger women in front of older women. These discussions aimed at seeking additional information on women's perceptions and experiences on their preferred place of childbirth, as well as well as exploring ways in which health facility delivery services can be improved.

In-depth interviews were conducted among four (4) key informants who included; a Traditional Birth Attendant, Reproductive Health Coordinator for Mumias Sub County, Nursing Officer In-Charge of Matungu Sub County Hospital and midwife working at Navakholo Sub County Hospital. These personal interviews aimed at seeking information with regard to utilization of the delivery services offered at home and the health facilities by the women, as well as recommendations on how to increase the proportion of births attended by skilled attendants.

3.9 Validity and Reliability of Research Instruments

To ensure the validity and reliability of the research questionnaire, the translated questionnaire was reviewed by a Swahili expert to check for appropriateness of the wording of the questions and whether the meaning of the questions remained the same after the translation. Recommended revisions were done based on the feedback received from the expert. In addition, a pilot study was conducted on 26th October to 30th October 2015 in which a total of 33 eligible mothers with infants were studied through simple random sampling in neighboring Malava Sub County.

Following the pilot study, some of the recommended revisions included: -correction of typographical errors in the questionnaire, rewording of a number of questions and changed the flow of questions. These recommendations from the pilot study and feedback from supervisors were included in the final questionnaire.

3.10 Data Management and Statistical analysis

3.10.1 Data Entry and Storage

After completion of data collection, the questionnaires were checked for completeness and coded. Data entry was done in a computerized database designed using EpiData 3.1 data entry software. The database was password protected and secured on a password protected laptop computer. The computer was safely stored by the principal investigator. The questionnaires and the guides containing the data have subsequently been stored safely in locked cabinets by the principal investigator for any future reference.

3.10.2 Data Analysis

The data was then exported to SPSS V.20 for analysis. Descriptive statistics (mean ± SD, frequencies and percentages) were used to summarize the data. Chi-square test was used to assess for significant variations in proportions between categorical variables of interest that included; mother's age, education level, marital status, religion, birth intervals, ANC use, perception of care during pregnancy, time of onset of labour, knowledge of dangers associated with home delivery and choice of place of delivery.

Independent samples t-test was used in case of continuous variables that included mother's mean age, household monthly income and mean number of deliveries in a life time. Logistic regression was done to generate odds ratio as an indicator of the likelihood of choosing to deliver at the health centre compared versus delivering away from the facility at 95% confidence interval. Results were considered significant at $\alpha = 0.05$. Findings are presented inform of tables, pie charts and bar-graphs. Qualitative data was descriptively summarized and categorized into themes and sub-themes based on the study objectives.

3.11 Eligibility Criteria

3.11.1 Inclusion Criteria

- Mothers aged 15 to 49 years
- Mothers who had given birth in the study area and within the last twelve months preceding the study
- Mothers who voluntarily gave informed written consent to participate in the study

3.11.2 Exclusion Criteria

- Mothers aged 15 to 49 years with infants who gave birth outside the study area
- Mothers aged 15 to 49 years with infants who had mental health problems
- Mothers 15 to 49 years with infants who could not speak or hear (deaf)
- Mothers 15 to 49 years who failed to provide consent to participate

3.12 Ethical Consideration

3.12.1 Approval for the Study

The overall approval of the study was given by Maseno University School of Graduate Studies. (Appendix VIII). Ethical clearance was sought and obtained from Maseno University Ethics Review Committee (Appendix VII). The authority to conduct the research in Kakamega County was obtained from the County Government of Kakamega (Appendix IX).

3.12.2 Informed Consent

Written informed consent was sought from all participants in the study. For those aged eighteen years and above informed consent form (Appendix II) was used to seek and document their consent to participate in the study. All participants aged less than 18 years had given birth within one year prior to the study. These were considered to be mature minors who would give consents for their child or children to participate in a study. Since studies that involves women less than eighteen years old require that both informed consent from their parents or guardians and their own assent must be sought to participate in the study (Iltis 2013), both informed consent and their own assents were obtained using the assent form in this study (Appendix III). The purpose of the study, its risks and benefits was explained to the participants.

Details of the study were explained to the participants, and information on their freedom to participate or decline to participate in the study explained. Those who accepted to participate signed the consent or assent form and were enrolled into the study.

3.12.3 Confidentiality

The data collected through questionnaires and the guides was entered into a password protected database on a secure, password protected laptop computer. All study database material was anonymous. No names were used in the questionnaires checklists and only serial numbers were employed to identify the study participants. Nobody other than the principal investigator and data entry clerk had access to the research data.

3.13 Study Delimitation

The study was limited by the following situations:

1. It was noted that the County Government of Kakamega introduced a monetary incentive programme to motivate pregnant women to give birth in health facilities in 2015. This was aimed at addressing the high maternal deaths contributed by the low skilled deliveries in Kakamega County. The initiative was implemented in selected high volume health facilities including in the five sub counties under study. The programme defined a package of six essential maternal and child health services to be utilized by women. When women utilized recommended maternal health services including hospital delivery, they earned cash incentive of Ksh. 2000. This could have significantly increased health facility delivery in the study area as women sought to benefit from the monetary incentives.
2. Some people are evasive about their social lives and in particular regarding their reproductive health issues and were not willing to divulge accurate information. The researcher included verification of information provided by participants by using their Mother and Baby Booklet or card during data collection.

3.14 Assumptions of the Study

The following assumptions were made regarding the study;

1. The sub population of mothers studied adequately represented the population of mothers who had given birth in Kakamega County within the last 12 months.
2. The information provided by study participants was accurate, as well as the information recorded in the Mother and Baby Booklet or card possessed by mothers.

CHAPTER FOUR: RESULTS

4.1 Introduction

This chapter describes the findings of the study on determinants that influence choice of place of childbirth among women with infants in Kakamega County. It is divided into two main sections. Section A deals with univariate analyses of the individual, household and facility-related determinants. Section B describes the relationship between individual, household and facility- related determinants and choice place of delivery.

A: Univariate Analyses

4.2 Maternal Socio-Demographic Characteristics

A total of 323 women who had given birth within one year were interviewed, representing a response rate of 98%. Their mean age was 26.5 (± 6.3) years ranging from 15 to 47 years. About a quarter (n=93; 28.8%) of the women who responded were aged 25 to 29 years. Among respondents, 282 (87.3%) were married and the majority of them (n=191; 60.3%) were protestants. Out of the women interviewed the mean parity was 3 (± 2.1), with the highest parity recorded being16. Two hundred and five (63.5%) women had primary education and 31 (9.6%) had tertiary education. About half (n=153; 48.9%) of the women were unemployed, while a small proportion (n=10; 3.2%) were on salaried employment. Almost all of the women (n=294; 95%) resided in rural set up of the county. A hundred and twenty-six (39.6%) women reported medium birth interval between the last two births while about one quarter of women reported the last birth as their first one as shown in table 4.1 below.

Table 4.1: Distribution of the socio-demographic characteristics of respondent women with children aged 0-12months

Characteristic	N	(%)
Age of women (years)		
<20	46	(14.2)
20-24	81	(25.1)
25-29	93	(28.8)
30-34	65	(20.1)
≥35	38	(11.8)
Level of education		
No education/ drop out from primary	10	(3.1)
Primary level	205	(63.5)
Secondary	77	(23.8)
College & University	31	(9.6)
Marital status		
Single	33	(10.2)
Married	282	(87.3)
Divorced/Widowed	8	(2.3)
Religion		
Catholic	94	(29.1)
Muslim	38	(12)
Protestant	191	(60.3)
Parity		
Primiparous (Given Birth Once)	78	(24.1)
Multiparous (2-4births)	175	(54.2)
Grand Multiparous (≥ 5 births)	70	(21.7)
Birth interval		
Short Birth Interval (<24 months)	56	(17.6)
Medium Birth Interval (24-47 months)	126	(39.6)
Long Birth Interval (≥48 months)	63	(19.8)
First birth	78	(24.1)
Occupation		
Unemployed	153	(48.9)
Self employed	112	(35.8)
Student	12	(3.8)
Salaried employment	10	(3.2)
Casual worker	26	(8.3)
Resident		
Rural	294	(94.8)
Urban	16	(5.2)

4.3 Care during Pregnancy among Respondent Women

The results in Figure 4.1 indicate that 309 (95%) of women received antenatal care during their last pregnancy in health facilities. Out of those who sought antenatal care services, 225 (75%) were seen by nurses or midwives and 59 (20%) were seen by doctors. The rest (n=15; 5%) were seen by traditional birth attendants (TBAs).

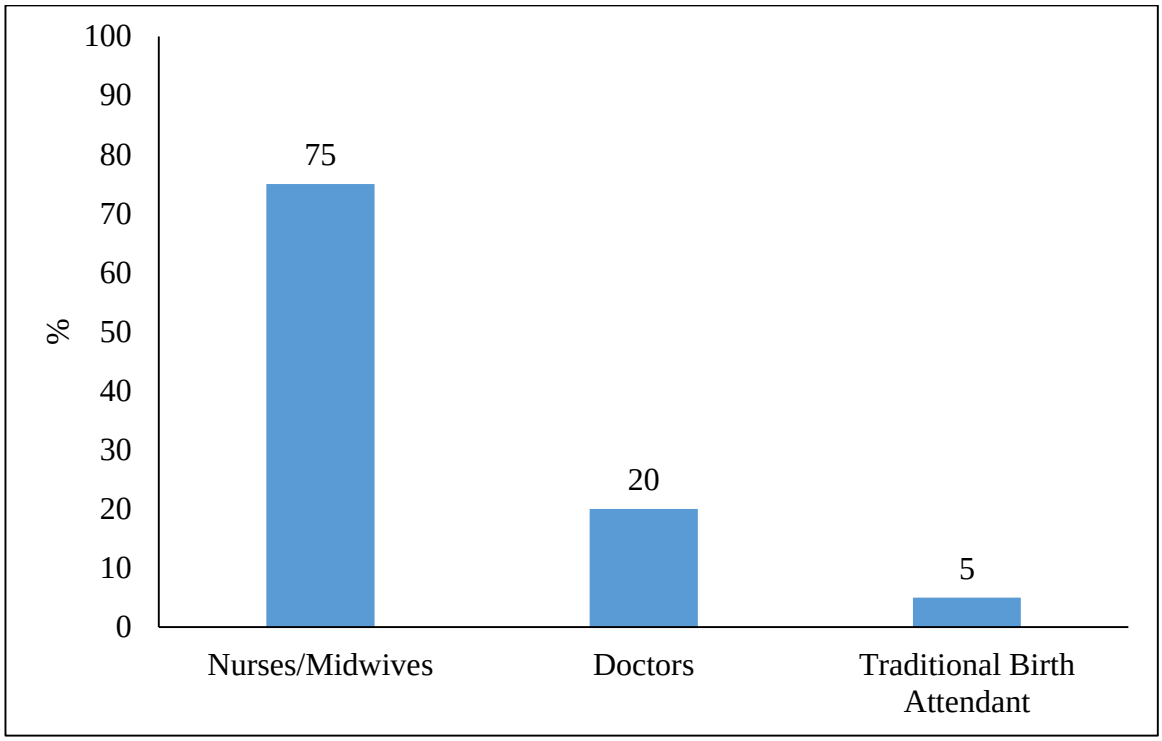

Figure 4.1: Percentage distribution of antenatal care providers for respondent women aged 15-49 years who received antenatal care during the most recent pregnancy

The role played by traditional birth attendants in taking care of pregnant women was confirmed by one key respondent during qualitative data analysis. She stated that, *"women come to us when pregnant so we start touching the belly 'okhuamba inda' to see how the baby is positioned in the womb. When delivery time reaches, we tell them to go to hospital. I correct the position of the baby then I tell her when she gets labour pains she should come here if it is at night. I take her to the big hospital because if the baby's position is not correct even if you take the patient to a small hospital, you will be referred to Kakamega. These days we are told to identify the delivery date and escort them to hospital. Before they used to come one-after-the-other until you deliver like two women in a day" (KII, Traditional Birth Attendant in Mumias)*

Majority (n=207; 66%) of women seen by skilled staff during their most recent pregnancy visited the antenatal care clinic four or more times (Table 4.2).

Table 4.2: Distribution of women aged 15-49 who had a live birth in the last 12months preceding the study by number of antenatal care visits for the most recent pregnancy

Antenatal Clinic attendance	N	(%)
Number of ANC visits during last pregnancy:		
Less than 4 times	105	33.7
4 times or more	207	66.3

Majority of women (n=255; 81.7%) reported to have gone for their first antenatal care clinic during their last pregnancy to check if the pregnancy was normal and 45 (14.4%) went to obtain the Mother and Baby Booklet. In addition, 12 (3.8%) attended the clinic because of pregnancy-related problems as shown in Figure 4.2 below;

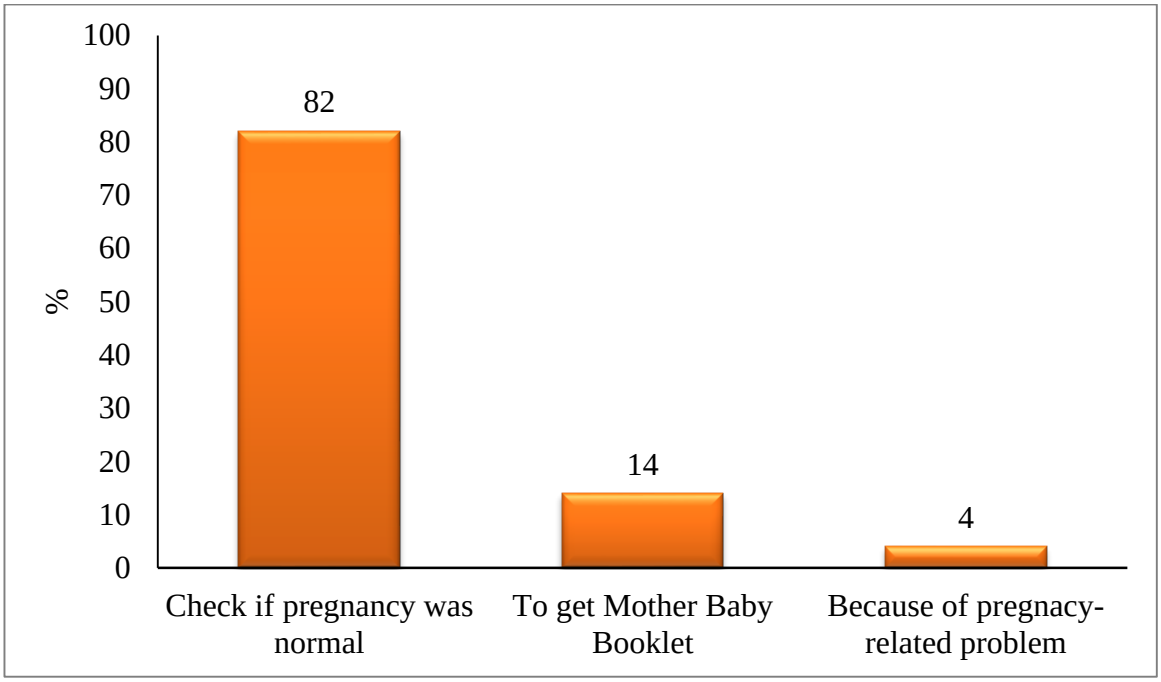

Figure 4.2: Percentage distribution of reasons given by women for making the first antenatal visit during their last pregnancy

Qualitative data analysis confirmed the willingness of the women to attend antenatal care. Almost all (98%) the women who participated in the focus group discussions reported to have attended antenatal clinic during their most recent pregnancy, with majority attending ANC during second and third trimester.

They were all positive about ANC especially because of the check-ups, vaccinations, multivitamin drugs which give them strength and the fact that they received a free mosquito net.

When probed on why some women attend antenatal clinic in health facilities during pregnancy and stay away during childbirth, one of the key informants stated that, *"Women come for antenatal care clinic to get the Mother and Baby Booklet as a gate pass which would grant them access to the hospital in case of complications. They come when they are about 6 months. The booklet also helps them to get the baby's birth certificate, required before the child gets admission to nursery school, even when they don't deliver in the hospital" (KII, Reproductive Health Coordinator, Mumias East).*

A total of 14 (4.3%) women never attended antenatal care during their most recent pregnancy. The most frequently mentioned reasons for not attending were; 1 (11.1%) successful previous childbirth without attending ANC, it was not necessary (n=1; 11.1%), cost of transport (n=1; 11.1%), and it was too far (n=1; 11. 1%). The main people involved in making the decision not to attend ANC were TBA (n=3; 33.3%), husband (n=2; 22.2%) and self (n=2; 22.2%).

4.4 Timing of Onset of Labour during the Last Pregnancy

During their last delivery, about two thirds (n=213; 66%) of the women reported labour pain to have started on a weekday and about one third on weekend. Most women (n=118; 37.2%) started experiencing labour pains in the evening while 112 (35.3%) reported to have started at night (Table 4.3).

Table 4.3: Distribution of women aged 15-49 who had a live birth in the 12 months preceding the study according to day of week and time of day of onset of labour and their places of delivery

Time of Onset of Labour	Health Facility	Home
	N (%)	N (%)
Day of Week of Onset of Labour		
Weekday	181 (85)	32 (15)
Weekend	90 (85.7)	15 (14.3)
Time of Day of Onset of Labour		
Day	72 (82.8)	15 (17.2)
Evening	103 (87.3)	15 (12.7)
Night	98 (87.5)	14 (12.5)

4.5 Household Characteristics of Respondent Women

More than half of women (n=158; 56%) reported their spouses had primary education, 84 (29.8%) had secondary education while only 33 (11.8%) had tertiary education. Most women (n=113; 40.8%) reported their spouses were self-employed, 83 (30.4%) were casual labourers and 34 (12.5%) of their spouses were on salaried employment. The median (IQR) household income per month (in Ksh) was 3,000 (1,000, 7,000) as shown in table 4.4.

Table 4.4: Distribution of respondent women by spouse education, spouse occupation and monthly household income

Characteristic	N	(%)
Spouse highest level of education		
No education/ drop out from primary	7	(2.5)
Primary level	158	(56)
Secondary	84	(29.8)
College & University	33	(11.8)
Spouse occupation		
Unemployed	41	(15)
Self employed	113	(40.8)
Student	2	(0.7)
Salaried employment	34	(12.5)
Casual worker	83	(30.4)
Household Monthly Income in Ksh. (IQR)	3,000 (1,000, 7,000)	

4.6 Care during Delivery among Respondent Women

The outcome variable in this study was the place of delivery for women with children aged 0 – 12 months. While delivery at any formal health institution i.e. medical clinic, nursing home, dispensary, health centre and hospital was considered health facility delivery, any delivery that occurred anywhere else other than a formal health institution, including TBA's home, own home, friend's or kinship homes, were considered home deliveries.

4.6.1 Distribution by Place of Delivery

Eighty-five percent (n=275) of women delivered at health facility. In the group of women who had health facility delivery, 57.7% gave birth in a health centre, 29.8% in a dispensary and 12.5% in a hospital (that is sub county hospital or county referral hospital). On the other hand, 15% of deliveries occurred at home. The exact locations at home were as follows; woman's own home, 28 (75.7%), TBA's place, 7 (18.9%) and friend's/neighbour's place, 2 (5.4%) as shown in table 4.5.

Table 4.5: Distribution of births for respondent women in the 12 months preceding the study by place of delivery

Place of Delivery	N	%
Health Facility		
Hospital	34	12.5
Health Centre	159	57.7
Dispensary	82	29.8
Home		
TBA's place	7	18.9
Women's home	28	75.7
Neighbour/friend's home	2	5.4

4.6.2 Accessibility to Health Facility Providing Maternity Services

4.6.2.1 Distance to health facility

The average distance between woman's place of residence and the nearest health facility was 5 ± 6.1 kilometers ranging from 1 to 50 kilometers. Majority (n=167; 63%) of women lived less than 5 kilometers away from a health facility while only 23 (8.7%) of them lived more than 10 kilometers from the nearest health facility offering maternity services (Figure 4.3).

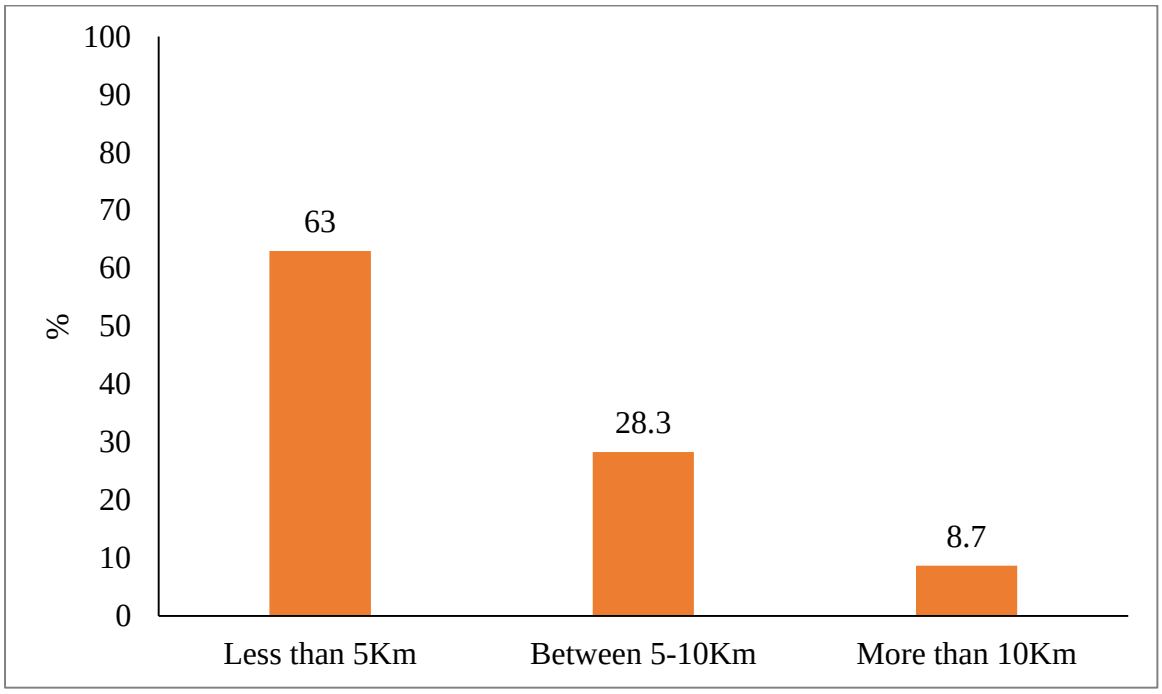

Figure 4.3: Percentage distribution of distances from women's home to health facility providing maternity services

4.6.2.2 Mode of transport to the nearest maternity facility

About two thirds of the respondent women used motorcycles or bicycles to the nearest maternity facility, 54 (19.6%) walked and the rest used public transport, private transport or ambulance (Figure 4.4).

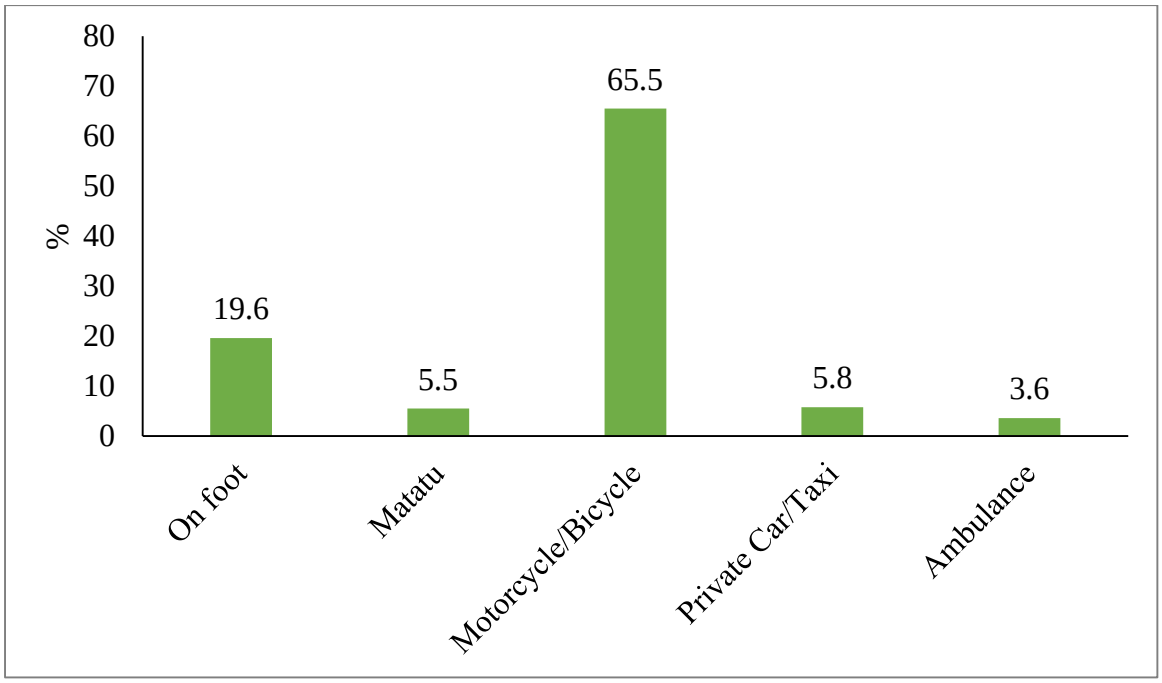

Figure 4.4: Percentage distribution of respondents' mode of transport to their preferred maternity facility during last birth

4.6.2.3 Availability of transport to health facility

About half (54.4%) of women got transport to the health facility for delivery easily, while the rest (n=124; 45.6%) got transport with difficulty or never got transport at all (Figure 4.5).

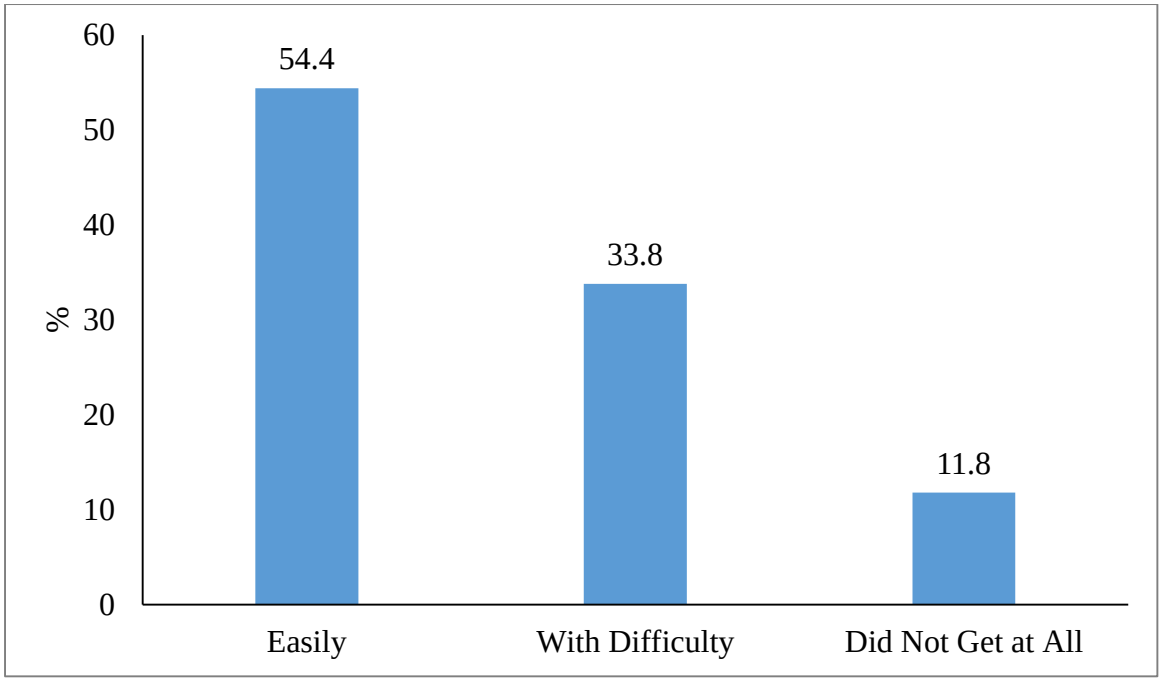

Figure 4.5: Percentage distribution of respondents according to availability of transport to their preferred maternity facility during the last birth

4.6.3 Reasons for Women's Choice for Health Facility Delivery

Figure 4.6 shows the reasons given by the women for choosing to deliver at the health facility. Majority (85.5%) of women chose the health facility because it was safe, almost half (46.4%) sought good quality maternity services while 33.7% and 31.9% of women were influenced by health care providers and their husbands/relatives respectively.

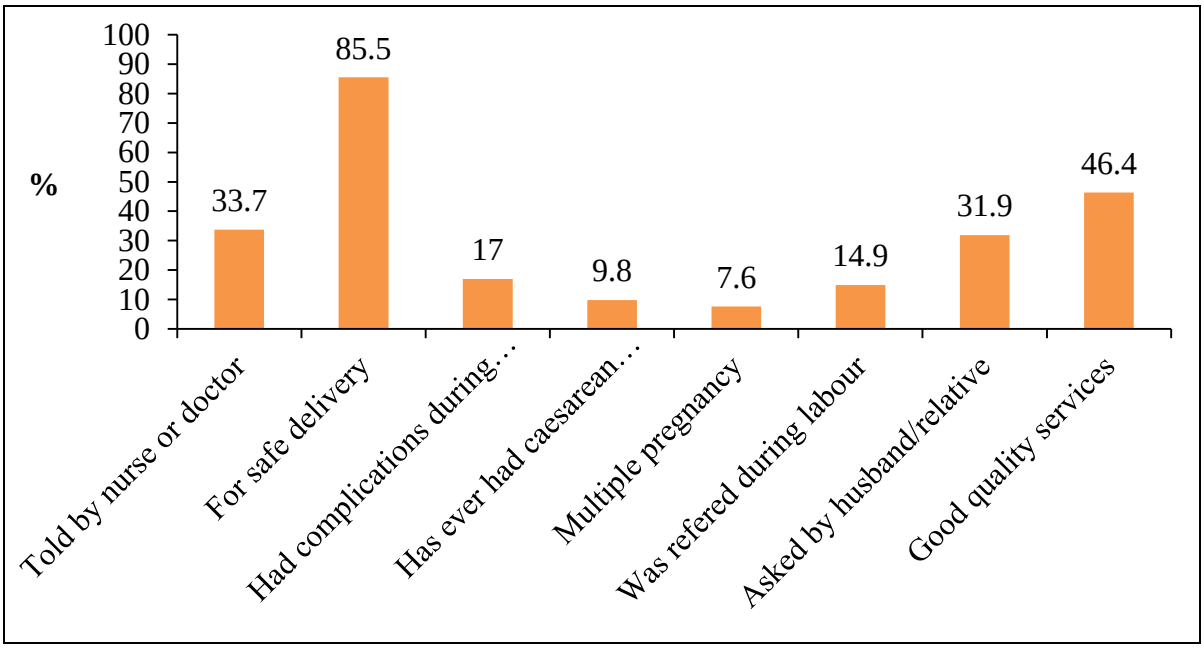

Figure 4.6: Percent distribution of reasons given by respondent for choosing health facility for childbirth

The reasons were confirmed during qualitative data analysis from focus group discussions and in-depth interviews. One respondent reported; *"complications during delivery is a key reason for me to choose to deliver the health centre. The services at the health centre are provided by qualified staff who are able to handle complications, such as, excessive bleeding. We don't have good roads here and sometimes it rains heavily making movement difficult. It is important to deliver at hospital. Delivering at hospital prevents your baby from getting tetanus" (FGD, Women aged 20-24 Navakholo).*

The above statement was confirmed by one key informant (TBA) who was asked what she did in case a complication occurred during delivery, she responded, *"Those things used to happen in the old days where I would give herbs; but these days my aim is to make women give birth at the hospital"* and added *"It is better to take her to hospital before she develops a complication because I might be blamed if anything bad happens" (KII, Traditional Birth Attendant in Mumias).*

4.6.4 Main People Involved in Deciding Women's Choice for Health Facility Delivery

Majority (62%) of women made personal decision to choose health facility as the preferred place of delivery. More than half (52.9%) of women had the place of delivery decided by their husbands while one quarter of women had the choice made by the TBAs (Figure 4.7).

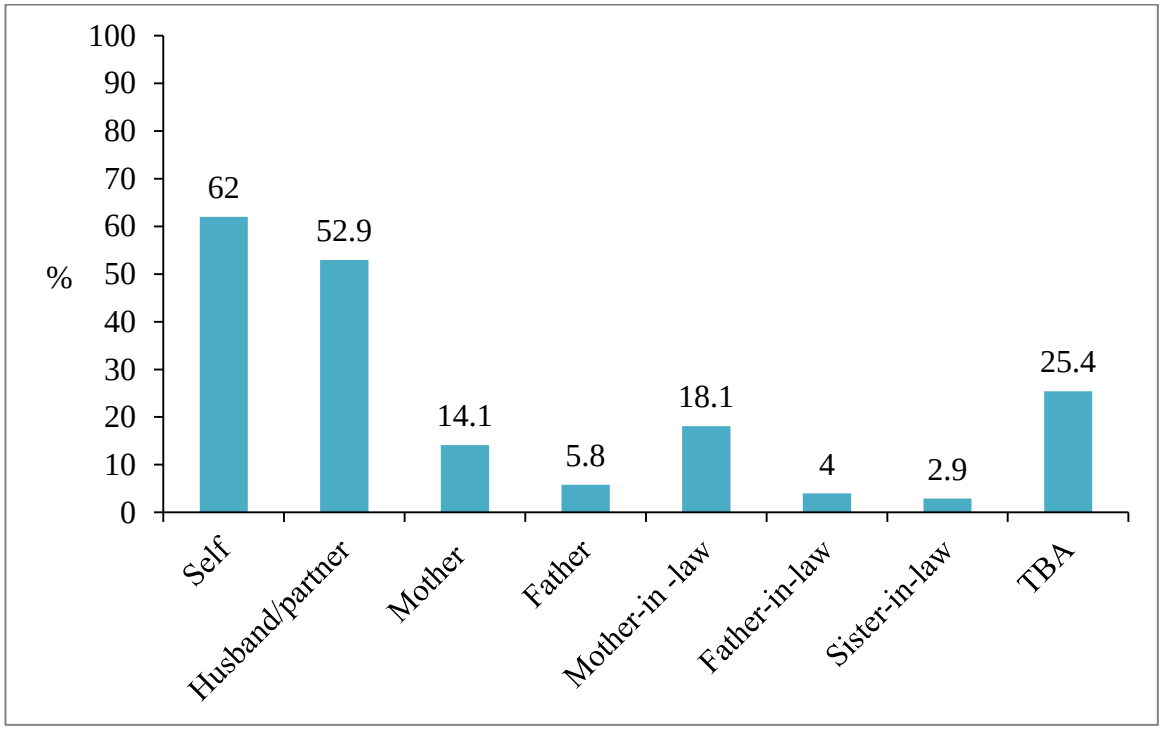

Figure 4.7: Percent distribution of main people involved in deciding the health facility as place of delivery for women

4.6.5 Persons who Accompanied Women for Health Facility Delivery

Most women (37%) were accompanied by their spouses to health facility for delivery, one quarter of women were accompanied by the TBAs, while 24% were accompanied by their mother-in-law (Figure 4.8).

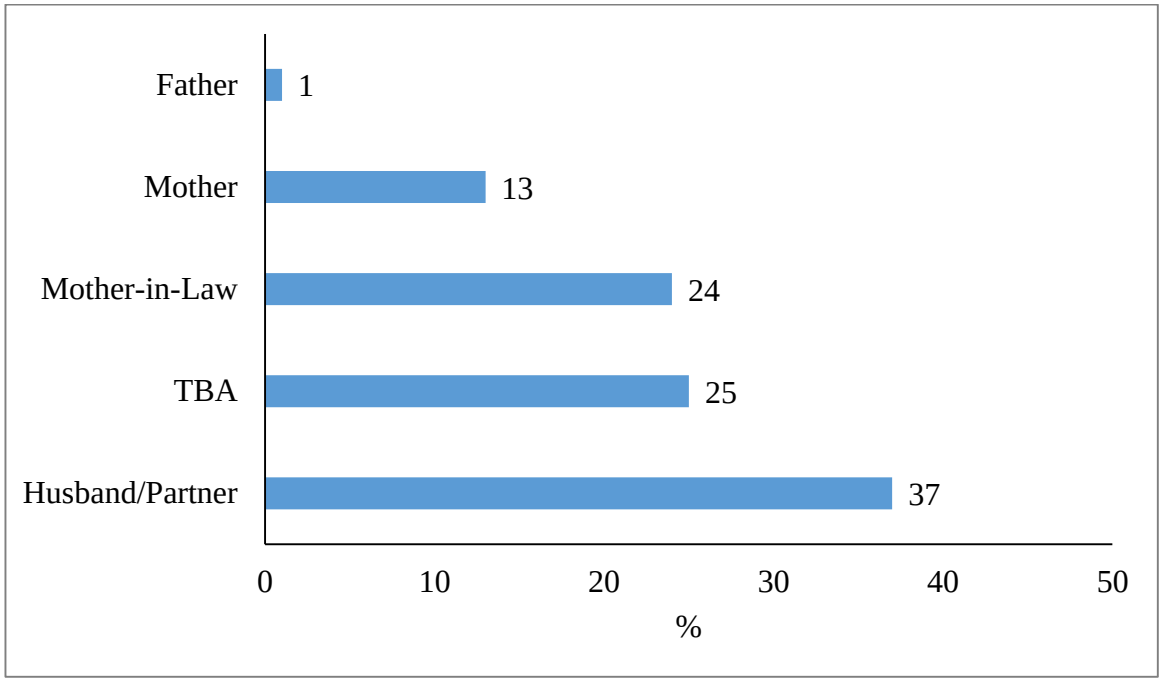

Figure 4.8: Percent distribution of persons who accompanied women for health facility delivery

4.7 Distribution of Deliveries by type of Birth Attendant

Analysis of the type of birth attendant who conducted delivery of the last child was done and grouped as either skilled birth attendant or unskilled birth attendant. Definition of skilled or unskilled birth attendant was based on possession of requisite skills of the personnel that assisted in the delivery. In this study, a skilled birth attendant was a medically qualified provider with midwifery skills such as a midwife, nurse or doctor, while unskilled birth attendant was any person not medically qualified to provide midwifery services that included a traditional birth attendant, relatives, friends and self.

Majority of deliveries were conducted by skilled birth attendants (n=262; 89.8%) that included nurses/midwives (n=211; 72.3%) and doctors (n=51; 17.5%). Unskilled deliveries accounted for 30 (10.2%) and attended by TBA 20 (6.8%), neighbours and/or relatives 5 (1.7%), while 5 (1.7%) women delivered on their own without any assistance (Table 4.6).

Table 4.6: Distribution of deliveries by type of birth attendant

Attendant	N	%
Skilled Birth Attendant		
Nurse or midwife	211	72.3
Doctor	51	17.5
Unskilled Birth Attendant		
TBA	20	6.8
Self	5	1.7
Neighbour and/or relative	5	1.7
Total	**292**	**100**

4.8 Women Satisfaction with Maternity Services

Majority of the women (n=257; 93.1%) were satisfied with the services at the various health facility delivery services, while 19 (6.9%) were not. Majority of the women (n=254; 92.7%) reported to have found the environment in the maternity as good. More than two thirds (n=193) of women expressed the need to improve delivery services in the various health facilities.

However, qualitative data revealed that among the improvements that women suggested, first, women wanted an increase in providers. *"They need to increase the number of doctors so that they can serve people well"* was a common response. Second, providers should *"talk to patients nicely"* and *"stop mistreating (huduma mbaya) patients" (All 4 FGDs, Mumias, Navakholo, Matungu and Lurambi).* According to women, this could be accomplished by providers being empathetic and understanding of women's situation. Several women felt that in general, women appreciated when providers talked to them in a soothing and calm manner, encouraged women to persevere, and were polite to them. In addition, women consistently reported that health facilities should provide hot drink, either tea or porridge for women immediately after giving birth.

4.9 Place of Delivery Away from Health Facility

For those who delivered away from health facility, 28 (76%) delivered at their own home, 7 (19%) at TBA's place and 2 (5%) at neighbours or friends home as shown in Figure 4.9 below.

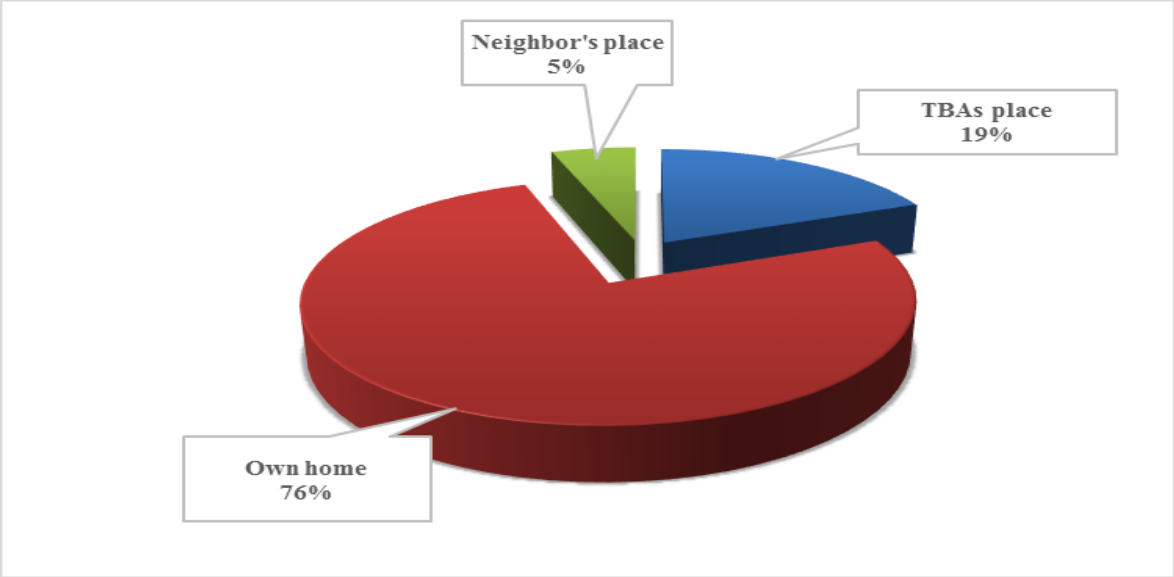

Figure 4.9: Percent distribution of exact place of delivery away from health facility among women

The reasons for preferring delivery at their own home was confirmed during qualitative data analysis from in-depth interviews and focus group discussions. One of the key informants reported; "*Some women, after delivering at home and not getting any complications have gotten used to it. To them, delivery does not require any assistance and they therefore do not plan for any hospital deliveries. They are more comfortable at home*" *(KII, Nursing Officer-In-Charge of Maternity Matungu)*

One reason reported in all FGDs was that, when it came to delivery time most women lacked money for transport. Some women lived in remote places with poor road network. This made most of them end up delivering at home.

4.10 Reasons for Giving Birth at Home

The most frequent reasons for not attending a health facility for delivery were as follows; 40.5% of women stated that labour started at night, 19% of them said that pregnancy was normal or uneventful hence facility attendance was not necessary. Other important obstacles were expenses associated with the cost of transportation mentioned by 19% and a similar proportion stating that the cost of delivery that was affordable compared to health facility delivery.

Fourteen percent of women did not have time to go to the health facility, and a similar proportion of women delivered away from the health facility because it was on a weekend and health facility was closed. A small subset (2.4%) of women reported that delivery outside the health facility was part of their culture as shown in Figure 4.10 below;

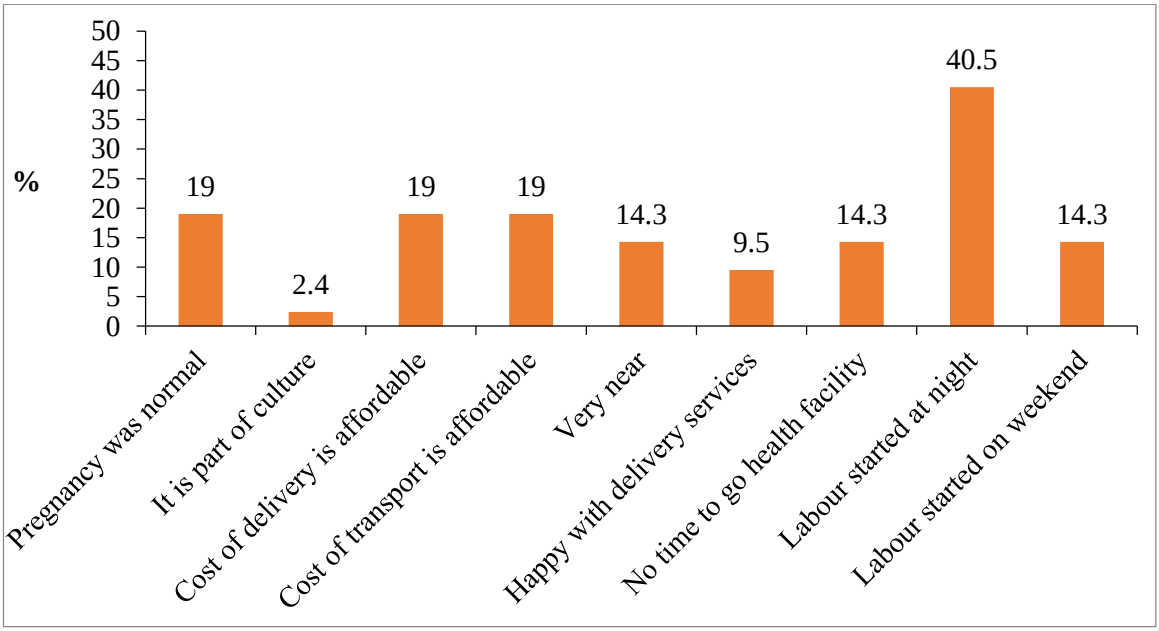

Figure 4.10: Percent distribution of reasons given by women who delivered away from the health facility

The above reasons were supported with qualitative data analyzed from all the four focus group discussion where participants reiterated that when labour begins at night or during the weekend most health facilities are closed therefore women end up giving birth at home.

4.11 Main People Involved in Deciding Delivery at Home

About 10% of women made the decision to deliver at home by themselves while 4% of them had the decision made by their spouses, 3.4% of the women had the decision made by their

women-in-law, while 3.1% of women had the choice made by the TBAs as shown in figure 4.11 below.

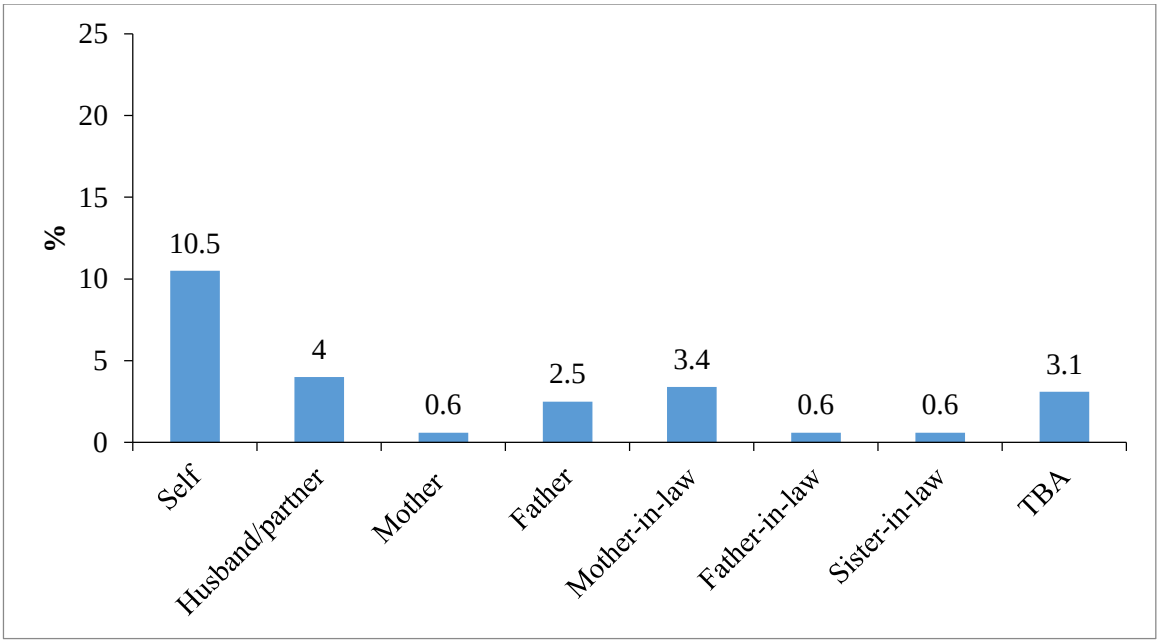

Figure 4.11: Percent distribution of the main people involved in making decision for women to deliver away from health facility

4.12 Reasons for Preferring Traditional Birth Attendant for Delivery

Figure 4.12 below shows the reasons given by women for choice of traditional birth attendants during their last delivery. The reasons included: they were easily available, familiar to the women, very friendly, there was confidentiality, and less expensive.

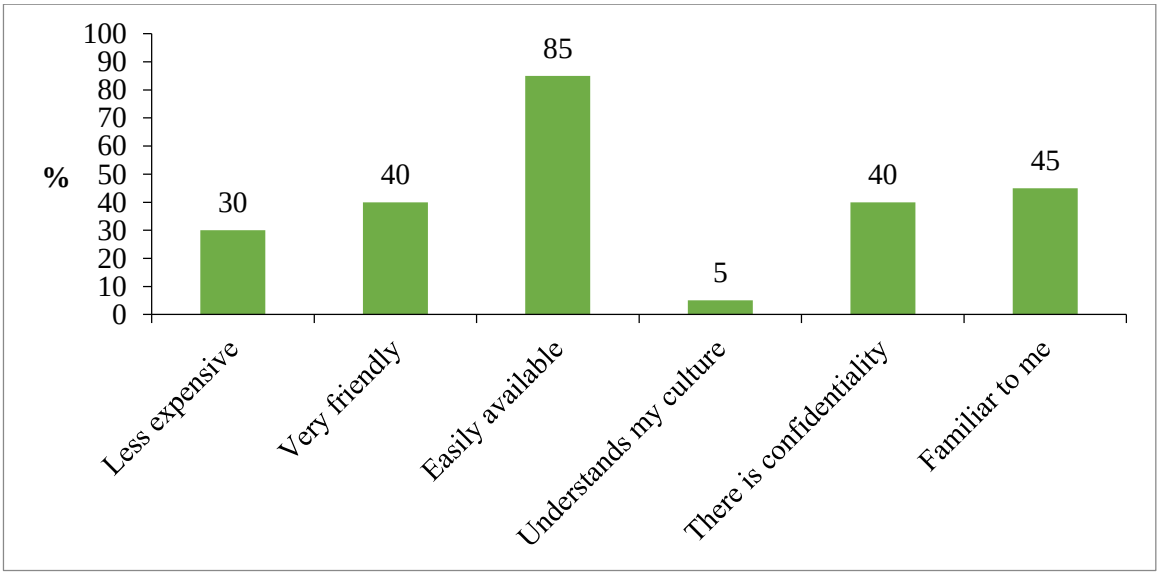

Figure 4.12: Percent distribution of respondents' reason for choosing traditional birth attendants during their last birth

Qualitative data confirmed that TBAs are still actively assisting women in childbirth. One key informant stated that, *"The TBAs were initially trained and equipped by the government to perform deliveries in the communities. They were allowed to only charge a small fee. Delivery is a source of income for TBAs" (KII, Midwife Navakholo)*

4.13 Perception of Health Facility Delivery by Women Who Delivered at Home

Out of the women who gave birth at home, 11 (23.4%) perceived women who delivered at health facility as knowledgeable about dangers related to delivery and 6 (12.8%) perceived those women as very weak or betrayers of their culture.

4.14 Knowledge of Dangers Associated with Home Delivery among Women

Home delivery was considered dangerous by 292 (94.5%) of women. Majority (n=255; 87.3%) of them mentioned heavy bleeding, while 172 (58.9%) said infections following delivery and 185 (63.4%) felt that death of women may occur (Table 4.7).

Table 4.7: Knowledge of dangers associated with home delivery among respondent women

Danger of Home Delivery	Home		Health Facility		Total	
	N	%	N	%	N	%
Heavy bleeding	30	90.9	225	93.4	255	87.3
Infections	19	90.5	153	81	172	58.9
Obstructed labour	7	38.9	83	55.3	90	30.8
Obstetric fistula	8	50	77	54.2	85	29.1
Breech presentation	6	40	56	44.1	62	21.2
Death of neonate	21	91.3	154	77.8	175	59.9
Death of woman	24	88.9	161	79.7	185	63.4

4.15 Knowledge of Religious or Cultural Beliefs Associated with Choice of Place of Delivery

Only 47 (15.6%) agreed that in the community there were known religious and cultural beliefs that barred them from utilizing modern health care including labor and delivery services. The beliefs included; the first born child has to be born at the homestead in order to bury the placenta within the compound, prohibition to seek conventional health care including delivery by local religious sects and belief that women delivering at hospital are regarded cowards culturally (table 4.8).

Table 4.8: Knowledge of existence of religious or/and cultural beliefs associated with choice of place of birth

Religious/ Cultural Beliefs	Health Facility	Home
	N (%)	N (%)
Existed	40(15.7)	7(15.2)
Did not exist	214(84.3)	39(84.8)

4.16 Similarity in Delivery Attendance between Birth Attendants at Home and Health Facility

Majority (n=284; 92.2 %) of women perceived medically trained birth attendants in health facilities as more skilled in attending to deliveries than birth attendants at home (TBAs, relatives and friends). Twenty-four (7.8%) of the women felt that there was similarity in attendance as shown in table 11 below.

Table 4.9: Similarity in delivery attendance between home-based and facility-based birth attendants

Similarity of delivery services	Health Facility		Home	
	N	%	N	%
Similar	17	(6.5)	7	(15.2)
Not similar	245	(93.5)	39	(84.8)
Total	**262**	**100**	**46**	**100**

4.17 Differences between Birth Attendants at Home and Health Facility

Some of the dissimilarity given between childbirth services at home and at health facility were as shown in table 4.10 below.

Table 4.10: Dissimilarity in delivery attendance between home-based and facility-based birth attendants

Dissimilarity, n (%)	Home- based birth attendant	Facility-based birth attendant
Training, 105 (37)	Not formally trained	Formally trained and qualified
Hygiene, 196 (69)	Low hygienic standards	Good hygienic standards
Availability of drugs and equipment, 61 (21.5)	Traditional herbs used	All modern drugs and equipment available
Availability of oxygen, 7 (2.5)	Not present	Available for resuscitation of baby
Authority by government regulation, 11 (3.9)	Not allowed	Fully authorized

4.18 Perception and Experience of Women on Place of Delivery and Type of Birth Attendant during Childbirth

The perception and experience of women regarding the quality of care received during childbirth was inquired using the questions in Tables 4.11 and 4.12 below.

Table 4.11: Maternal Perception On Quality of Care During Delivery

Perception/experience	Strongly agree	Agree	Disagree	Strongly disagree	Mean (SD)
Given adequate privacy by attendant, n (%)	150(49.2)	119(39)	23(7.5)	13(4.3)	1.7(0.8)
Attendant explained health status in terms that could be understood, n (%)	143(46.3)	136(44)	19(6.1)	11(3.6)	1.7(0.8)
Attendant listened to questions and concerns, n (%)	141(45.8)	137(44.5)	21(6.8)	9(2.9)	1.7(0.7)
Attendant left woman alone for longer periods of time, n (%)	30(9.7)	35(11.3)	141(45.6)	103(33.3)	3(0.9)
Attendant offered compassionate care, n (%)	124(40.9)	150(49.5)	26(8.6)	3(1.0)	1.7(0.7)
Attendant showed genuine interest in woman's wellbeing, n (%)	128(42.1)	145(47.7)	21(6.9)	10(3.3)	1.7(0.7)
Attendant scolded or shouted at the woman, n (%)	13(4.2)	18(5.9)	120(39.2)	155(50.7)	3.4(0.8)
Attendant commented on woman's behaviour in response to labour and child birth in a way that offended or embarrassed her, n (%)	22(7.2)	35(11.4)	126(41)	124(40.4)	3.2(0.9)
Attendant slapped woman during labour, n (%)	22(7.2)	18(5.9)	92(30.2)	173(56.7)	3.4(0.9)

The mean perception score for those who delivered in the health facility was 1.9 (SD 0.4). This means they were in agreement that the providers gave the woman adequate privacy during examinations, explained her health status, listened to her questions or concerns, offered compassionate care and showed a genuine interest in the woman's wellbeing. In addition, providers did not leave the woman alone for long periods of time, was not scolded or shouted at, did not received comments related to sexual behavior that were offensive or embarrassing, and neither was she slapped in labor. On the other hand, the mean score for those who delivered away from the facility was 3.5 (SD 0.4) meaning they disagreed to the above statements and that providers scolded or shouted.

Table 4.12: Maternal Experiences on Care during Delivery

Experiences	Very Likely	Somewhat Likely	Somewhat Unlikely	Very Unlikely	Mean (SD
Based on woman's experience during last delivery, the likelihood of woman to **recommend** that **place of delivery** to a family member or friend, n (%)	128(42.4)	136(45)	19(6.3)	19(6.3)	1.8(0.8)
Based on woman's experience during last delivery, the likelihood of woman to **deliver again in this same place,** n (%)	129(42.2)	135(44.1)	23(7.5)	19(6.2)	1.8(0.8)
Based on woman's experience during last delivery, the likelihood of woman to **recommend** that **birth attendant** to a family member or friend, n (%)	128(42.1)	135(44.4)	21(6.9)	20(6.6)	1.8(0.8)
Based on woman's experience during last delivery, the likelihood of woman to be **assisted again** by the **same birth attendant,** n (%)	141(45.8)	118(38.3)	31(10.1)	18(5.8)	1.8(0.9)

Overall, 42.4% of women were very likely to recommend the health facility where they delivered to others, 45% were somewhat likely and 6.3% were unlikely, whereas 6.3% of women were very likely to recommend delivery away from the health facility where they delivered to others. Regarding delivering in the same health facility again in a future pregnancy, 42.2% of women were very likely, 44.1% were likely, and 6.4% were unlikely.

B: Bivariate Analyses

Bivariate analyses were done using logistic regression in which all the selected maternal factors (independent variables) were analyzed for association with place of delivery (dependent variables).

4.19 Relationship between Determinants and Choice of Place of Delivery

Bivariate analysis showed that number of antenatal visits made by the woman (OR 2.310; 95% CI 1.236-4.318; p=0.008), perception of care during antenatal period (t=2.082, p=0.038), knowledge of dangers associated with home delivery (OR 7.753; 95% CI 2.816-21.349; p=0.001) and the mean live births in lifetime by a woman were the determinants significantly associated with choice of place of delivery as illustrated below.

4.19.1 Number of Antenatal Visits

There was a significant relationship between number of ANC attendance and choice of place of delivery (χ^2=7.135, p=0.008). Higher proportion of those who attended ANC ≥4 times (89.4%) delivered at the facility compared to 78.4% of those who attended <4 times. Further, logistic regression analysis indicated that those who attended ANC ≥4 times were 2.31 times more likely to deliver at the health facility relative to those who attended less than 4 times (OR 2.310; 95% CI 1.236-4.318; p=0.008) as shown in the table 4.13 below;

Table 4.13: Number of ANC Visits and place of delivery

Number of ANC visits	**Health Facility**	**Home**	**Odds Ratio (OR)**	**95% Confidence interval for OR**	**p-value**
	N (%)	N (%)			
Less than 4 times	91(78.4)	25(21.6)	2.310	1.236-4.318	0.008
4 times or more	185(89.4)	22(10.6)			

4.19.2 Knowledge of Dangers Associated with Home Delivery

From Table 4.14 below, knowledge of dangers associated with home delivery was significantly related to the choice of place of delivery (P<0.001). Majority (97%) of the women who had information on dangers of home delivery delivered at the health facility compared to only 3 % who did not know about the dangers. Analysis of the odds ratio showed that the probability of delivering at the health facility for those with knowledge of dangers associated with home delivery was almost 8 folds higher compared to those who did not know (OR 7.753; 95% CI 2.816-21.349; p<0.001).

Table 4.14: Knowledge of dangers associated with home delivery among women and place of delivery

Knowledge of danger of home delivery	**Health Facility**	**Home**	**Odds Ratio (OR)**	**95% Confidence interval for OR**	**p-value**
	N (%)	N (%)			
Knows	255 (97)	37 (80.4)	7.753	2.816-21.349	<0.001
Don't know	8 (3)	9 (19.6)			

4.19.3 Perception of Care and Experience during Antenatal

The mean perception score for those who delivered in the health facility was 1.9 (SD 0.4). This means they agreed that the providers explained health status with terms that could be understood, explained what to expect during labour and delivery, listened to questions or concerns, were respectful and did not scold or shout. On the other hand, the mean score for those who delivered away from the facility was 3.5 (SD 0.4) meaning they disagreed to the above statements and that providers scolded or shouted as in Table 16. The difference in the mean score was statistically significant (t=2.082, p=0.038).

Table 4.15: Perception and Experience of Women during Antenatal

Experience with antenatal care	Strongly agree	Agree	Disagree	Strongly disagree
The providers explained health status with terms that could be understood, n (%)	164(52.4)	130(41.5)	13(4.2)	6(1.9)
The providers explained what to expect during labour and delivery, n (%)	133(42.9)	151(48.7)	23(7.4)	3(1.0)
The providers listened to questions or concerns, n (%)	149(47.5)	156(49.7)	8(2.5)	1(0.3)
The providers were respectful, n (%)	165(52.7)	129(41.2)	15(4.8)	4(1.3)
The providers scolded or shouted, n (%)	15(4.8)	21(6.7)	111(35.5)	166(53)

4.19.4 Mean Number of Live Births in lifetime (Parity) and Choice of Place of Delivery

Independent T- test was used to compare mean estimates for the variables (continuous) between women who used health facility for delivery and those that chose home (Table 4.16). There was a significant difference (p=0.008) between the mean number of deliveries in a life time among the women who had health facility delivery and those that had home delivery. Women who had home delivery had the mean number of total deliveries as 3.8 compared to those who delivered in health facility whose mean was 2.9.

Table 4.16: Mean Number of Live Births in Lifetime (Parity) and Place of Delivery among Women

Variable	Health Facility	Home	t-value	p-value
	Mean± SD	Mean± D		
Total Number of previous deliveries (Alive + Dead)	2.9±2.0	3.8±2.8	2.648	0.008

4.19.5 Maternal Perceptions and Experiences on Care during Delivery

There was significant difference in perception of care during delivery as well as maternal experience during childbirth between women who delivered at the health facility and those who delivered away from the health facility (t=2.198, p=0.033 and t=10.138, p=<0.001, respectively) as indicated in table 4.17.

Table 4.17: Perception and Experience of Women on Place of Delivery and Birth Attendant

	Health Facility	Home	t value	p value
Quality of care during childbirth	21.1 (SD 2.9)	22.8 (SD 4.6)	2.198	0.033
Experience during childbirth	6.3 (SD 2.1)	11.8 (SD 3.3)	10.138	<0.001

4.19.6 Relationship between other Individual Determinants and Choice of Place of Delivery

There was no significant relationship between age, education level, marital status, religion, birth interval, occupation, residence and choice of place of delivery (p>0.05). However, the proportion of those who delivered at the health facility increased with increase in level of education while the proportion of those who delivered at facility decreased with increase in the number of children (table 4.18). In addition, all those in the urban residence and salaried employment delivered at the facility (tables 4.19 and 4.20 below).

Table 4.18: Relationship between other individual determinants and choice of place of delivery

	Place of delivery			
Variables	**Health Facility**	**Home**	**χ^2-value**	**P-value**
	N (%)	N (%)		
Age group (years)				
< 20	40(87)	6(13)	1.044	0.903
20 – 24	68(84)	13(16)		
25 – 29	80(86)	13(14)		
30 – 34	54(83.1)	11(16.9)		
≥ 35	34(89.5)	4(10.5)		
Level of education				
No education/ drop out from primary	8(80)	2(20)	7.519	0.111
Primary level	169(82.4)	36(17.6)		
Secondary	68(88.3)	9(11.7)		
College & University	31(100)	0(0)		
Marital status				
Single	30(90.9)	3(9.1)	2.404	0.493
Married	238(84.4)	44(15.6)		
Divorced/Widowed	8(100)	0(0)		
Religion				
Catholic	78(88.6)	10(11.4)	3.222	0.200
Muslim	35(92.1)	3(7.9)		
Protestant	158(82.7)	33(17.3)		
Parity				
Primiparous	70(89.7)	8(10.3)	2.839	0.242
Multiparous	150(85.7)	25(14.3)		
Grand Multiparous	56(80)	14(20)		
Birth interval				
Short Birth Interval	44(78.6)	12(21.4)	3.082	0.379
Medium Birth Interval	108(85.7)	18(14.3)		
Long Birth Interval	65(89)	8(11)		
First birth	55(87.3)	8(12.7)		
Occupation				
Unemployed	127(83)	26(17)	3.562	0.436
Self employed	96(85.7)	16(14.3)		
Student	12(100)	0(0)		
Salaried employment	10(100)	0(0)		
Casual worker	23(88.5)	3(11.5)		
Resident				
Rural	248(84.4)	46(15.6)	2.940	0.142[f]
Urban	16(100)	0(0)		

As for the household determinants there was no significant relationship between spouse education, spouse occupation, household monthly income and choice of place of delivery ($p>0.05$). Higher proportions of those whose spouses were salaried employed and casual workers delivered at the health facility compared to those whose spouses were unemployed, self-employed and students (table 4.19).

Table 4.19: Relationship between household determinants and choice of place of delivery

Characteristic	Health Facility	Home	χ^2-value	p-value
	N (%)	N (%)		
Spouse education				
No education/ drop out from primary	6(75)	2(25)	5.037	0.243[f]
Primary level	137(84)	26(16)		
Secondary	77(83.7)	15(16.3)		
College & University	35(97.2)	1(2.8)		
Spouse occupation				
Unemployed	36(83.7)	7(16.3)	2.034	0.719
Self employed	96(83.5)	19(16.5)		
Student	5(83.3)	1(16.7)		
Salaried employment	31(91.2)	3(8.8)		
Casual worker	74(88.1)	10(11.9)		
Household Monthly Income	4500(2500, 10000)	5000(2000, 10000)	Z=0.562	0.574

Similarly, there was no significant relationship between facility related determinants (distance to place of delivery and availability of transport) and choice of place of delivery (table 4.20).

Table 4.20: Relationship between Facility-related determinants and choice of place of delivery

Distance to place of delivery	Health Facility		Home		χ^2-value	p-value
	N	%	N	%		
<5 Km	167	98.2	3	1.8	2.398	0.301
≥5 <10 Km	75	100	0	0		
≥10 Km	23	95.8	1	4.2		
Availability of transport						
Easily	148	99.3	1	0.7	1.533	0.465
With Difficulty	92	97.9	2	2.1		
Did not get at all	32	100	0	0		

4.18 Multivariate Analyses

Binary logistic regression analysis was performed on multiple factors to establish the true predictors of place of delivery using four (4) predictive factors which significantly associated (independently) with choice of place of delivery at bivariate analysis. These factors (independent variables) included: number of antenatal visits, perception of care during antenatal, knowledge of danger associated with home delivery and the average number of previous deliveries. The table 4.21 below shows beta coefficient (β), odds ratio and P value for each of the factors significantly associated with place of delivery.

Those who attended ANC four or more times were 2 times more likely to delivery at the health facility compared to those who attended ANC less than four times (OR 2.180; 95% CI1.126-4.219; p=0.021). Those who knew dangers associated with home delivery were almost 7 times more likely to deliver at the health facility than those who did not know (OR 6.798; 95% CI2.385-19.376; p<0.001). A unit increase in the number of children delivered reduced the chances of delivering at the health facility by 18.1% (OR 0.819; 95% CI0.709-0.945; p=0.006).

Table 4.21: Logistic regression predicting place of delivery from number of antenatal visits, knowledge of danger associated with home delivery and number of previous births.

Variable / category	β	S.E. (β)	P value	Odds ratio	95.0% C.I. for odds ratio	
					Lower	Upper
4 + ANC visits (Ref < 4 times)	0.779	0.337	**0.021**	2.180	1.126	4.219
Knowledge of danger associated with home delivery (Ref = Don't know)	1.917	0.534	**<0.001**	6.798	2.385	19.376
Number of previous births	-0.200	0.073	**0.006**	0.819	0.709	0.945

CHAPTER FIVE: DISCUSSION

5.1 Introduction

This section discusses the results in relation to the stated objectives. It explains the major findings of the study and compares them to the findings from similar studies done elsewhere. Subsections elaborate on the three specific objectives.

5.2 Utilization of Delivery Services

Increasing the proportion of women who deliver in health facilities is an important factor in reducing the health risks to both the mother and the baby (Roro, Hassen, Lemma, Gebreyesus, & Afework, 2014). Proper medical attention and hygienic conditions during delivery can reduce the risks of complications and infection that can cause morbidity and mortality to either the mother or the baby (WHO & UNICEF, 2017). A measure of the proportion of deliveries attended by skilled health personnel is one of the indicators of progress towards Sustainable Development Goal 3, which aims at reducing the global maternal mortality ratio to less than 70 per 100,000 live births by 2030 (Griggs et al., 2013).

This study was conducted to identify the determinants of choice of place of delivery in western Kenya. Overall results show that 85% of women gave birth in a health facility. This is higher than the national estimate of 61% for Kenya (KDHS, 2014) and 47% for Kakamega County (KDHS, 2014). The high facility-based deliveries in this rural area is encouraging, and could be attributed to recent interventions by both the national and county governments to address high maternal mortality by increasing facility-based deliveries.

Through the national government, the Free Maternity Services launched in June 2013 is still being implemented with an aim of increasing access to skilled delivery services. In addition, the Beyond Zero campaign launched in January 2014 is responding to the country's high maternal mortality, mother to child HIV transmission and increasing access to maternal care including delivery services. In order to address financial barrier to health care, the introduction of enhanced health payment schemes such as the *Linda Mama* programme under the National Health Insurance Fund (NHIF) could have enabled more women to access delivery services at health facility than could have done before.

At the county level, a maternal and child health programme dubbed *'Oparanya* Care' that commenced in 2015 is being implemented. The programme supported by the county government of Kakamega seeks to encourage pregnant women to seek ANC services as well as giving birth in health facilities.

The initiative links conditional cash transfer to improved use of antenatal and maternity, newborn and infant health services. Specifically, the programme provides Ksh. 2,000/- to every woman at specified intervals when she utilizes recommended maternal and child health services. The services include: attendance of four antenatal care visit during pregnancy; delivery in a health facility; attendance of postnatal checkup and child immunization at six weeks after delivery; administration of vitamin A at six months; uptake of immunization at nine months; and completion of recommended course of child immunizations at 18 months.

In this study, the disparity between antenatal attendance (95.7%) and health facility delivery (85%) was minimal compared to similar disparities reported at national and county levels. The national estimate for ANC attendance is 95.5% while facility delivery is 61%, whereas estimates for Kakamega County show ANC attendance of 96.4% with facility delivery of 47% by the year 2014 (KDHS, 2014). This may be because not every ANC facility has 24-hour maternity service, and therefore the distance to the health facility with maternity service may be greater than for antenatal care. In addition, most ANC facilities, mainly dispensaries close after 5 pm, but labor frequently begins at night. The same facilities remain closed over the weekend and public holidays.

On the other hand, 15% of deliveries occurred at home. This result implies that community members still demand the informal health service provision available in their residential areas and rely on conventional kinship and social network. Deliveries away from health facilities were attended by traditional birth attendants, recording a rate of 6.8%, neighbours and relatives at 1.7%, and 1.7%. reported delivering on their own without any assistance. These estimates are lower compared to the nationally observed rate of 28 % of births attended by traditional birth attendants, 21% by relatives and friends and 7% of women who do not receive any form of assistance (KDHS, 2008-09). In Kenya, the Ministry of Health's Reproductive Health policy (2007) recommended change in roles of TBAs from birth attendants to referral agents for hospital delivery, since they are unable to address any of the causes of maternal and newborn mortality.

The study established that, in line with the ministry of health recommendation of transforming the roles of TBA from birth attendants to referral agents, the County Government of Kakamega in collaboration with national government were implementing an initiative aimed at using the TBAs to help break socio-cultural barriers on health facility delivery.

The initiative targets to re-orient and motivate the TBAs in taking up new roles of accompanying women in labour to health facilities instead of conducting the delivery at home by gradually familiarizing with them, building trust, transparency, tolerance and creating better working relationship between health care providers and the TBAs. This could explain the lower proportion of births attended by TBAs.

Among the reasons identified for preferred home deliveries included: labour starting at night, pregnancy was normal or uneventful, lack of money to meet cost of transportation, labour started on weekend when facility was closed, mothers had no time to go to health facility to deliver and mothers felt more comfortable to deliver in or near their own houses than from the hospital maternities. It was however interesting to note that most mothers acknowledged there were potential risks (dangers) associated with home delivery and could identify excessive bleeding, post-delivery infections, obstructed labor, obstetric fistula or even maternal and neonatal deaths as complications that could occur.

5.3 Determinants of Choice of Place of Delivery

In this study, the significant determinants of the place of delivery were: number of antenatal visits, maternal knowledge of danger associated with home delivery and number of previous deliveries and perception of care during pregnancy.

Receiving antenatal care four times or more was one of the significant positive determinants ($p= 0.021$) to improving health facility delivery in this study. Most of other studies have found that women who use ANC services optimally are much more likely to receive skilled attendants at delivery (Dahal, 2013; Lwelamira & Safari, 2012; Yegezu & Kitila, 2015). This finding was consistent with observation made from a similar study conducted in Kenya that showed those attending more antenatal care visits were more likely to deliver in a health facility (Kitui, Lewis, & Davey, 2013). Similar finding was reported in rural (Chowdhury et al., 2013). The odds of being attended at delivery by trained medical personnel and of institutional delivery were significantly increased if women use ANC services.

Women who attend ANC visits have more opportunities to interact with the health facilities, know the current pregnancy status including possible risks and feel the importance of skilled care attendance during delivery, which in turn discourage them to deliver at home without skilled birth attendant. On the other hand, women who received less antenatal care visit during pregnancy were more likely to choose home delivery.

Better maternal knowledge of risks associated with home delivery was also a significant determinant (P<0.001) of facility delivery in this study. High maternal health knowledge may be able to positively influence a woman's care-seeking behaviours as well as enabling her to recognize the danger signs early. However, this maternal knowledge may be the result of frequent contacts with skilled health personnel. These findings were in agreement with those of a study carried out in Ethiopia where mother's knowledge about danger signs of pregnancy showed an effect on women's preferences for place of delivery. About 94.9% of those women counseled about the danger signs of pregnancy delivered at a health facility compared to 92.1% of those who were not counseled (Tebekaw et al., 2015).

The study showed there was no significant relationship with choice of place of childbirth and age. The finding appeared to be inconsistent with other studies done elsewhere (Envuladu et al., 2013; Tebekaw et al., 2015) that showed young women were found to be better users of skilled professional assistance compared to older ones. The difference may be due to different socio-demographic and socio cultural characteristics of the study participant between Kenya, Ethiopia and other countries where the research was done. Another reason for the difference could be due to the different categorization of age. In this study, age was categorized into under 20s, 20-24, 25-29, 30-34 and over 35s whereas in previous studies (Envuladu et al., 2013) age was categorized into 16-25, 26-35 and 36-40 while (Dickson et al., 2016) categorized maternal age into 15–19, 20–24, 25–29, 30–34, 35–39, 40– 44, and 45–49. This different categorization probably made comparison with previous studies difficult and hence variation in results.

Education is one of the key social determinants of health and healthcare. In this study, maternal education was not a significant determinant of place of delivery. Despite the lack of statistical significance, 100% of mothers whose educational status was tertiary delivered in health facility compared to 80% of women with no formal education or who dropped out from primary. Other studies found that the level of education of women significantly influenced the choice of place of delivery (Envuladu et al., 2013; Lwelamira & Safari, 2012; Yegezu & Kitila, 2015).

People with higher education are more likely to opt for healthcare services as compared to their less educated counterparts. This is because people with more years of education are more likely to be sensitive towards their health and are better aware about access to healthcare options. Another study found that being more educated strongly predicted where women delivered (Kitui et al., 2013).

The findings point to the power of education in empowering women to seek maternal care. This may be because education likely enhances the status of women and enable them to develop greater confidence and capacity to make decision about their own health as well as having better access to information through reading and following media about essential maternal health care.

In this study, obstetrical factors of women including number of previous birth (parity) and birth interval were examined. Parity was found to be a significant determinant of place of delivery (p= 0.006). Women who had four previous births were found to prefer delivering at home compared to those who had three previous births. Other studies have also confirmed significance of parity on choice of place of delivery where older, higher parity mothers tend to use a health facility lesser than younger, lower parity mothers (Breen & Ensor, 2011; Mehari, 2013; Obago et al., 2013; Ochako et al., 2011). The focus group discussions pointed to the fact that as the number of children increases women tend to rely on past knowledge and experiences from the previous births and stay away from health facility especially if births were normal. On the other hand, low parity women were likely to be younger or more educated and would tend to use health facility for delivery in order to avoid complications related to pregnancy and child birth.

Birth intervals were found not to be significant in determining the choice of place of delivery. This was in contrast with other studies that established that birth interval was associated with place of delivery (Fotso, Ezeh, & Essendi, 2009; Kawakatsu et al., 2014). Those who gave birth for the first time (primiparous) had a greater chance of delivering in a health care setting than women with short birth intervals (those who gave birth at interval of about 24months). Women in their first pregnancy were more likely to have their baby in a health facility. The first birth is known to be more difficult and the family may help the mother to get better care. The difference in finding could be because women delivering in Kakamega, a rural county may have socio-demographic and cultural characteristics that are different from women in cosmopolitan area where other studies were done (Fotso et al., 2009; Kawakatsu et al., 2014).

Using bivariate analysis, the perception of care and experience during antenatal period was found to be statistically significant (t=2.082, p=0.038) in influencing the choice of place of delivery. Women who expressed positive perception and experience of care during pregnancy when attending the antenatal clinic, were more likely to return for childbirth at

the health facility compared to those who expressed negative perceptions. In the study, majority of women who gave birth in the health facility expressed their agreement that they were satisfied with services offered. The providers explained health status with terms that could be understood, explained what to expect during labour and delivery, listened to questions or concerns, were respectful and did not scold or shout. On the other hand, those that delivered away from the health facility disagreed that health providers were respectful and did not scold or shout.

Other studies identified the quality of antenatal care as a determinant factor for the increased utilization of health facilities as a place for delivery (Pervin et al., 2012; Warren et al., 2017). Disrespectful and abusive behaviors by healthcare providers at health facilities deter women from accessing quality of maternity care. In addition, in line with the literature cultural, inappropriateness of care, disrespectful and inhumane services, and lack of emotional support, can deter women from accessing obstetric care (Karkee, Lee, & Pokharel, 2014). Qualitative data revealed that women had concerns with the manner in which healthcare providers handled them during pregnancy. Issue of disrespect, rudeness and failure of staff to show concern towards women were mentioned. Women expected health workers to be friendly in providing care, not to be rude or shout at them and to be emphatic to them.

Effects of time of onset of labour (time of day or day of the week of occurrence of labour) on choice of place delivery was not found to be significant in this study. However, women most commonly cited the onset of labour at night as the leading reason for home delivery (40.5%), as well as labour starting at weekend when health facility was closed (14.3%). Qualitative data indicated that most labour began in the late evening, and at that time it was impossible to go to the health facility since the facility was either closed, means of transport unavailable or it was insecure to go to the health facility. Numerous studies show that the onset of labour and hour of spontaneous birth exhibit a circadian pattern (Kawakatsu et al., 2014; Kumbani, Bjune, Chirwa, Malata, & Odland, 2013). Spontaneous onset of labour and shorter labour appear to be more common during night-time hours.

More human births occur between 1 a.m. and 6 a.m. than at other times of day (Jolly, 1972). Other studies (Kumbani et al., 2013) have shown that onset of labor at night increases the likelihood for women delivering at home. Most health facilities are mainly dispensaries and some health centres operate only during daytime and weekdays, therefore hindering women from accessing health services including delivery. In addition, it is often difficult to find the usual transportation at night especially in the rural area.

This study examined household factors that influence choice of place of delivery among the women. Spouse education, spouse occupation and household monthly income had no significant relationship with the place of delivery. This finding is contrary to observations made in a study in Ethiopia that found out that husband's educational status and high status occupation was significant determinant of choice of delivery place (Dickson et al., 2016; Mezmur, Semahegn, & Tegegne, 2017). In most African communities, a husband has the last say. The reason for this positive relationship might be because highly educated spouses are informed about the benefits of health facility delivery and risks associated with home delivery. However, this was not the case in this study. I postulate that the reason economic-related household factors may not have been significant in this study may relate to unwillingness of rural community to disclose the actual economic status of the family in anticipation of possible inclusion in social assistance programmes in future.

The study evaluated effect of physical accessibility on choice of place of delivery by examining the distance, mode and availability of transport. It is clear that transportation issues are a major factor in the decision to go to a health facility (1st delay). This factor also influences the delay caused by distance from home to the health facility (2nddelay). In this study, the distance and availability of transport to the nearest facility was not significantly associated with place of delivery. This finding was similar to the findings of a previous study that showed the effect of distance from a health facility was not significant (Kitui et al., 2013). However, other studies in Tanzania and Ethiopia showed that proximity to health centers has higher odds of using skilled birth attendants (Alemayehu & Mekonnen, 2015; Envuladu et al., 2013).

5.4 Limitations of the Study

Though the study identified some important factors influencing choice of place of delivery, there were limitations. The study assumed that the information given by the participants was true and not biased. Recall bias may be a problem for women to memorize events in responding to questions like their obstetrical experience such as time of onset of labour or harassment during delivery. This means services actually provided could have been under-reported or over reported. Findings obtained from this study may not generally be applicable to urban settings as the investigations were conducted in rural areas.

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter briefly enumerates the conclusions and recommendations of the study. It summarizes the conclusions which have been deduced from the results and outlines recommendations to various stakeholders.

6.2 Conclusions

The findings of this study shows that utilization of health facility delivery is high (85%) compared to the current national average of 61%. Majority of the deliveries occurring at home take place at woman's own home (76%) and TBA's place (19%). The reasons associated with home delivery include; labour starting at night, not able to afford transport cost to health facility, when pregnancy is normal or uneventful and labour starting on a weekend. Knowledge of dangers of unskilled delivery among mothers who deliver at home is high (80.4%) compared to those who do not know (19.6%). The decision to deliver at home is mostly made by individual mothers (10.5%), while spouse and mother-in-law influence 4% and 3.4% of women respectively. In this study, significant determinants influencing choice of place of delivery were; number of antenatal visits, maternal knowledge on dangers associated with home delivery and number of previous births (parity). Women who attended four or more ANC visits were twice more likely to deliver at health facility. In addition, women with knowledge on dangers associated with home delivery were seven times more likely to deliver in the health facility. An increase in the number of children delivered reduced the likelihood of delivering at health facility by 18.1%.

6.3 Recommendations

In view of the aforementioned findings, the following recommendations are appropriate.

6.3.1 Recommendations to Kakamega County Health Management Team and Health Facility Staff

1. Stressing the importance of regular attendance at ANC (more than four times) would be effective to enhance motivation for a facility delivery. Health professionals should take the opportunity to encourage mothers to attend the four or more recommended ANC visits before delivery. Community based health education for awareness creation on

importance of skilled delivery should be done targeting women, men, mother-in-law and traditional birth attendants, as key decision makers in order to prevent negative influence to choose home as the preferred place of delivery.

2. Health professionals in Kakamega should intensify counselling on risks associated with home delivery among women and other community members. Counselling of clients on danger signs will enhance maternal health knowledge associated with facility delivery, as well as enabling the pregnant women and their relatives understand obstetric complications that may develop and their consequences.
3. Health education on comprehensive family planning should be strengthened to provide opportunities for limiting and spacing pregnancies among women.

6.3.2 Recommendation for Public Health

1. Community based education should be revitalized to provide information to women and general public on importance of ANC, number and timing of ANC visits, danger signs associated with home deliveries and importance of health spacing and timing of pregnancies.

6.3.3 Recommendations for Further Research

1. Further studies should be conducted to evaluate the impact of the conditional cash transfer on skilled birth attendance under the maternal and child health programme (Oparanya Care) in Kakamega County.

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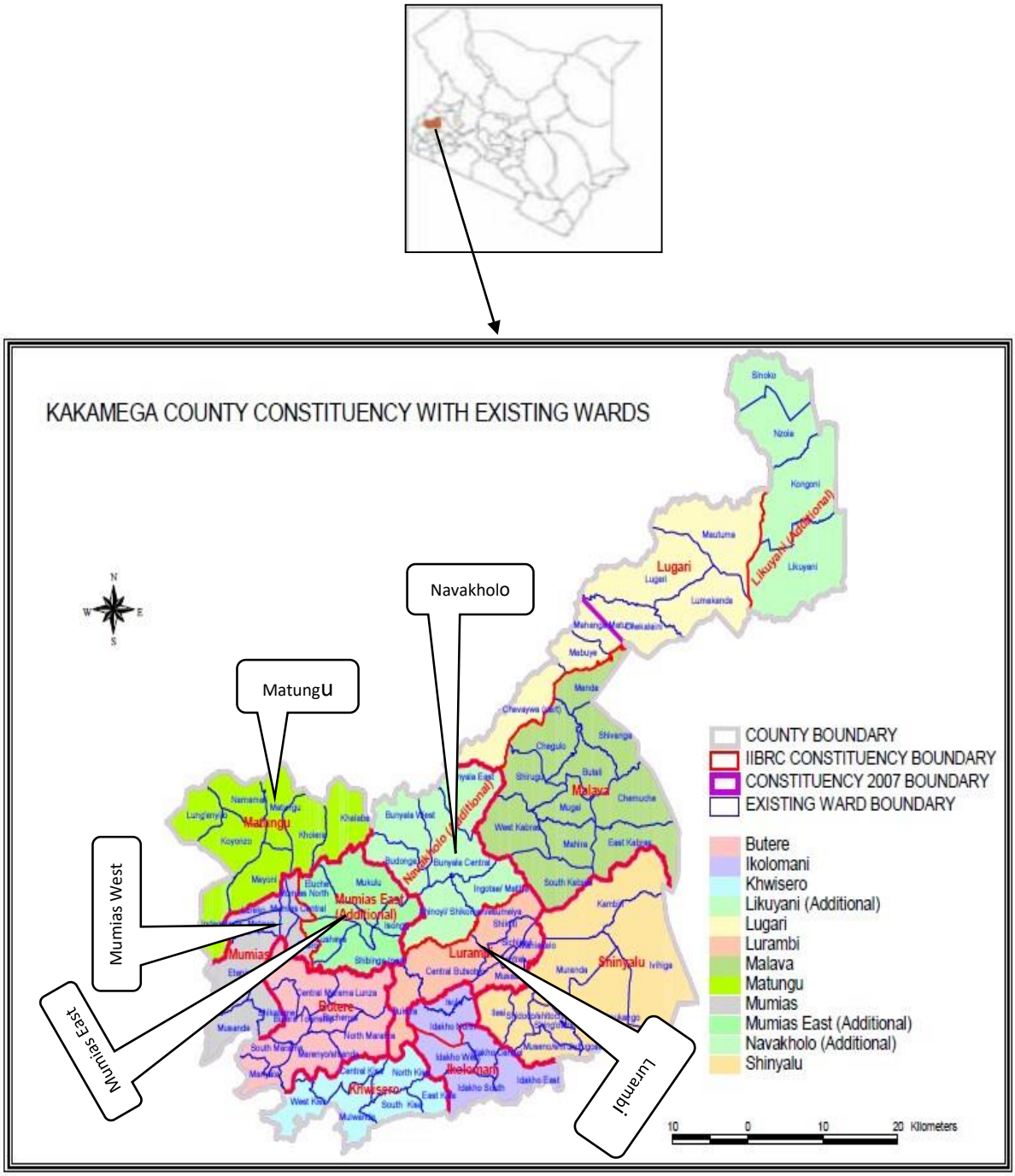
APPENDICES

APPENDIX I: MAP OF KAKAMEGA COUNTY AND ITS POSITION IN KENYA



The study area consisted of five sub counties namely Matungu, Mumias East, Mumias West, Navakholo and Lurambi.

Source: *The Independent Electoral and Boundaries Commission Preliminary Report On the First Review Relating to The Delimitation of Boundaries of Constituencies and Wards, 2012.*

APPENDIX II: INFORMED CONSENT FORM

For Women Aged 18 years and above

TITLE: **DETERMINANTS OF CHOICEOF PLACEOFDELIVERY AMONG WOMEN WITH INFANTSIN KAKAMEGA COUNTY**

Introduction: I am/working together with a student of MPH Maseno University. We are conducting a research that asks about choice of place of delivery by women with children less than one year in Lurambi, Navakholo, Mumias and Matungu sub counties.

Purpose of the Interview: We are talking to people in the community to learn about place of delivery preferred by women and the associated factors.

What will happen during the interview: If you agree to participate in this study by signing the section at the end of this form, I will ask some questions regarding the place where you gave birth and the reasons behind the choices you made.

Time required: Your interview will take approximately twenty-five (25) minutes.

Risks: There are no risk factors involved in this study.

Benefits: This study is expected to yield results that will help to improve the health and wellbeing of mothers and newborns in the study area and Kenya.

Confidentiality: All information you provide will be kept confidential.

Voluntary Participation: Your participation is strictly voluntary.

Obtaining additional information: You are encouraged to ask any question to clarify any issues at any time. If you think you need more information you may call the researcher on **0720 264 554.**

In case you have any further concerns or questions regarding the study and you would wish to talk to any other person other than the researchers, you are encouraged to contact: **The Secretary, Maseno University Ethics Review Committee, Private Bag, Maseno; Telephone numbers: 057-51622, 0722203411, 0721543976, 0733230878;**

Email: muerc-secretariate@maseno.ac.ke; muerc-secretariate@gmail.com

CONSENT:

I have read the above information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study.

Print Name of Participant	
Signature of Participant	
Date (DD/MM/YYYY)	

If illiterate, visually impaired or physically impaired;

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print Name of Participant	
Thumb/Foot print of Participant	
Signature of Witness	
Date (DD/MM/YYYY)	

STATEMENT BY THE RESEARCHER/PERSON TAKING CONSENT

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands that participation in the study is voluntary and participant's information will be kept confidential.

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

Print Name of Researcher/person taking the consent	
Signature of Researcher/person taking the consent	
Date (DD/MM/YYYY)	

Signed copy of this consent must be retained by the researcher or person taking the consent.

TRANSLATION: FOMU YA RIDHAA

KICHWA: **MAMBO YANAYO ZINGATIWA KUFANYA MAAMUZI KUHUSU PAHALA PA KUJIFUNGUA KWA AKINA MAMA WALIO NA WATOTO CHINI YA MWAKA MMOJA KATIKA KAUNTI YA KAKAMEGA**

Kitambulishi: Mimi ni/nafanya kazi pamoja na mwanafunzi wa shahada ya Afya ya Umma katika chuo kikuu cha Maseno. Tunafanya utafiti ambao unauliza mambo yanayozingatiwa kuchagua mahala pa kujifungulia kwa akina mama walio na watoto chini ya mwaka moja katika sehemu ya Lurambi, Navakholo, Mumias na Matungu.

Sababu ya utafiti: Tunazungumza na watu katika jamii ili kujua kuhusu mambo yanayozingatiwa katika maamuzi ya pahala pa kujifungulia na sababu zinazo ambataniswa.

Ni nini kitakachofanyika wakati wa mahojiano: Ikiwa utakubali kushiriki katika utafiti huu kwa kutia sahihi katika sehemu ya mwisho ya fomu hii, nitauliza maswali kadhaa kuhusu sehemu uliojifungulia na sababu ambazo zilikukufanya ufanye uamuzi huo.

Muda Wa Mahojiano: Mahojiano yatachukua takribani dakika ishirini na tano

Madhara: Hakuna madhara yoyote yanayohusika na utafiti huu

Faida: Uafiti huu unatarajiwa kutoa matokeo ambayo yatasaidia kuimarisha afya ya akina mama na watoto wachanga katika sehemu hii na Kenya kwa ujumla

Usiri: Habari zote utakazozitoa zitawekwa kwa siri

Ushiriki wa Hiari: Kushiriki katika utafiti huu ni kwa hiari yako pekee

Kupata habari zaidi: Unahimizwa kuuliza maswali yoyote ili kufafanua mambo wakati wowote. Ikiwa utahitaji habari zaidi unaweza kupigia mtafiti kwa nambari **0720 264 554.**

Ikiwa una maswali zaidi kuhusu utafiti huu na ungependa kuwasiliana na mtu mwingine mbali na mtafiti, unahimizwa kuongea na:

DR. HARRYSONE ATIELI
MUHADHIRI MKUU
SHULE YA AFYA YA UMMA NA MAENDELEO YA JAMII
CHUO KIKUU CHA MASENO
NAMBALI YA SIMU - 0721 347 437

RIDHAA:

Nimesoma habari hizi, ama nimesomewa. Nimepata fursa ya kuuliza maswali na yamejibiwa nikaridhika. Natoa ridhaa kwa hiari yangu ili nishiriki katika utafiti huu.

Andika Jina la Mshiriki	
Sahihi ya mshiriki	
Tarehe (DD/MM/YYYY)	

Kama hajui kusoma, asiyeoona ama ana ulemavu wa mwili;

Nimeshuhudia fomu ya ridhaa ikisomewa mshiriki wa utafiti huu kwa ukamilifu, na atakaeshiriki amekuwa na nafasi ya kuuliza maswali. Nathibitisha amekubali kushiriki kwa hiari yake bila shinikizo.

Andika Jina la mshiriki	
Alama ya kidole	
Sahihi ya shahidi	
Tarehe (DD/MM/YYYY)	

KAULI YA MTAFITI AU MWAKILISHI WA MTAFITI

Mimi nimesoma kwa usahihi maelezo yote yalio katika karatasi hii kwa mshiriki mtarajiwa na kwa kadri ya uwezo wangu nimehakikisha kwamba mshiriki anaelewa kuwa ushiriki katika utafiti ni kwa hiari yake na maelezo yake yote yatawekwa kwa siri.

Mimi nathibitisha kwamba mshiriki alipewa nafasi ya kuuliza maswali kuhusu utafiti huu, na maswali yote aliyouliza yalijibiwa kwa usahihi. Ninathibitisha kwamba mshiriki hakushurutishwa katika kutoa idhini, na ridhaa amepeana kwa hiari.

Andika Jina la Mtafiti/Mshirikishi wa mtafiti	
Sahihi ya Mtafiti/Mshirikishi wa mtafiti	
Tarehe (DD/MM/YYYY)	

APPENDIX III: ASSENT FORM

Assent Form for Women Aged below 18 years

TITLE: **DETERMINANTS OF CHOICE OF PLACE OF DELIVERY AMONG WOMEN WITH INFANTS IN KAKAMEGA COUNTY**

Introduction: I am/working together with a student of MPH Maseno University. We are conducting a research that asks about choice of place of delivery by women with children less than one year in Lurambi, Navakholo, Mumias East, Mumias West and Matungu sub counties.

Why are we asking to interview you? The purpose is to talk about the place of delivery and the kind of person who assisted you during pregnancy and childbirth. We would like to interview you since you had a baby in the past one year.

What will happen during the interview? If you agree to take part, I will ask you some questions regarding the place where you gave birth, the person who assisted you during childbirth and the reasons behind the choices you made.

Time required: Your interview will take approximately twenty-five (25) minutes.

Risks: There are no risk factors involved in this study. The only possible risk is if the interview reminds you of an unhappy experience or causes emotional distress. If this happens, please let me know.

Benefits: This study is expected to yield results that will help to improve the health and wellbeing of young women in your community. You may also appreciate the chance to talk about your last pregnancy.

Is what you say confidential? Only the researchers working on this study will receive the Information from the interview and this will be kept confidential.

Do you have to take part? Taking part in the study is voluntary. You can choose to take part in interview or not. You can stop the interview at any time. You do not have to answer any question that you do not want to. Your decision to take part and responses will not affect the health care you or your family receives at any clinic or hospital.

Will you receive any money? No, you will not receive any money for taking part in the interview.

What if you have questions about this study? If you think you need more information you may call the researcher on **0720 264 554**
In case you or your parent or guardian have any further concerns or questions regarding the study and you would wish to talk to any other person other than the researchers, you are encouraged to contact: **The Secretary, Maseno University Ethics Review Committee, Private Bag, Maseno; Telephone numbers: 057-51622, 0722203411, 0721543976, 0733230878;**

Email: muerc-secretariate@maseno.ac.ke; muerc-secretariate@gmail.com

Signing your name at the bottom means that you agreed to be in this study.

Print Name of Minor	
Thumb/Foot print of Minor	
Signature of Parent/Guardian	
Date (DD/MM/YYYY)	

STATEMENT BY THE RESEARCHER/PERSON TAKING CONSENT

I have accurately read out the information sheet to the potential participant and the parent or guardian, and to the best of my ability made sure that they understand that participation in the study is voluntary and the information will be kept confidential.

I confirm that the participant and parent or guardian was given an opportunity to ask questions about the study, and all the questions asked have been answered correctly. I confirm that the minor and parent or guardian have not been coerced into giving consent, and the consent has been given freely and voluntarily.

Print Name of Researcher/person taking the consent	
Signature of Researcher/person taking the consent	
Date (DD/MM/YYYY)	

Signed copy of this consent must be retained by the researcher or person taking the consent.

APPENDIX IV: QUESTIONNAIRE

TITLE: **DETERMINANTS OF CHOICE OF PLACE OF DELIVERY AMONG WOMEN WITH INFANTS IN KAKAMEGA COUNTY**

SECTION A: **PARTICIPANT IDENTIFICATION DETAILS**

This section is to be completed for each participant interviewed

Questionnaire Number

Name of Sub County

Name of County Ward

Village

Date of interview.	Day:	Month:	Year:
Time interview commenced.			
Time interview ended.			

Please complete this part of the form

Interviewers:	Refer at **ALL** times to your survey manual for instructions. Remember to **OBTAIN CONSENT** from each participant.		
	Interviewer	Principal Investigator:	Data Entry Clerk
Name			
Date			

PARTICIPANT SELECTION / SAMPLING INSTRUCTIONS

Interviewer: It is your job to select a random (this means any) household within the sampled **CLUSTER / COMMUNITY HEALTH UNIT**. A household is a group of people who presently eat together from the same pot.

Start your walk from the start point that has been randomly chosen by your supervisor with the guidance of a village elder. Team members must walk in opposite directions to each other i.e. if A walks towards the Sun, B must walk away from the Sun; C and D must walk at right angles to A & B.

Choose the households using the unique household numbers randomly generated by your supervisor. If no-one is at home (i.e. premise is empty) substitute with the next household to the right. If the participant has refused, randomly select a substitute household.

When you find a household with someone at home, please introduce yourself using the following script. You must learn this introduction so that you can say it exactly as it is written below:

Good morning / afternoon. My name is _____.

I am/working together with a student of MPH Maseno University. We are **conducting a research that asks about choice of place of delivery by women (15-49 years) with children less than one year)** in the community in Lurambi, Navakholo, Mumias East, Mumias West and Matungu sub counties.

Every woman aged (15-49 years) with a child (ren) aged less than one year has an equal chance of being included in the study. You have been chosen by chance. The **survey will take about 20-25 minutes to complete.** Whatever information you provide will be kept confidential and will not be discussed with anyone other than members of the survey team.

Participation in this study is voluntary, and if we should come to any question you don't want to answer, just let me know and I will go to the next question; or you can stop the interview at any time. However, we hope you will participate in this study since your views are important.

NOTE: the participant must give her **WRITTEN CONSENT**. If participation is refused, move to the next participant and substitute the participant household. If consent is secured, proceed.

SECTION B – **PARTICIPANT BACKGROUND**

Q/No.	**Questions**	**Responses**	
01	How old are you?	Age in completed years:	
02	What is your marital status?	***Marital status***	***Tick one***
		Single	
		Married	
		Widow	
		Separated	
		Divorced	
03	What is your religion?	***Religion***	***Tick one***
		Catholic	
		Muslim	
		Protestant	
		Traditionalist	
		Others (Specify):	
04	What is your completed level of education?	***Level of education***	***Tick one***
		None/Never	
		Primary	
		Secondary	
		College	
		University	
05	Where do you currently reside?	Rural	
		Urban	
06	How many children do you have?	Alive	Dead
07	What was the interval between your last two births?	Less than 24months Within 24 – 47 months More than 48 months First birth	
08	What is your spouse highest level of education attainment?	***Level of education***	***Tick one***
		None/Never	
		Primary	
		Secondary	
		College	
		University	
09	What kind of work do you **MAINLY** do?	***Occupation***	***Tick only one response***
		Unemployed	
		Self employed	
		Student	
		Salaried employment	
		Casual worker	
		Others (Specify):	

10	How much money do you usually earn for this work per month?	***Kenya shillings***	_____
11	Who decides how the money you earn is spent?	***Decision on spending***	***Tick only one response***
		Myself only	
		Husband/Partner only	
		My husband and myself	
		Mother	
		Father	
		Mother-in-law	
		Father-in-law	
		Others (Specify)	

12	What is your spouse current **MAIN** occupation?	***Occupation***	***Tick only one response***
		Unemployed	
		Self employed	
		Student	
		Salaried employment	
		Casual worker	
		Others (Specify):	
13	How much money does he usually earn for this work per month?	***Kenya shillings***	_____

14	Who in your household usually has the final say on the following decisions:	**PARTICIPANT = 1; HUSBAND/PARTNER = 2; PARTICIPANT AND HUSBAND/PARTNER JOINTLY = 3; SOMEONE ELSE = 4 PARTICIPANT AND SOMEONE ELSE JOINTLY = 5; DECISION NOT MADE/NOT APPLICABLE = 9**					
	Your own health care?	**1**	**2**	**3**	**4**	**5**	**9**
	Making large household purchases?	**1**	**2**	**3**	**4**	**5**	**9**
	Making household purchases for daily needs?	**1**	**2**	**3**	**4**	**5**	**9**
	Visits to family or relatives?	**1**	**2**	**3**	**4**	**5**	**9**
	What food should be cooked each day?	**1**	**2**	**3**	**4**	**5**	**9**
	You should do work to earn money?	**1**	**2**	**3**	**4**	**5**	**9**
	What to do if a child falls sick?	**1**	**2**	**3**	**4**	**5**	**9**
	Having another child?	**1**	**2**	**3**	**4**	**5**	**9**

15	If you are ill and need to see a doctor, do you first have to ask someone's permission? **If NO skip to Q17**	***Permission***	***Tick only one response***
		YES	
		NO	
16	Whose permission do you need?	***Permission to see doctor***	***Tick only one response***
		Husband/Partner	
		Mother	
		Father	
		Mother-in-law	
		Father-in-law	
		Other Male Relatives	
		Other Female Relatives	
		Others (Specify)	

17	Are you usually allowed to go to the following places on your own, only with children, only with another adult, or not at all?	**ALONE = 1** **CHILD = 2** **ADULT = 3** **NOT AT ALL = 4**			
	Just outside your house or compound?	**1**	**2**	**3**	**4**
	Local market to buy things?	**1**	**2**	**3**	**4**
	Local health center or doctor?	**1**	**2**	**3**	**4**
	In the neighborhood for recreation?	**1**	**2**	**3**	**4**
	Home of relatives or friends in the neighborhood?	**1**	**2**	**3**	**4**

SECTION C – **MATERNAL PRACTICES DURING ANTENATAL CARE**

Q/No.	Question	Responses	
18	Did you see any one for antenatal care during your last pregnancy? ***If no, Go to Q22***	***Response***	***Tick one***
		Yes	
		No	
19	If yes in Q18 above, whom did you see? *(Probe for the type of person and record all persons seen)*	***Person seen for ANC***	***Tick one***
		Doctor	
		Nurse/midwife	
		Traditional Birth Attendant	
		Relative/friend	
		Other (specify)	
20	What was your **main** reason for going to your first antenatal care?	***Main reason for ANC***	***Tick one***
		To check pregnancy was normal	
		Wanted to get ANC card	
		Because of a problem	
		Other (Specify)	
21	If in Health Facility, how many times did you attend the ANC clinic? *(FANC requirement: 4 antenatal care visits)* *Verify from card or booklet if this was achieved and record accordingly)* ***Go to Q 24***	***Number of ANC visits***	***Tick one***
		One (1)	
		Two (2)	
		Three (3)	
		Four (4) or more	

22	What are the reasons you decided not to attend Antenatal clinic (ANC)?	***Reasons for deciding NOT to attend ANC***	***Tick All***
		it was not necessary	
		Not customary/Not part our culture	
		cost of transportation	
		too far	
		not easy to get transport	
		no one available to accompany	
		poor service at health facility	
		family did not allow	
		did not want to be attended to by a male doctor	
		successful previous childbirth without attending ANC	
		was not aware of ANC	
		Other (Specify)	
23	Who were the main people involved in	***Main people deciding not attending ANC***	***Tick All***
		no one	

	making the decision that you should not attend Antenatal clinic? ***Go to Q29***	husband/partner	
		mother	
		father	
		mother-in-law	
		father-in-law	
		sister-in-law	
		TBA	
		other (specify)	

SECTION D – **MATERNAL PERCEPTION AND EXEPERIENCES DURING ANTENATAL CARE**

Please indicate how much you agree or disagree with the following statements about your overall experience with antenatal care. The responses are '**Strongly Agree**,' '**Agree**,' '**Disagree**,' and '**Strongly Disagree**.'

Please indicate how much you agree or disagree with the following statements. The responses are '**Strongly Agree**,' '**Agree**,' '**Disagree**,' and '**Strongly Disagree**.'

Q	**Overall, in antenatal care…**	**Strongly Agree**	**Agree**	**Disagree**	**Strongly Disagree**
24	The providers **explained your health status** with terms you could understand	**1**	**2**	**3**	**4**
25	The providers **explained what to expect** during labor and delivery.	**1**	**2**	**3**	**4**
26	The providers **listened** to your questions or concerns.	**1**	**2**	**3**	**4**
27	The providers were **respectful** of you.	**1**	**2**	**3**	**4**
28	The providers **scolded or shouted** at you.	**1**	**2**	**3**	**4**

SECTION E – **MATERNAL PRACTICES DURING LABOUR AND DELIVERY**

29	During your last delivery, which day of the week did labour pains begin?	***Day of onset of labour***	***Tick one***
		Weekday (Monday 12:00am to Friday 11:59 pm)	
		Weekend (Saturday 12:00am to Sunday 11:59pm)	
30	During your last delivery, what time day did labour pains begin?	***Time of onset of labour***	***Tick one***
		Day (8:00 am to 5:59 pm)	
		Evening (6:00 pm to 10:59 pm)	
		Night (11:00 pm to 7:59 am)	

31	For your last delivery, where did you give birth? *(If any health facility verify from card or booklet. Please indicate whether a hospital, health centre, dispensary etc.)* **NAME OF HEALTH FACILITY_____** ***If Home, Go to Q44***	***Place of delivery***	***Tick one***
		Health facility	
		Home	

32	What are the reasons you decided to deliver at (NAME OF HEALTH FACILITY)?	***Reasons for health facility delivery***	***Tick All***
		nurse/doctor told you to	
		for safe delivery	
		had complications during this pregnancy	
		had complications in previous pregnancy	
		has ever had caesarean section	
		multiple pregnancy	
		was referred during labor	
		my husband/relative asked me to	
		good quality of service	
		other (specify)	
33	Who were the main people involved in making the decision that you should deliver at a health centre or hospital?	***People deciding on health facility delivery***	***Tick All***
		myself	
		husband/partner	
		mother	
		father	
		mother-in-law	
		father-in-law	
		sister-in-law	
		TBA	
		other (specify)	
34	Who accompanied you to health centre/hospital/health professional?	***Person accompanied woman for HF delivery***	***Tick all***
		husband/partner	
		mother	
		father	
		mother-in-law	
		father-in-law	
		sister-in-law	
		TBA	
		other (specify)	

35	How far is the hospital/health centre/clinic/health professional from where you were staying during delivery?	KILOMETERS----------		
36	How much time did it take to go there?	HOURS MINUTES (if less than an hour)		
37	How did you go to the hospital/health centre?	***Means of transport***	***Tick one***	
		private car		
		taxi		
		Matatu		
		bicycle		
		motorcycle		
		ambulance		
		on foot		
		other (specify)		
38	Did you obtain transport easily, with difficulty, or did not get transport?	***Availability of means of transport***	***Tick one***	
		easily		
		with difficulty		
		did not get transport		
39	Were you satisfied with maternity services at the health facilities you attended during child birth?	***Response***	***Tick one***	
		Yes		
		No		
40	If no in **Q39** above what were you not happy with?	***Response***	***Tick one***	
		Greeted?	Yes	No
		Given a chance to state your problems/concern or ask questions?	Yes	No
		Treated with respect?	Yes	No
		Given instruction in a language you can understand?	Yes	No
		Other (Specify)		
41	How did you find the environment in the maternity ward/room where you gave birth?	***Condition of maternity***	***Tick one***	
		Good		
		Bad		
		Not sure		
		Other (Specify)		
42	Do you think there is need to improve delivery services in health facility?	***Response***	***Tick one***	
		Yes		
		No		
43	If yes in **Q 42** above what needs to be improved?	***Area for improvement (list below)***		

	Go to Q47		
44	If home delivery, what was the exact location where you gave birth?	***Exact facility of delivery at home***	***Tick one***
		TBA's place	
		My own home	
		Friend's place	
		Neighbor's place	
		Other specify	
45	What are the reasons you decided to deliver at (NAME OF EXACT FACILITY OF DELIVERY AT HOME)	***Reasons for Home Delivery***	***Tick All***
		Pregnancy was normal	
		It is part of our culture	
		Cost of delivery affordable	
		Cost of transportation affordable	
		Very near	
		Happy with delivery services	
		No time to go health facility	
		Labour started at night	
		Labour started on weekend	
		Other(specify)	
46	Who were the main people involved in making the decision that you should deliver at (NAME OF EXACT FACILITY OF DELIVERY AT HOME)	***People deciding on home delivery***	***Tick All***
		Myself	
		Husband/partner	
		Mother	
		Father	
		Mother-in-law	
		Father-in-law	
		Sister-in-law	
		TBA	
		Other (specify)	
47	Who assisted you with your LAST delivery? *(Probe for the type of person and record the person who assisted)*	***Person who assisted delivery***	***Tick one***
		Doctor	
		Nurse/Midwife	
		Traditional Birth Attendant	
		Relative/Friend/Neighbors	
		Self (No one)	
		Others (specify)	
48	If TBA in Q47 above, why did you prefer to be delivered by a TBA? If NOT TBA - ***Go to Q50***	***Reasons for TBA***	***Tick as many***
		Less expensive	
		Very friendly	
		Easily available	

		Understands my culture	
		There is confidentiality	
		Familiar to me	
		Others (specify)	
49	How do you perceive a woman who delivers at a health facility?	***Perception on HF delivery***	***Tick multiple***
		Very weak	
		Betrayer of culture	
		Knowledgeable about dangers related to delivery	
		Others (specify)	

50	Are there any dangers in delivering at home?	***Response***	***Tick one***
		Yes	
		No	
51	If yes in Q50 above, which dangers do you know?	***Dangers of giving birth at home***	***Tick multiple***
		Heavy bleeding	
		Infections	
		Obstructed labor	
		Obstetric Fistula	
		Breech presentation	
		Death of neonate	
		Death of mother	
		Others (specify)	
52	Are there any **KNOWN** religious/cultural beliefs associated with choice of place of delivery in this community?	***Response***	***Tick one***
		Yes	
		No	
53	If yes in Q52 above which ones do you know?	***Response (list below)***	
54	Do you think TBAs or home birth attendants attend to deliveries the same way as the trained health worker/midwives (hospital) in attending to delivery?	***Response***	***Tick one***
		Yes	
		No	
55	If no in Q54 above, what do you think are their main differences in the way they attend to deliveries?	***Response (List differences below)***	
		TBA/Home Birth Attendant	Trained Health Worker

SECTION F – **MATERNAL PERCEPTION AND EXPERIENCES DURING DELIVERY**

Please indicate how much you agree or disagree with the following statements regarding your perception and overall experience with delivery services of your last child. The responses are '**Strongly Agree**,' '**Agree**,' '**Disagree**,' and '**Strongly Disagree**.'

Q	**During your labor and delivery of your last child**	**Strongly Agree**	**Agree**	**Disagree**	**Strongly Disagree**
56	You were given adequate **privacy** by your attendant.	**1**	**2**	**3**	**4**
57	The attendant explained **your health status** with terms that you could understand	**1**	**2**	**3**	**4**
58	The attendant **listened** to your questions or concerns.	**1**	**2**	**3**	**4**
59	The attendant **left you alone** for long periods of time.	**1**	**2**	**3**	**4**
60	Overall, the attendant offered **compassionate** care.	**1**	**2**	**3**	**4**
61	The attendant showed a **genuine interest** in your well-being.	**1**	**2**	**3**	**4**
62	The attendant **scolded or shouted** at you.	**1**	**2**	**3**	**4**
63	The attendant commented on your behavior in response to labor & childbirth in a way that **offended or embarrassed** you.	**1**	**2**	**3**	**4**
64	The attendant **slapped you** during labor.	**1**	**2**	**3**	**4**
65	Thinking about your experience, how likely are you to **recommend** that **place of delivery** to your family or friends?	**1**	**2**	**3**	**4**
66	Thinking about your experience during your last delivery, how likely would you be to **deliver again in this same place**?	**1**	**2**	**3**	**4**
67	Thinking about your experience in the last delivery, how likely are you to **recommend** that **birth attendant** to your family or friends?	**1**	**2**	**3**	**4**
68	Thinking about your experience during your last delivery, how likely would you be to be **assisted again** by the **same birth attendant**?	**1**	**2**	**3**	**4**

TRANSLATION: DODOSO

KICHWA: MAMBO YANAYO ZINGATIWA KUFANYA MAAMUZI KUHUSU PAHALA PA KUJIFUNGUA KWA AKINA MAMA WALIO NA WATOTO CHINI YA MWAKA MMOJA KATIKA KAUNTI YA KAKAMEGA

SEHEMU A: **MAELEZO YA UTAMBULISHO YA MSHIRIKI**

Sehemu hii ikamilishwe kwa kila mshiriki aliyehojiwa.

Nambari ya dodoso			
Jina ya Wilaya			
Jina ya Wadi		Kijiji	
Tarehe ya kuhojiwa	Siku:	Mwezi:	Mwaka:
Wakati mahojiano yalianza.			
Wakaji mahojiano yalikamilika.			

Tafadhali kamilisha sehemu hii ya fomu

Mtafiti/ Mwakilishi wa mtafiti:	Kila wakati rejelea mwongozo wa utafiti kwa maelekezo. Kumbuka kupata **RIDHAA** kutoka kwa kila mshiriki.

	Mwakilishi wa mtafiti	Mtafiti mkuu	Karani wa utafiti
Jina			
Tarehe			

SEHEMU B – **HABARI KUHUSU MSHIRIKI**

Q/No.	**Maswali**	**Majibu**	
01	Je una umri gani?	Umri kwa miaka iliyokamilika:	
02	Hali yako ya ndoa ni ipi?	***Hali ya ndoa***	***Chagua moja***
		Hajaolewa	
		Ameoa/ameolwa	
		Mjane	
		Hawaishi pamoja	
		Walitalikiana/Achana	
03	Je wewe ni wadini gani?	***Dini***	***Chagua moja***
		Mkatoliki	
		Muislamu	
		Mprotestanti	
		Dini za kiafrika	
		Nyingine(Bainisha)	
04	Je umetimiza kiwango gani cha masomo?	***Kiwango cha masomo***	***Chagua moja***
		Hakuna/Sikusoma	
		Shule yaMsingi	
		Shule ya Upili	
		Chuo cha Anuai	
		Chuo Kikuu	
05	Je unaishi wapi kwa wakati huu?	Kijijini	
		Mjini	
06	Je una watoto wangapi?	Walio hai	Waliofariki
07	Je ilikuwa muda gani kati ya watoto wawili wa mwisho?	Chini ya miezi 24 Kati ya Miezi 24-47 Zaidi ya Miezi 48 Kizazi cha kwanza	
08	Je mume wako amehitimu kiwango kipi cha masomo?	***Kiwango cha elimu***	***Chagua Moja***
		Hauna/Hajasoma	
		Shule ya msingi	
		Shule ya Upili	
		Chuo cha anuai	
		Chuo Kikuu	
09	Je wewe kwa kawaida hufanya kazi gani?	***Kazi anayofanya***	***Jibu moja pekee***
		Sina Kazi	
		Kazi ya kujiajiri	
		Mwanafunzi	
		Kazi ya kuajiriwa	
		Kibarua	
		Nyingine(bainisha)	
10	Je wewe hupata kiasi gani cha fedha kutoka kwa kazi yako kila mwezi?	***Kenya shillings***	_____

11	Je ni nani huamua jinsi pesa unazo lipwa hutumiwa?	***Uamuzi kwa kutumia***	***Chugua jibu moja pekee***
		Mimi mwenyewe	
		Mume/Mpenzi wangu pekee	
		Mimi na Mume wangu	
		Mama	
		Baba	
		Mama mkwe	
		Baba mkwe	
		Wengine(Bainisha)	

12	Je kazi kuu ya mume/mpenzi wako ni ipi?	***Kazi anayofanya***			***Chagua jibu moja pekee***		
		Hana kazi					
		Kazi ya kujiajiri					
		Mwanafunzi					
		Kazi ya kulipwa					
		Kibarua					
		Nyingine (Bainisha):					
13	Je yeye hupata fedha kiasi gani kutoka kwa kazi yake kila mwezi?	***Shilingi za Kenya***			_____		
14	Je ni nani kwa nyumba yenu hutoa uamuzi wa mwisho kwa maswala/mambo yafuatayo?	**MSHIRIKI=1 MUME/ MPENZI=2 MSHIRIKI PAMOJA NA MUME/MPENZI=3 MTU MWINGINE=4 MSHIRIKI NA MTU MWINGINE KWA PAMOJA=5 UAMUZI HAUFANYWI /HAIUZISHWI=9**					
	Kuhusu afya yako binafsi?	**1**	**2**	**3**	**4**	**5**	**9**
	Kuhusu ununuzi wa vitu vikubwa vya nyumba?	**1**	**2**	**3**	**4**	**5**	**9**
	Kuhusu ununuzi wa vitu vya nyumba kwa matumizi ya kila siku?	**1**	**2**	**3**	**4**	**5**	**9**
	Kuhusu kutembelealea familia au jamii?	**1**	**2**	**3**	**4**	**5**	**9**
	Kuhusu aina ya vyakula vitakavyopikwa kwa kila siku?	**1**	**2**	**3**	**4**	**5**	**9**
	Ikiwa utafanya kazi ili kupata fedha?	**1**	**2**	**3**	**4**	**5**	**9**

	Kuhusu kitakachofanywa mtoto anapokuwa mgonjwa?	**1**	**2**	**3**	**4**	**5**	**9**
	Kuhusu kupata mtoto mwingine?	**1**	**2**	**3**	**4**	**5**	**9**

15	Je ikiwa wewe ni mgonjwa, na ungetaka kumuona daktari, unahitajika kwanza kumuuliza mtu mwingine ruhusa? **Kama la –uliza Q17**	***Ruhusa***	***Chagua jibu moja pekee***
		Ndio	
		La	
16	Je ni nani anayetoa ruhusa?	***Ruhusa kumuona daktari***	***Chagua jibu moja pekee***
		Mume/mpenzi o	
		Mama	
		Baba	
		Mama mkwe	
		Baba mkwe	
		Jamaa wa kiume	
		Jamaa wa kike	
		Mwingine (Bainisha)	

17	Kwa kawaidha wewe huruhusiwa kutembelea sehemu zifuatazo ukiwa pekee yako, ukiwa tu na watoto, ukiwa na mtu mwingine mzima au hauruhusiwi kamwe?	**NIKIWA PEKEE YANGU=1** **NA MTOTO=2** **NA MTU MZIMA** **SI RUHUSIWI KAMWE=4**			
	Nje tu ya nyumba yako?	**1**	**2**	**3**	**4**
	Kwenye soko ya mtaa kununua vitu?	**1**	**2**	**3**	**4**
	Kwenye hospitali ya karibu au kumuona daktari?	**1**	**2**	**3**	**4**
	Mtaani kujivinjari?	**1**	**2**	**3**	**4**
	Kwa boma za watu wa jamaa au marafiki mtaani?	**1**	**2**	**3**	**4**

SEHEMU C –**HUDUMA WAKATI WA UJA UZITO**

Q/No.	Swali	Jibu	
18	Ulimuona mtu yeyote kwa huduma za uja uzito kwa uja uzito wako wa mwisho? ***Kama la nenda Q22***	***Jibu***	***Chagua moja***
		Ndio	
		La	
19	*Kama ndio katika Q18hapo juu, ni nani ulimuona? (dadisi aina ya aliyemuona na unakili wote walionekana)*	***Aliyeoneka kwa huduma za uja uzito***	***Chagua moja***
		Daktari	
		Mhudumu wa afya	
		Mkunga	
		Mtu wa jamaa/Rafiki	
		Mwingine(Bainisha)	
20	Ni sababu gani kuu ilikufanya utembelee kliniki ya waja wazito mara ya kwanza?	***Sababu kuu ya kutembelea kliniki***	***Chagua moja***
		Kuchuchunga kama uja uzito ni salama	
		Kupata kadi ya kliniki	
		Kwa sababu ya tatizo	
		Nyingine(bainisha)	
21	*Kama ni kwa kituo cha afya, ni mara ngapi uliahi kuhudhuria kliniki ya waja wazito?* *(FANC requirement: 4 antenatal care visits)* *(Inahitajika kutembelea kliniki ya waja wazito mara nne)* *Thibitisha kutoka kwa kijitabu cha kliniki* ***Nenda swali 24***	***Mara za tembeleo kupata huduma za waja wazito***	***Chagua moja***
		Moja	
		Mbili	
		Tatu	
		Nne au zaidi	

22	Ni sababu gani zilikufanya uamue usitembelee kliniki ya waja wazito?	***Sababu zilizofanya kuamua kutotembelea kliniki ya waja wazito***	***Chagua moja***
		Haikua na haja	
		Si desturi na mila yetu	
		Gharama ya usafiri	
		Ni mbali sana	
		Sio rahisi kupata usafiri	
		Hakukuwa na yeyote wa kunisindikisha	
		Huduma duni kwenye kituo cha afya	
		Familia haikuniruhusu	
		Si kutaka kuhudumiwa na muhudumu wa kiume	
		Nilijifungua salama kwa uja uzito uliopita bila kuhudhuria huma za uja uzito	

		Si kuwa na habari kuhusu huduma za waja wazito	
		Nyingine (bainisha)	
23	Ni watu gani haswa walihusika na kutoa uamuzi wewe usitembelee kliniki ya waja wazito? ***Nenda swali Q29***	***Watu haswa walio husika kuamua usitembelee kliniki ya waja wazito***	***Tick All Chagua moja***
		Hakuna yeyote	
		Mme/mwenzio	
		Mama	
		Baba	
		Mama mkwe	
		Baba mkwe	
		Shemeji wa kike	
		Mkunga	
		Mwingine(Bainisha)	

SEHEMU D – **DHANA NA UZOEFU WAKATI WA KUPATA HUDUMA ZA UJA UZITO**

Tafadhali elezea ni kwa kiwango kipi unakubaliana au kutokubaliana na habari zifuatazo kuhusu uzoefu wako na huduma za waja wazito. Majibu ni '**Nakubaliana kabisa**, **Nakubaliana, Sikubaliani** na **Sikubaliani kabisa'**

Q	**Kwa ujula, kwa huduma za waja wazito….**	**Nakubalia na kabisa**	**Nakuba liana**	**Sikubali ani**	**Sikubalia ni kabisa**
24	**Walielezea hali yako ya kiafya** Kwa maneno unayoelewa.	**1**	**2**	**3**	**4**
25	Wahudumu wa afya **walikuelezea cha kutarajia** wakati wa kuumwa na kujifungua.	**1**	**2**	**3**	**4**
26	Wahudumu **listened walisikiza** maswali na hofu zako.	**1**	**2**	**3**	**4**
27	Wahudumu walikupa **heshima**.	**1**	**2**	**3**	**4**
28	Wahudumu **walikushutumu** au **kukupigia** at you kelele.	**1**	**2**	**3**	**4**

SEHEMU E – **HUDUMA ZA AFYA WAKATI WA KUUMWA NA KUJIFUNGUA**

29	Mara ya mwisho ulipojifungua, ni siku gani ya wiki ulianza kuumwa?	***Siku gani kuanza kuumwa***	***Chagua moja***
		Siku ya wiki (Jumatatu 12:00am - Ijumaa 11:59 pm)	
		Mwisho wa wiki (Jumamosi 12:00am -Jumapili 11:59pm)	
30	During your last delivery, what time	***Wakati gani kuanza kuumwa***	***Chagua moja***

	Mara ya mwisho ulipojifungua ni wakati gani ya siku alianza kuumwa? day did labour pains begin?	Mchana (8:00 am to 5:59 pm)	
		Jioni (6:00 pm to 10:59 pm)	
		Usiku (11:00 pm to 7:59 am)	
31	Mara ya mwisho ulipojifungua, ulijifungulia wapi? *(Thibitisha kutoka kwa kijitabu cha kliniki)* **JINA LA KITUO CHA AFYA_____** ***Kama Nyumbani Nenda swali 44***	***Mahali pa kujifungua***	***Chagua moja***
		Kituo cha afya	
		Nyumbani	
32	Ni sababu gani zilifanya uamue kujifungulia kwenye (Jina la kituo cha afya)	***Sababu za kujifungulia kwenye kituo cha afya***	***Chagua moja***
		nurse/daktari alikuambia	
		ilikujifungua salama	
		nilikuwa na matatizo wakati wa uja uzito huu	
		nilikuwa na matatizo katika uja uzito zilizopita	
		sijawahi kupasuliwa ilikujifungua	
		uja uzito nyingi	
		nilielekezwa wakati wa kuumwa	
		mume wangu/jamaa aliniuliza ni	
		huduma nzuri na bora	
		nyingine(bainisha)	
33	Ni watu gani haswa walihusika na kuamua ujifungulie kwenye kituo cha afya?	***Watu waliohusika kuamua ujifungulie kwenye kituo cha afya***	***Chagua yote yatakayo tajwa***
		Mimi mwenyewe	
		mume wangu	
		Mama	
		Baba	
		mama mkwe	
		baba mkwe	
		shemeji wa kike	
		Mkunga	
		mwingine(bainisha)	
34	Nani aliambatana nawe hadi kituo cha afya/muuhudumu wa afya?	***Mtu alieambatana naye kujifungulia kwenye kituo cha afya***	***Chagua yote yanayo tajwa***
		mume/mwenzio	
		Mama	

		Father Baba	
		mama mkwe	
		baba mkwe	
		shemeji wa kike	
		Mkunga	
		mwingine (bainisha)	
35	Kituo cha afya/mtaalamu wa afya alikuwa umbali gani kutoka unakoishi wakati ulipoanza kuumwa?	KILOMITA----------	
36	Ulichukia muda gani kwenda huko?	MASAA DAKIKA (kama ni chini ya risari moja)	
37	Uliendaje kwenye kituo cha afya?	***Njia ya usafiri***	***Chagua moja***
		gari ya binafsi	
		Taxi	
		matatu	
		baisikeli	
		pikipiki	
		ambulansi	
		kwa miguu	
		Nyingine(bainisha)	
38	Ulipata usafiri kwa urahisi, ilikuwa ngumu, ama hukupata usafiri?	***Kuwepo kwa hali ya usafiri***	***Chagua moja***
		Easily Rahisi	
		Kwa ugumu	
		hakupata usafiri	
39	Uliridhika na huduma za wa mama waja wazito kwa vituo vya afya ulivyo hudhuria wakati wa kujifungua?	***Jibu***	***Chagua moja***
		Ndio	
		La	
40	Kama la kwa hapo juu nenda swali **39** Ni nini hakikufurahisha?	***Jibu***	***Chagua moja***
		Salimiwa?	Ndio / La
		Ulipewa nafasi kuelezea shida zak/hofu au kuuliza maswali?	Ndio / La
		Ulihudumiwa kwa heshima?	Ndio / La
		Ulipewa maelezo kwa lugha unayo elewa?	Ndio / La
		Nyingine(bainisha)	
41		***Hali ya chumba cha kujifungulia***	***Chagua moja***

	Hali ilikuaje kwenye chuba cha kujifungulia/ mahali ulipojifungulia?	Nzuri	
		Mbaya	
		Sina uhakika	
		Nyingine(bainisha)	

42	Je unafikiria kuna haja kuboresha huduma za kujifungua katika kituo cha afya?	***Jibu***	***Chagua moja***
		Ndio	
		La	
43	Kama ndio katika swali **42** hapo juu ni nini kinhitji kuboresha? ***Nenda swali 47***	***Sehemu ya kuboresha(orodhesha)***	
44	Kama ulijifungulia nyumbani, ni sehemu gani haswaa ulijifungulia?	***Sehemu haswaa pa kujifungulia nyumbani***	***Chagua moja***
		Kwa mkunga	
		Kwangu nyumbani	
		Kwa rafiki	
		Kwa jirani	
		Kwingine (bainisha)	
45	Ni sababu gani zilifanya ujifungulie	***Sababu za kujifungulia nyumbani)***	***Chagua yote yatakayo tajwa***
		Uja uzito ulikuwa wa kawaidha	
		Ni sehemu ya desturi na mila zetu	
		Gharama ya kujifungua ni nafuu	
		Gharama ya usafiri ni nafuu	
		Ni karibu sana	
		Nilifurahiswa na huduma za kujifungua	
		Hakuna wakati wa kwenda kwenye kituo cha afya	
		Kuumwa kulianza usiku	
		Kuumwa kulianza mwisho wa wiki	
		Nyingine (bainisha)	
46	Ni watu gani haswa walihusika na kuamua ujifungulie nyumbani	***Watu wanoamua kujifungulia nyumbani***	***Chagua yote yatakayo tajwa***
		Mimi mwenyewe	

		Mume/mewnzio	
		Mama	
		Baba	
		Mama mkwe	
		Baba mkwe	
		Shemeji wa kike	
		Mkunga	
		Mwingine(bainisha)	
47	Nani alikusaidia ulipojifungua mara ya mwisho? *(Dadisi aina ya mtu na unakili mtu aliye saidia)*	***Mtu mwenye alisaidia katika kujifungua***	***Chagua***
		Daktari	
		MMuhudumu wa afya	
		Mkunga	
		Jamaa/rafiki/jirani	
		Mwenyewe (hakuna yeyote)	
		Mwingine(bainisha)	
48	Kama mkunga kwa swali 47 kwa nini ulipendelea kuzalishwa na mkunga? ***Kama sio mkunga nenda swali 50***	***Sababu za mkunga***	***Chagua nyingi***
		Si ghali	
		Uhusiano bora	
		Anapatikana kwa urahisi	
		Anaelewa utamaduni wetu	
		Kuna usiri	
		Nina mufahamu	
		Nyingine(bainisha)	
49	Una muchukulia vipi mwanamke anaye jifungulia kwenye kituo cha afya?	***Jinsi inavyochukuliwa kujifungulia kwenye kituo cha afya***	***Chagua yote yanayo faa***
		Mdhaifu sana	
		Msaliti wa utamaduni	
		Unafahamu hatari yanayohusiana na kujifungua	
		Nyingine (bainisha)	

50	Kuna hatari zozote Za kujifungulia nyumbani?	***Jibu***	***Chagua moja***
		Ndio	
		La	
51	Kama ndio kwa swali 50 hapo juu, ni hatari gani anazo jua?	***Hatari za kuzalia nyumbani***	***Chagua yote yanayo husika***
		Kufuja damu nyingi	
		Maambukizi	
		Kuumwa kuliozuiwa	
		Obstetric Fistula	

		Breech presentation	
		Kufa kwa mtoto	
		Kufa kwa mama	
		Nyingine(bainisha)	
52	Kunazo desturi zozote **ZINAZO JULIKANA** za kidini na mila zinazo husishwa na mahali pakujifungulia katika jamii hii?	***Jibu***	***Chagua moja***
		Ndio	
		La	
53	Kama ndio kwa swali 52 hapo juu, ni zipi unazo jua?	***Jibu (orodhesha)***	
54	Je unafikiria wakunga au wazalishaji wa nyumbani wana hudumia kwa uzalishaji jinsi wahudumu wa afya (kwenye kituo cha afya) wanavyo hudumia?	***Jibu***	***Chagua moja***
		Ndio	
		La	
55	Kama la kwa swali 54 hapo juu, nini unafikiria ni tofauti kubwa jinsi wanavyo hudumia kwa usalishaji?	***Jibu (orodhesha tofauti hapa chini)***	
		Mkunga/mzalishaji wa nyumbani	Muhudumu wa afya mwenye ujuzi

SEHEMU F –**<u>DHANA NA UZOEFU WAKUJIFUNGUA</u>**

Tafadhali elezea ni kwa kiwango kipi unakubaliana au haukubaliani na habari zifuatazo kuhusu unavyochukulia na uzoefu wako kwa ujumla na huduma za uzalishaji kwa mtoto wako wa mwisho '**Nakubaliana sana, Nakubaliana, Sikubaliani,** na **Sikubaliani sana**.'

Q	**Wakati wa kuumwa na kujifunguwa mtoto wako wa mwisho**	**Nakubaliana sana**	**Nakubaliana**	**Sikubaliani**	**Sikubaliani sana**
56	Ulihudumiwa kwa **usiri** na yule alikuhudumiwa.	**1**	**2**	**3**	**4**
57	Muhudumu **alielezea hali yako ya kiafya** kwa maneno unayoelewa.	**1**	**2**	**3**	**4**
58	Muhudumu **alisikiza** maswali na hofu zako	**1**	**2**	**3**	**4**
59	Muhudumu **alikuacha pekee yako** kwa muda mrefu	**1**	**2**	**3**	**4**
60	Kwa ujumla, muhudumu alikuhudumia **kwa huruma**.	**1**	**2**	**3**	**4**

61	Aliye kuhudumia **alionyesha hali halisi** ya kujiali jinsi unavyoendelea	**1**	**2**	**3**	**4**
62	Muhudumu **kukejeli au kukupigia** makele	**1**	**2**	**3**	**4**
63	Muhudumu alizungumzia tabia yako wakati ulikuwa unaumwa kwa njia ambayo **haikukufurahisha au ilikuaibisha**	**1**	**2**	**3**	**4**
64	Muhudumu **alikuchapa kofi** wakati wa kuumwa	**1**	**2**	**3**	**4**
65	Ukizangatia uzoefu wako, kuna uwezekano gani **utawaelekeza** watu wa familia au marafiki **kujifungulia pale**?	**1**	**2**	**3**	**4**
66	Ukizingatia uzoefu wako wa kujifungua mara ya mwisho, kuna uwezekano gani **unaweza kujifungulia mahali ple tena**	**1**	**2**	**3**	**4**
67	Ukizingatia uzoefu wako wakati ulijifungua mwisho, ni kwa uwezekano upi **ungependekeza** huyo **aliyekuzalisha** Kwa watu wa familia yako au marafiki?	**1**	**2**	**3**	**4**
68	Ukizingatia uzoefu wako katika kujifungua mara ya mwisho, ni kwa uwezekano gani ungewezwa kusaidiwa tena na huyu muhudumu?	**1**	**2**	**3**	**4**

APPENDIX V: FOCUSED GROUP DISCUSSION GUIDE

Group interviewed:	**Sub county:**
Date:	**Location:**
Interview site:	**Time started:**
Moderator:	**Time ended:**
Number participants:	

Introduction

Good morning / afternoon. My name is Stephen Mwangi. I am a student of MPH at Maseno University. I am conducting a research that asks about the choice of place of delivery by women. Welcome to this meeting and thank you all for coming. This is a discussion group for all of you and everybody has an equal chance to contribute to the discussion. I encourage you to speak your minds freely and that there are no right or wrong answers in this discussion. At the end of the discussion, the contributions will be treated as having come from the group and not an individual.

I have with me an assistant who will help me record the points that you will share as I may not be able to talk listen and write at the same time. We have also brought with us a tape recorder to record this discussion because we don't want to miss any of you point. The recording will only be used by me when I am writing out the full report.

Reasons for Choosing Place of Childbirth

1. Where do women in the community mostly go for delivery? (*Probe for health facilities: GoK, Missionary, Private, homes)* Who mostly give care during delivery? *Probe for attendant health worker, TBAs, relatives& neighbors)*
2. Who are the key people involved in deciding where a woman will deliver? (*Probe for mother-in-law, husband, TBA, CHW, health worker etc.)*
3. Why do women in this community mostly deliver at preferred place mentioned in 1 above? (*Probe for social and economic reasons, cost and cultural reasons behind choice of this place)*
4. Are there any beliefs and perceptions associated with preferred place of childbirth in this community?

5. What do you think about maternity services being offered at different types of health facilities (*Probe for quality of maternity services in GoK, Faith-based, & Private hospitals*)?
6. Are TBAs useful in this community*?* What do you think about TBAs when compared to skilled professional: such as nurses and doctors with midwifery training? *(Probe for reasons as to why traditional birth attendants are preferred as compared to skilled professionals).*
7. What are the main constraints in accessing the nearest health facilities? *(Probe for distance, money, spousal attitude, looking after livestock or children and how can these constraints be reduced)*
8. What can be done to improve skilled attended delivery within the health facilities? *(Probe for birth positioning, provider attitudes, cost etc.)*

Conclusion

The discussion has been very interesting and I have learned a lot. Thank you very much and anyone with a comment is free to make it.

APPENDIX VI: IN-DEPTH INTERVIEW GUIDE

KEY INFORMANTS: TBA, Nursing Officer –In-Charge, Midwife, & Reproductive Health Coordinator.

Date_____

Venue_____

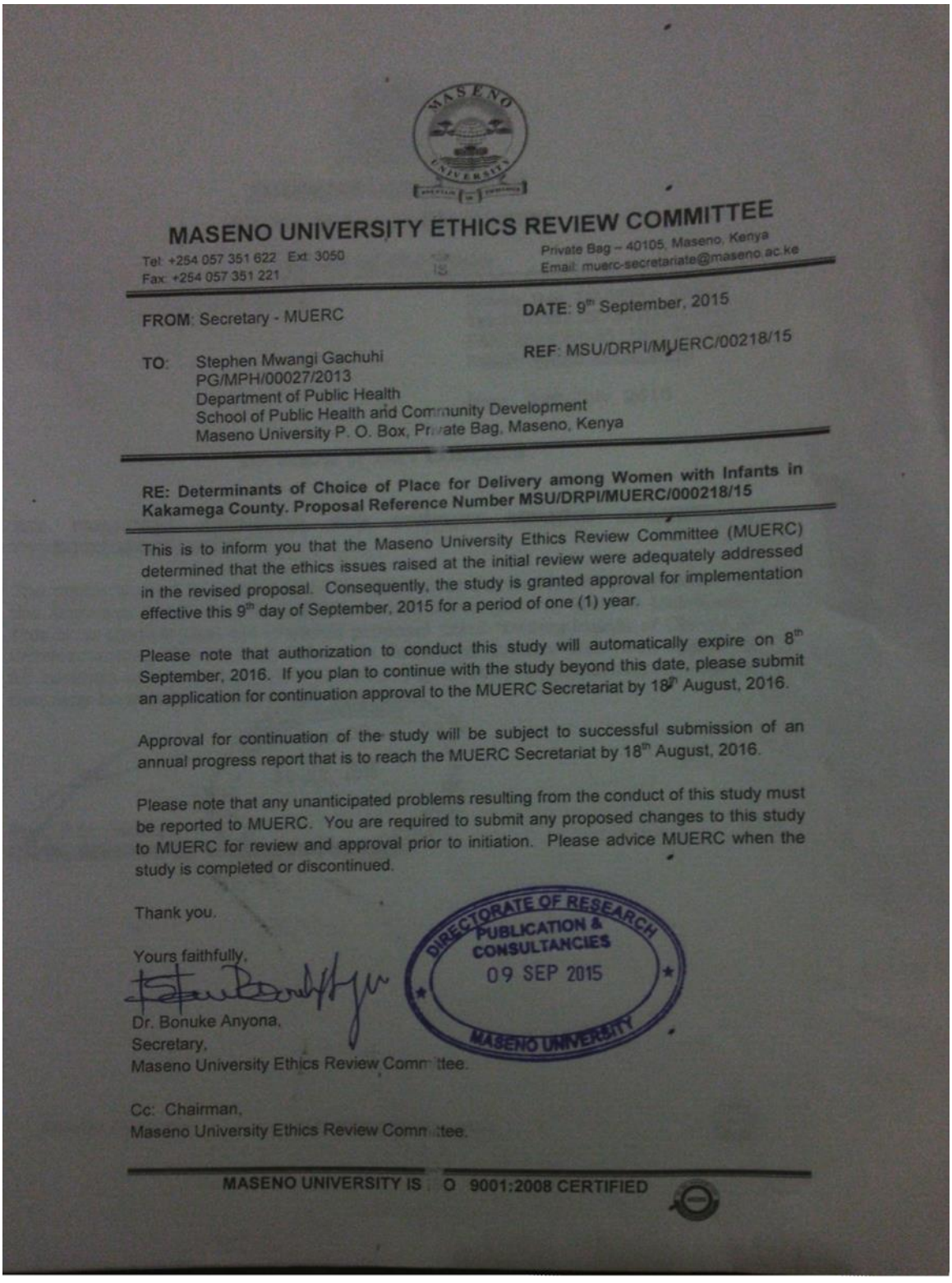
Time interview begins_____ Time interview ends _____

Key informant _____

1. Where do most mothers in this community give birth? *(Probe home or health facility etc.)*
2. How would you rate antenatal clinic (ANC) attendance in this community?
3. What advise do you give to women during pregnancy?
4. Why do you think the number/percentage of hospital delivery is lower than the antenatal clinic (ANC) attendance?
5. What are your experiences with mothers in relation to their preferred choice of place delivery?
6. Are there local beliefs and perceptions associated with choice of place of delivery among women in this community? *(Probe beliefs favoring home or health facility).*
7. Are TBAs useful in this community*?* In your opinion why are TBAs preferred by pregnant women when compared to skilled professional: such as nurses and doctors with midwifery training?
8. What is your opinion regarding the infrastructure, supplies and equipment in the health facility with regard to maternity service?
9. What constraints do you encounter when trying to offer quality care to women during childbirth?
10. What do you recommend should be done to ensure all mothers in this community deliver in the health facility?

Thank you for your time and cooperation.

APPENDIX VII: COPY OF MUERC APPROVAL LETTER



MASENO UNIVERSITY ETHICS REVIEW COMMITTEE

Tel: +254 057 351 622 Ext: 3050
Fax: +254 057 351 221

Private Bag – 40105, Maseno, Kenya
Email: muerc-secretariate@maseno.ac.ke

FROM: Secretary - MUERC

DATE: 9th September, 2015

TO: Stephen Mwangi Gachuhi
PG/MPH/00027/2013
Department of Public Health
School of Public Health and Community Development
Maseno University P. O. Box, Private Bag, Maseno, Kenya

REF: MSU/DRPI/MUERC/00218/15

RE: Determinants of Choice of Place for Delivery among Women with Infants in Kakamega County. Proposal Reference Number MSU/DRPI/MUERC/000218/15

This is to inform you that the Maseno University Ethics Review Committee (MUERC) determined that the ethics issues raised at the initial review were adequately addressed in the revised proposal. Consequently, the study is granted approval for implementation effective this 9th day of September, 2015 for a period of one (1) year.

Please note that authorization to conduct this study will automatically expire on 8th September, 2016. If you plan to continue with the study beyond this date, please submit an application for continuation approval to the MUERC Secretariat by 18th August, 2016.

Approval for continuation of the study will be subject to successful submission of an annual progress report that is to reach the MUERC Secretariat by 18th August, 2016.

Please note that any unanticipated problems resulting from the conduct of this study must be reported to MUERC. You are required to submit any proposed changes to this study to MUERC for review and approval prior to initiation. Please advice MUERC when the study is completed or discontinued.

Thank you.

Yours faithfully,

DIRECTORATE OF RESEARCH PUBLICATION & CONSULTANCIES 09 SEP 2015 MASENO UNIVERSITY

Dr. Bonuke Anyona,
Secretary,
Maseno University Ethics Review Committee.

Cc: Chairman,
Maseno University Ethics Review Committee.

MASENO UNIVERSITY IS ISO 9001:2008 CERTIFIED

APPENDIX VIII: COPY OF SGS APPROVAL LETTER

MASENO UNIVERSITY
SCHOOL OF GRADUATE STUDIES
Office of the Dean

Our Ref: PG/MPH/00027/2013

Private Bag, MASENO, KENYA
Tel:(057)351 22/351008/351011
FAX: 254-057-351153/351221
Email: sgs@maseno.ac.ke

Date: 24th July, 2015

TO WHOM IT MAY CONCERN

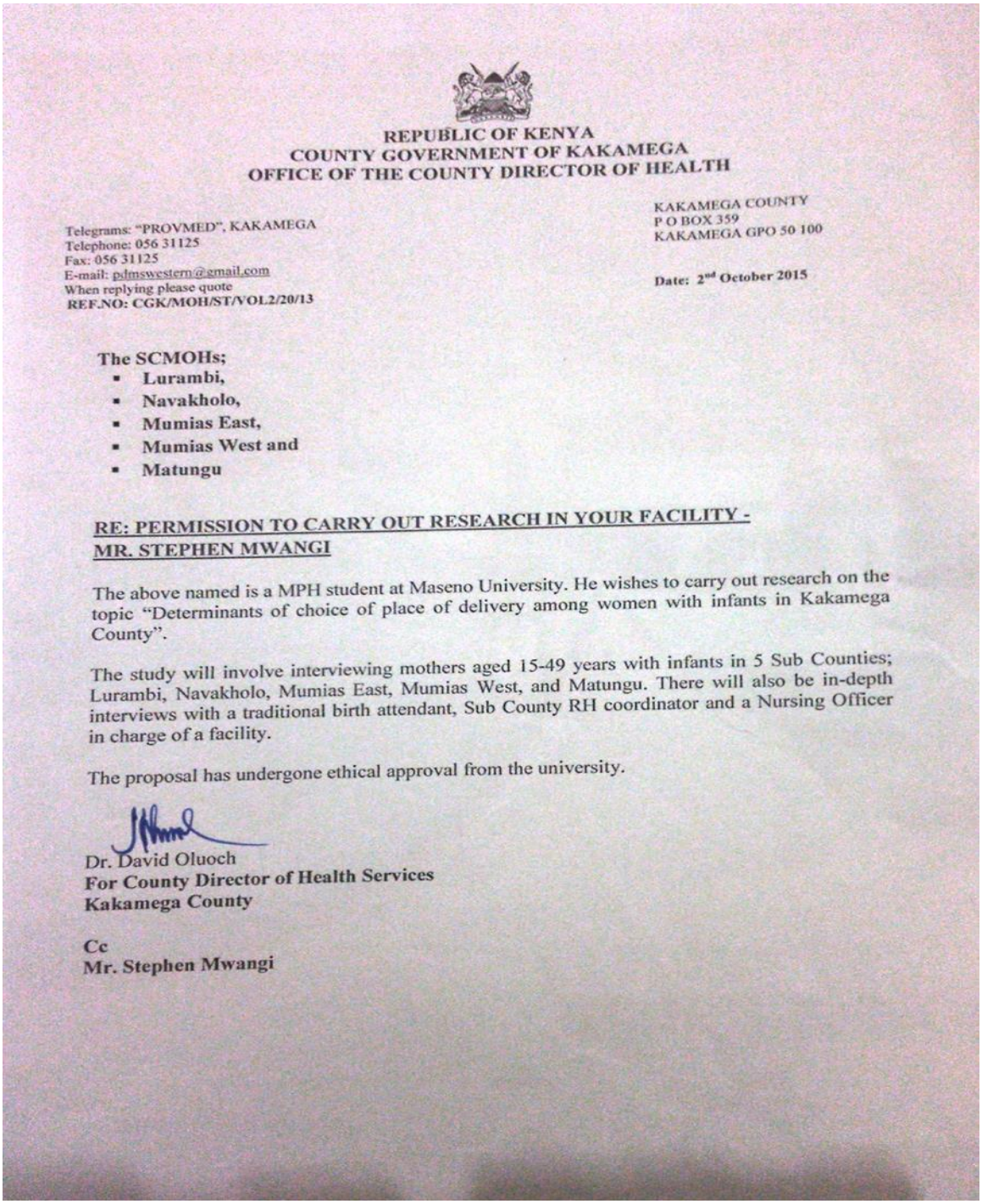
RE: PROPOSAL APPROVAL FOR STEPHEN MWANGI GACHUHI — PG/MPH/00027/2013

The above named is registered in the Master of Public Health programme in the School of Public Health and Community Development, Maseno University. This is to confirm that his research proposal titled "Determinants of Choice of Delivery among Women with Infants in Kakamega County" has been approved for conduct of research subject to obtaining all other permissions/clearances that may be required beforehand.

MASENO UNIVERSITY
DIRECTOR
30 JUL 2015

Prof. P.O. Owuor
DEAN, SCHOOL OF GRADUATE STUDIES

APPENDIX IX: COPY OF APPROVAL LETTER FROM KAKAMEGA COUNTY



REPUBLIC OF KENYA
COUNTY GOVERNMENT OF KAKAMEGA
OFFICE OF THE COUNTY DIRECTOR OF HEALTH

Telegrams: "PROVMED", KAKAMEGA
Telephone: 056 31125
Fax: 056 31125
E-mail: pdmswestern@gmail.com
When replying please quote
REF.NO: CGK/MOH/ST/VOL2/20/13

KAKAMEGA COUNTY
P O BOX 359
KAKAMEGA GPO 50 100

Date: 2nd October 2015

The SCMOHs;

- **Lurambi,**
- **Navakholo,**
- **Mumias East,**
- **Mumias West and**
- **Matungu**

RE: PERMISSION TO CARRY OUT RESEARCH IN YOUR FACILITY - MR. STEPHEN MWANGI

The above named is a MPH student at Maseno University. He wishes to carry out research on the topic "Determinants of choice of place of delivery among women with infants in Kakamega County".

The study will involve interviewing mothers aged 15-49 years with infants in 5 Sub Counties; Lurambi, Navakholo, Mumias East, Mumias West, and Matungu. There will also be in-depth interviews with a traditional birth attendant, Sub County RH coordinator and a Nursing Officer in charge of a facility.

The proposal has undergone ethical approval from the university.

Dr. David Oluoch
For County Director of Health Services
Kakamega County

Cc
Mr. Stephen Mwangi