

**DETERMINANTS OF HOME DELIVERY AMONG WOMEN AGED 11-50 YEARS IN.
KACHELIBA SUB-COUNTY, WEST POKOT COUNTY, KENYA.**

BY

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ABSTRACT

The vast majority of women who deliver outside the health facilities give birth at home, where risk of mortality is high. It has been estimated that decreasing the proportion of home deliveries reduces perinatal and maternal deaths by nearly half. The study area was determined through purposive sampling. This study sought to identify determinants of home delivery among the women aged 11-50 years in Kacheliba Sub-County, West Pokot County. The specific objectives were set to determine socio-demographic factors of home delivery, to determine knowledge on risks of home delivery, to establish the cultural beliefs and practices and perceived quality of maternity services. This was a cross-sectional study using quantitative and qualitative data collection tools. It targeted women who delivered in the last 2 years. Multistage sampling technique was used to select respondents. Purposive sampling was used to sample participants for key informant interview. Two wards in Kacheliba Sub-County were sampled as a result of security concerns in other wards. Sample size of 390 was used. Data was collected using structured questionnaire and key informant interviews among health workers. Findings suggest that socio-demographic variables that were statistically significant were age ($\chi^2=9.57$, df 6, $p=0.021$), religion ($\chi^2=8.39$, df 3, $p=0.039$) and occupation ($\chi^2=8.08$, df 3, $p=0.044$). Findings on knowledge on risks of home delivery indicated that antenatal clinic attendance was significant with (OR=2.43, 95%CI=1.69-2.72, $p=0.037$). Women who did not attend antenatal clinic were likely to have home delivery (OR=20.28, 95%CI=2.42-29.34, $P=0.005$). Respondents who were knowledgeable on risks of home delivery were two times likely to have home delivery (OR=2.47, 95%CI=1.49-3.41, $p=0.039$), while those who were not knowledgeable were four times likely to have home delivery (OR=4.84, 95%CI=2.95-5.11, $p=0.0014$). Findings on cultural beliefs indicate that the nomadic community had negative cultural practices such as burying the placenta and use of herbs after delivery to cleanse. Decision making on home delivery was mostly made by the mother-in-law ($\chi^2=14.86$, df 2 $p=0.001$). Perception of quality maternity services was significant ($\chi^2=4.46$, df 2, $p=0.023$). Majority of the participants reported negative attitude among health workers as a major challenge. In conclusion, knowledge on risks of home delivery and cultural practices were major determinants of home delivery. The current study has added knowledge that will be utilized in the improvement of both maternal and child health, and hence reduction in mortality. This study recommends strategies and interventions such as sensitization of the community on safe delivery to ensure reduction in episodes of home delivery thereby, increasing community demand for maternal health care services.

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CHAPTER ONE

INTRODUCTION

1.1 Background Information

The vast majority of women who deliver outside the health facilities give birth at home, where risks of mortality are on the increase in the absence of professional attendants. It has been estimated that only 50% of women in the world have access to such skilled care in developing countries. However, most women still deliver at home (WHO, 2013; Folashade et al., 2013). According to the World Health Organization (WHO), 303,000 women of reproductive age died during and following pregnancy and childbirth in 2015. Nearly all 302,000 (99%) of the maternal deaths occurred in developing countries, the majority of which are in Sub-Saharan Africa 66% (201,000) and Southern Asia (66,000). These two regions accounted for 85% of the global burden with Sub-Saharan Africa alone accounting for 56% of the cases (UNICEF, 2013).

Maternal mortality is higher in remote areas among poorer and less educated communities (WHO, 2013). Majority of the maternal mortalities in Kenya occur during child birth and a significant number are caused by postpartum hemorrhage (Folashade et al., 2013). Perinatal mortality (stillbirths and neonatal deaths) is often related to intrapartum complications. It is thus higher in countries where the highest number of deliveries are conducted in the home environment. It has been estimated that decreasing the proportion of deliveries conducted at home reduces perinatal and maternal deaths by nearly half (WHO, 2013; Folashade et al., 2013).

In Kenya, as per the Kenya Demographic and Health Survey of 2014, maternal mortality ratio stands at 362 deaths per 100,000 live births (KNBS & ICF International, 2015). West Pokot County has undertaken several activities to avert the rampant practice of home delivery including working with partners to reward the Traditional Birth Attendants who refer mothers to hospital for

safe delivery, increasing the number of ambulance services for early referrals in case of emergencies (MOH, 2012). Despite these efforts, the rate of home delivery in West Pokot County remains high at 73% of deliveries in comparison to the national average of 38%. (KNBS & ICF Macro, 2014). During delivery, unskilled medical care and unhygienic environment can largely increase the risk of mothers and their newborns being infected. Complications during delivery can greatly be achieved by seeking skilled delivery care alongside emergency care interventions. Generally, it has been established that “births supervised by skilled attendants greatly reduce maternal deaths” (WHO, 2004).

As observed by Chowdhury et al., (2013), most deliveries taking place at home in rural Bangladesh under the care of traditional birth attendants, are the main cause of deaths. Most mothers end up in the hands of unskilled attendants at home, with some of these attendants drawn from the family members or TBAs (Mengesha et al., 2013; Kitui et al., 2013; WHO, UNICEF, UNFPA, WBG 2015). The home environment as a place of delivery among the nomadic community has been shown to be unsafe and often results in adverse neonatal and maternal outcomes. Moreover, Female Genital Mutilation is still a common practice among the nomadic community of West Pokot County thereby increasing the risk of complication during delivery (World Bank, 2004).

In Ethiopia, studies conducted by Mekonnen et al. (2012) and Tsegay et al. (2013) established that lower parity, maternal education and husband’s occupation influenced the use of skilled delivery care. In similar settings, a study conducted between October 2009 and August 2011 established that women with secondary level of education and above and those living in urban areas were more likely to seek skilled attendance at delivery (Mengesha et al., 2013). An analysis of the KDHS ,2003 done by Ochako et al., (2011) found that, marital status, place of residence, household wealth, education, ethnicity, parity, age at birth of the last child had strong influences on the type

of delivery assistance received. While analysis of the KDHS 2008/2009 by Kitui et al., (2013) established that being wealthy, more educated and lower parity strongly predicted where women delivered. In Eastern rural Nepal, women with first parity were more likely to deliver in a health facility compared to second or third parity women who were likely to deliver at home (Chowdhury et al., 2013). Based on recent literature presented on socio-demographic characteristics of clients who prefer home delivery. Studies agree and some disagree on this facts. However, in Kacheliba Sub-County, it was not documented whether socio-demographic characteristics contributed to home delivery among women of nomadic community.

Women who are knowledgeable on risks of home delivery are less likely to opt for home delivery. Studies have shown that mother's awareness of danger signs of pregnancy is poor and is majorly affected by educational status (Kitui et al., 2013). Insufficient counselling during antenatal visit is another factor contributing to home delivery, minimal time used by health workers for counselling pregnant mothers during antenatal clinic is the missed opportunity to educate women on the importance of health facilities delivery (Al Kibria et al., 2017). ANC can be viewed as an entry point to provide opportunity to promote a wide series of reproductive health services such as use of skilled delivery care (Chowdhury et al, 2013; Yadav et al., 2015). Despite this available knowledge from previous studies, it was unknown whether knowledge on risks of home delivery is a determinant to choice of home delivery or not. This study therefore sought to determine knowledge on risks of home delivery among wonen who had home delivery.

The individual and community's cultural environment dictate the choice of place of delivery. Culturally, pregnancy is considered a normal phenomenon that does not require fussing over and that health facilities are beneficial for those with complications only (Mohammed et al., 2013). A study conducted in the northern part of Tanzania shows that traditional birth attendants are the

ones who determine the place of delivery among the Maasai (Shankwaya, 2008, Magoma, 2010). In a community where most women deliver at home, there is a strong negative influence on other women's decision to seek care for childbirth at home. The practice is therefore likely to be seen as a norm in the community thus influencing individual behaviour. Cultural beliefs and practices merit consideration in the nomadic community of West Pokot County. Therefore, this study sought to determine cultural beliefs and practices that influence home delivery among women of Kacheliba Sub-County.

Quality services imparted by the health service providers including availability of equipment and medical supplies in the health facility determine the decision of the needy women to visit the facility (United Nations Economic and Social Commission for Asia and the Pacific, 2008). In Health Facilities in the arid and semi-arid areas, it was noted that many women had negative experiences at health facilities that endanger their life and that of their children (CRR and FIDA, 2007). Findings of a study done in China by Tian et al., (2014) showed that health care service delivery characteristics make a significant contribution on the maternal choices for place of delivery. Perceived quality of maternity services is thought to be an important influence on utilization of maternity services among women. It was therefore imperative to establish the perception on quality of maternity services among women who had home delivery. This study was key in ensuring the county puts in place strategies to enhance quality of maternity services hence improve skilled delivery and minimize maternal mortalities.

The aim of this study was to establish determinants of the problem of high incidence of home delivery by investigating the socio-demographic factors, cultural beliefs and practices and perception of quality of maternity services thus improving the use of safe motherhood services resulting in reduction of maternal mortality rates.

1.2 Statement of the Problem

The home environment as a place of delivery in developing countries has been shown by World Health Organization to be unsafe and often results in adverse neonatal and maternal outcomes. Safe motherhood initiatives such as the free maternity services and mobile maternity clinic are still being underutilized by many women in Kenya especially those in rural and remote settings of the country. The reason for persistently high prevalence of home delivery in West Pokot County still remains unclear. This problem may escalate to a more serious level resulting in more unprecedented maternal mortalities which could have been averted through such studies. The study area has high maternal mortality rates and is characterized by socio-cultural and health system challenges. A growing number of studies indicate a decrease in home delivery and decrease in MMR. West Pokot on the other hand is experiencing the high prevalence of home delivery of 73% far higher than national average of 38%.

The bulk of the deliveries (73%) take place at home under the supervision of unskilled Traditional Birth Attendants (TBAs), who lack basic skills. This exposes women to infections, absence of emergency services and poor referral mechanisms. Delivering at home exposes the mother and the newborn to grave risks which can culminate into death or life changing malformations. The County government of West Pokot and the national government are providing free maternity services, constructed more than 50 new public health facilities and employed more health workers. However, this has not reduced incidence of home delivery. The Pokot community practice ancient cultural norms and beliefs that could hinder mothers from accessing health services. Preferences for the male to be educated while girls are viewed as a source of wealth through dowry are some underlying community practices that adversely affect the girl child's education. This results in polygamy, discrimination against women and lack of autonomy among women. The above

scenario presents a serious problem that needs to be addressed urgently. Once the determinants of home delivery are identified, they will fill the existing gaps through stakeholder support to minimize home delivery thereby preventing maternal mortalities. The relatively high rate of antenatal care attendance by pregnant women in West Pokot, is not being actualized during delivery. Understanding the determinants of home delivery was therefore important to inform key priority areas for policy change and interventions.

1.3 Objectives

1.3.1 Broad Objective

To establish the determinants of home delivery among women aged 11-50 years in Kacheliba Sub-County, West Pokot County.

1.3.2 Specific Objectives

1. To determine the socio-demographic factors of home delivery among women aged 11-50 years in Kacheliba Sub-County, West Pokot County.
2. To establish knowledge on risks of home delivery among women aged 11-50 years in Kacheliba Sub-County, West Pokot County.
3. To determine cultural beliefs and practices influencing home delivery among women aged 11-50 years in Kacheliba Sub-County, West Pokot County.
4. To determine contribution of the perceived quality of maternity services to home delivery among women aged 11-50 years in Kacheliba Sub-County, West Pokot County.

1.3.3 Research Questions

1. What are the socio-demographic determinants of home delivery among women aged 11-50 years in Kacheliba Sub-County, West Pokot County?

2. What is the knowledge on risks of home delivery among women aged 11-50 years in Kacheliba Sub-County, West Pokot County?
3. What are the cultural beliefs and practices influencing home delivery among women aged 11-50 years in Kacheliba Sub-County, West Pokot County?
4. How does perceived quality of maternity services contribute to home delivery among women aged 11-50 years in Kacheliba Sub-County, West Pokot County?

1.4 Significance of the Study

This will help the County of West Pokot to continue in efforts of enhancing education for the girls and coming up with maternity services friendly to young mothers. The study will help the religious and community leaders to advocate for the safe delivery among the women from their community. The findings of this study will help ensure that the CHVs and TBAs are trained in order to sensitize the community hence minimize home delivery. County government may improve quality of health services delivered to pregnant mothers. This reduces maternal morbidity, mortality and disabilities related to pregnancy and childbirth. This thereby provides an opportunity for critical examination of the field. The findings helps enhance family and social support systems for pregnant women in nomadic communities and promote their autonomy through sensitization of men on the need to support women. Lastly, the study ensures the men's full participation and support to women during the entire pregnancy period hence resulting in improvement in utilization of maternity services thereby resulting in eradication of maternal mortality.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter contains literature reviewed from journals, dissertations, reports and government publications. Literature was reviewed on global, developing countries contexts including Kenya and West Pokot County. The content was confined to determinants of home delivery among women of nomadic community.

2.1.1 Overview of Home Delivery

Every-day, pregnancy and child birth related complications account for approximately 830 maternal deaths around the world (WHO, 2015). While most pregnancies and births are uneventful, all pregnancies are at risk. Around 15% of all pregnant women develop a potentially life-threatening complication that calls for skilled care and some may require a major obstetrical intervention to survive (MOH, 2012). These home deliveries conducted by TBAs may be responsible for an increased risk of maternal and perinatal mortality as the TBAs have low educational status and sometimes were not trained on preventing or recognizing complications and promptly referring the patient to an appropriate facility for emergency obstetric care (WHO, 2013; Folashade et al., 2013).

Home delivery refers to delivery away from a health facility without support of a skilled staff. It has, to this date, continued to be shrouded in much controversy and debate. Several studies have demonstrated different assertions about the effects of home births, with regard to maternal and neonatal outcomes when compared to deliveries conducted in hospitals. Some show that home deliveries have harmful effects on fetal and maternal outcomes when compared to those conducted in the hospital setting; while other studies demonstrated no such observed differences but on the

contrary, reported that home delivered births had lower measurements of serious maternal morbidities as compared to those that took place in the hospital (Johnson and Daviss 2005; Hatt et al., 2009; Hutton, Reitsma and Kaufman 2009; Janssen et al., 2009; Kennare et al., 2010). The contention in the disputes over adverse effects on maternal and neonatal outcomes as a result of either a hospital or home delivery by some studies has been the failure by them to account for whether the home or hospital settings allowed for the role of prior planning of the delivery either in the home or hospital environment (Sorenson et al., 2000; Janssen et al., 2009). A study in Nairobi, Kenya showed lack of knowledge on risks of home delivery as a major barrier to skilled delivery (Kenneth, 2014).

2.2 Socio-Demographic Determinants and Home Delivery

2.2.1 Age

Age might denote experience for utilization of various medical care services (Gabrysch and Campbell, 2009). In numerous studies that analysed the elements influencing use of delivery services, Gabrysch and Campbell found that age had no consequence on the rate of utilizing skilled care among women of different age groups (Gabrysch and Campbell, 2009). Aged women believe in themselves and have a great influence in households' decision making than younger women. However, as they observed, aged women might hold the traditional views and are thus more inclined to use unskilled delivery care than younger women (Gabrysch and Campbell, 2009). Studies done in Nigeria showed that young couples preferred skilled delivery than their older counterparts (Envuladu et al., 2013). This was attributed to greater delivery experiences among old mothers and a limited number of pregnancies among young women.

Study findings in western Uganda found that young mothers' choice of delivery was a function of affordability rather than age although other studies found no significant differences between young

and old mothers with regard to mode of delivery (Wanjira et al., 2014). In Malawi, young females of 15 -24 years of age were likely to seek services from traditional birth attendants (TBAs) as compared to women above 35 years (Palamuleni, 2011). The same was also observed in Northern Nigeria. Women aged below 34 years were most likely to have reported being assisted by unskilled attendants at delivery compared to their counterparts at 35 years or older (Doctor and Dahiru, 2010). This contrasts with women in Kenya who are aged above 35 years that are more prospective not to deliver at health facilities either under care of TBAs, relatives, friends or on their own (Kitui et al., 2013). Despite this knowledge, it was unclear whether age was a determinant in home delivery Kacheliba Sub-County. This study sought to determine whether age of the women is a determinant in home delivery in Kacheliba Sub-County, West Pokot County.

2.2.2 Parity

Majority of the women had their first childbirth assisted by skilled birth attendant, with subsequent births occurring at home under care of non-skilled attendants (Worku et al., 2013). A higher birth order has a higher chance that it might have been supervised by an unskilled attendant (Worku et al., 2013). In Busia District of Uganda and in Malawi, mothers of four or more births are most likely to deliver under the care of non-skilled attendance (Anyait et al., 2012) while women with fewer children, one or two, might not deliver under non-professional care when compared with their counterparts with three or more children to have ever been born (Palamuleni, 2011). In Kenya, a trend of decreasing health facility delivery assisted by skilled attendants was witnessed with increasing birth order (Malderen et al., 2013; Kitui et al., 2013). Women of higher birth order in India did not find it important to receive professional delivery if previous births did not have complications (Gabrysch and Campbell, 2009).

However, in Bahir Dar, Ethiopia birth order was not found to have significance with the kind of assistance during delivery (Abebe et al., 2012). In Rakai District of Uganda, birth order was not found to be significant. The situation is similar in Northern Nigeria (Amooti-Kaguna, 1999; Doctor and Dahiru, 2010). On the other hand, women in rural China were deterred by the one-child-policy and opted to use unskilled care for fear of being reprimanded (Gabrysch and Campbell, 2009). Despite this available knowledge, it was unknown whether parity was a determinant of home delivery among the nomadic community of Kacheliba Sub-County, West Pokot County.

2.2.3 Marital Status

In many parts of Africa, the decision for health facility delivery is determined to a great extent by the opinion of the husband or household head. In such cases, women's decision-making power is extremely limited, particularly in matters of reproduction and sexuality (WHO, 2008). In contrast, a study in Uasin-Gishu County reported that women who were married were more likely to have skilled delivery than those who were single or separated (Juley, 2014). In developing countries, women spend more time on their multiple responsibilities of caring for children, collecting water or fuel, cooking, cleaning, growing food, and trade than on their own health (World Bank, 2004). Marital status has been shown to be a factor of importance though non-significant in terms of determining place of delivery. Marital status is an important determinant in deciding the place of delivery, majorly via its influence on female autonomy and status or through control of financial resources. Single or divorced women may be poorer but enjoy greater autonomy than those currently married. It was therefore necessary to establish how marital status determines home delivery in Kacheliba Sub-County, West Pokot County.

2.2.4 Education

In Ethiopia, women who had home deliveries were illiterate or had incomplete primary education (Abebe et al., 2012). Those who delivered at home were 76.9% and had no education as compared to 11.1% who had at least primary education (Abebe et al., 2012). A similar study done in Ethiopia, found that women who were “better educated had a higher likelihood of better understanding the importance of using skilled delivery care in comparison to women with less education level and women with secondary level education or higher were more than two times likely to deliver under skilled care than those with no education” (Mengesha et al., 2013). Women who are educated might have their own say on health care matters and greatly value their well-being. Similarly, mothers who are educated are full of confidence when they visit health facilities and interact with service providers and might even have the will to seek services far away from home (Palamuleni, 2011). However, level of education and home delivery has never been determined among women of nomadic community. It was therefore necessary to determine how education level influences decision on home delivery among women of Kacheliba Sub-County.

2.2.5 Religion

Religion has also been linked to use of maternal health care service as shown in a study by Malderen (2013). The effect of religion on use of healthcare services during delivery varied significantly from one study to another and from one country to another. Hasan et al., (2008) found that being a Muslim reduces the likelihood of a woman using a health facility during delivery. (Mekonnen and Mekonnen, 2002) clearly shows a significant variation in the choice of place of delivery by different religions. Protestant women were more likely to use institutional delivery services compared to women who follow traditional beliefs. A study in Ghana by Coleman et al., (2015) shows that women of the Roman Catholic faith were more likely to use institutional delivery services as compared to those with no religion. This study therefore sought to establish

whether religion was a determinant of home delivery or not among the women who had recent home delivery in Kacheliba Sub-County.

2.2.6 Distance from Health Facility

WHO recommends that, for every 5kms distance, there should be a health facility. However, this recommendation is still not met. The effect of the distance to health facility is a contributory factor to the low number of deliveries at the health facilities. Physical accessibility of maternal health services has been a major determinant of home delivery in developing countries (Jared, 2015). Short distance from health facility, time and the cost involved in traveling to reach services is significantly associated with the use of skilled delivery services. In rural Tanzania, majority of the women who gave birth at home intended to deliver at a health facility but did not due to distance and lack of transportation (Bicego et al., 2007). A study in Kalabo district of Zambia concurs with Jared and Bicego on distance being a significant determinant causing delay in decision to seek care from health facilities (Stekelenburg et al., 2004). However, various researchers observed that increasing the availability of services did not necessarily increase the utilization of the same (Thaddeus et al., 1994). In West Pokot County, the effect of distance on the use of maternal health services has not been studied. This is compounded by unhelpful topography, poor road conditions and a lack of means of transport.

2.3 Knowledge on Risks of Home Delivery

Knowledge is a major structural variable that could influence the decision on whether to utilize skilled delivery or not. Women need basic information about pregnancy and delivery services during their pre-conception period so that they can make informed decisions when pregnant. The mother's knowledge is an important determinant to place of delivery as those with no education

tend to deliver at home, while those who are educated on safe delivery tend to give birth in health facilities (Gabrysch and Campbell, 2009).

Insufficient counselling during antenatal visit is another factor for low delivery in health facility, minimal time used by health workers for counselling pregnant mothers during antenatal clinic is the missed opportunity to educate women on the importance of health facilities delivery. ANC can be viewed as an entry point to provide opportunity to promote a wide series of reproductive health services such as use of skilled delivery care. Risk assessment during pregnancy is performed and women informed of the progress. Pregnant women who make visits to antenatal clinics “are more likely to be assisted by skilled service providers” and put it as part of the birth plan (Al Kibria et al., 2017).

In rural Bangladesh, expectant women who might have made less visits to the antenatal clinic as is required were most likely to use unskilled delivery (Chowdhury et al., 2013; Yadav et al., 2015). During antenatal care clinic visits, women might familiarize themselves with the health system, understand their progress of their pregnancy, any danger signs to be aware of and appreciate the outcomes of delivering under the care of the health professionals (Chowdhury et al., 2013). In Ethiopia, a study established that women making their first ANC visit after the first trimester had passed were likely to deliver at home (Mengesha et al., 2013). The same has been observed among Kenyan women who attend fewer ANC visits than recommended (Malderen et al., 2013; Worku et al., 2013). In Malawi, women who had no prenatal visits were 4.7 times and 2.3 times likely to deliver at home and assisted by TBAs respectively when compared to women who had at least four visits during ANC (Palamuleni, 2011). However, contrary to the above findings, the time on the first antenatal care clinic visit did not have an effect of the place delivery or the assistance sought (Anyait et al., 2012).

Lack of knowledge on risks of not seeking health care in pregnancy and delivery were major barriers to seeking health care among pregnant women in Uganda (Matua, 2004). Behaviour is expected to change if pregnant women are aware of the implications of home delivery. Those women who make more visits to health facilities are constantly reminded on the importance of delivering in the health facility and being assisted by a skilled birth attendant during visits hence, increasing their chances of utilizing the same (Kabakyenga, 2012).

Previous research indicates that majority of women who attended ANC had low awareness about the danger signs of obstetric complications (Abok, 2012). Lack of adequate information about danger signs and complication related to delivery are the factors contributing to home delivery (Seifu et al., 2014). Insufficient counseling during antenatal visit is another factor for home delivery, minimal time used by health workers for counseling pregnant mothers during antenatal clinic is the missed opportunity to educate women importance of health facilities delivery (Seifu et al., 2014). Majority of the women in West Pokot County are less educated. However, there are gaps in literature on whether women from nomadic communities who had home delivery were knowledgeable on risks of home delivery. This study therefore sought to determine knowledge on risks of home delivery among women from nomadic community who had recent home delivery in Kacheliba Sub-County, West Pokot County.

2.4 Cultural Beliefs and Practices Influencing Home Delivery

Culture and values of a society contribute greatly to the decisions, behaviour and practices adopted by a community as well as an individual (Mohammed et al., 2013). The use of traditional and alternative medicine among Sudanese pastoralist people is well contextualized Mohammed, who stated that 'the belief in supreme beings or supernatural existence is widely accepted by Sudanese, not only among illiterate but also among well educated people' (Mohammed and Babikir, 2013).

Literature shows that, in rural areas of Sudan, the common cultural practice is to use home remedies or to consult traditional healers during pregnancy and delivery. The general population perceives traditional religious healers as holy persons with extraordinary powers to cure ailments through prayers, charms and summons (Mohammed and Babikir, 2013). Religious leaders have always played a significant role, which directly or indirectly influenced maternal health. As mentioned above, certain traditions such as FGM and early marriage are practiced for cultural and religious reasons (Haile, 2012). Decision-making about seeking care for maternal health problems falls under the domain of women, but they are influenced by husbands and religious leaders (Haile 2012). Dependence on men for economic survival has been a principal barrier to women's control over their reproductive behaviour in developing countries.

Empowering women with more economic participation and control in their households and communities might be the key to achieving control over their own reproductive health (Caldwell, 1990). Study by Godson in 2012 among the Maasai, a nomadic community similar to the Pokot, found that the main decision-makers were the men. Paradoxically, the men are often unavailable when decisions need to be made, because they are responsible for attending to their cattle, and this can take them far from home. In such a situation, pregnant women are sometimes forced to wait for their husbands to return before decisions on place of delivery can be made (Godson, 2012).

The Maasai, a nomadic cultural group related to the Pokot people, have had deeply ingrained cultural practices and taboos surrounding pregnancy. There was reported dietary restriction, but the community still recognized the value of modern health care when complications arose (Magoma, 2010). Different ethnicities have different cultural beliefs that may enhance or prevent women from accessing safe delivery. Knowing these values and addressing them in the community could minimize home delivery. Cultural beliefs and practices among women who had recent home

delivery merit consideration in the nomadic community of West Pokot County since it has not been documented. Therefore, this study determined cultural beliefs and practices that influenced home delivery among women aged 11-50 in Kacheliba Sub-County, West Pokot County.

2.5 Perception of Quality Maternity Services

Findings of a study conducted in China by Tian et al., (2014) showed that health care service delivery characteristics make a significant contribution on the maternal choices for place of delivery. This is because mothers need to be assured that the facility has skilled providers and necessary resource. Perceived quality of care, which only partly overlaps with medical quality of care, is thought to be an important influence on health care-seeking among women. A study in Nyanza province in Kenya found that lower level facilities were perceived to provide poorer quality maternal services than higher level health facilities (Kitui et al., 2013). Mothers using such facilities are more likely to believe that health facility deliveries unnecessarily increase chances of home delivery (Kitui et al., 2013). Government facilities are also associated with frequent stock-out of necessary medicines and are thus perceived to lack capacity to offer quality services.

A recent survey in Kenya found that only 36% of public health facilities offering delivery services had all the basic delivery room infrastructure and equipment needed, with rural areas and lower level facilities particularly unequipped (MOH, 2012). Kenya has only 7 nurses per 4,000 residents, half the number (14 per 4,000) recommended by the World Bank. These health workers are also unevenly distributed across the country, with major gaps in the North Eastern and Northern Rift provinces.

Women who participated in the study in Ghana highlighted serious neglect and abuse by midwives as a serious hindrance. Midwives often shouted at them, they were rude and refused to help. Women who were mistreated previously during delivery looked elsewhere for care next time when

they became pregnant. They would also not recommend other women to such midwives (Abbey, 2008). A study conducted in Nyatike indicated that women who utilized maternity care to a high extent were from villages where the health facility staff regularly visited households to identify pregnant women for counselling and support (Mugambi, 2014). Elements such as shorter waiting times, satisfaction with the service received including staff friendliness and availability of supplies are perceived as good quality. This study therefore sought to establish perception of quality maternity services among women who had recent home delivery in Kacheliba Sub-County, West Pokot County. This will help in ensuring that maternity services are modified and improved to accommodate special requirements of the nomadic community thereby minimizing home delivery.

2.6 Conceptual Framework

The conceptual framework presents variables used in the study. The study employed socio-demographic, knowledge on risk of home delivery, cultural beliefs and practices and perceived quality of maternity services in determining use of home delivery among women aged 11-50 years. The influence of the socio-demographic, cultural beliefs and practices and perceived quality of maternity services can work directly and cause an outcome of home delivery in the operational framework adopted from Mugenda, 2008.

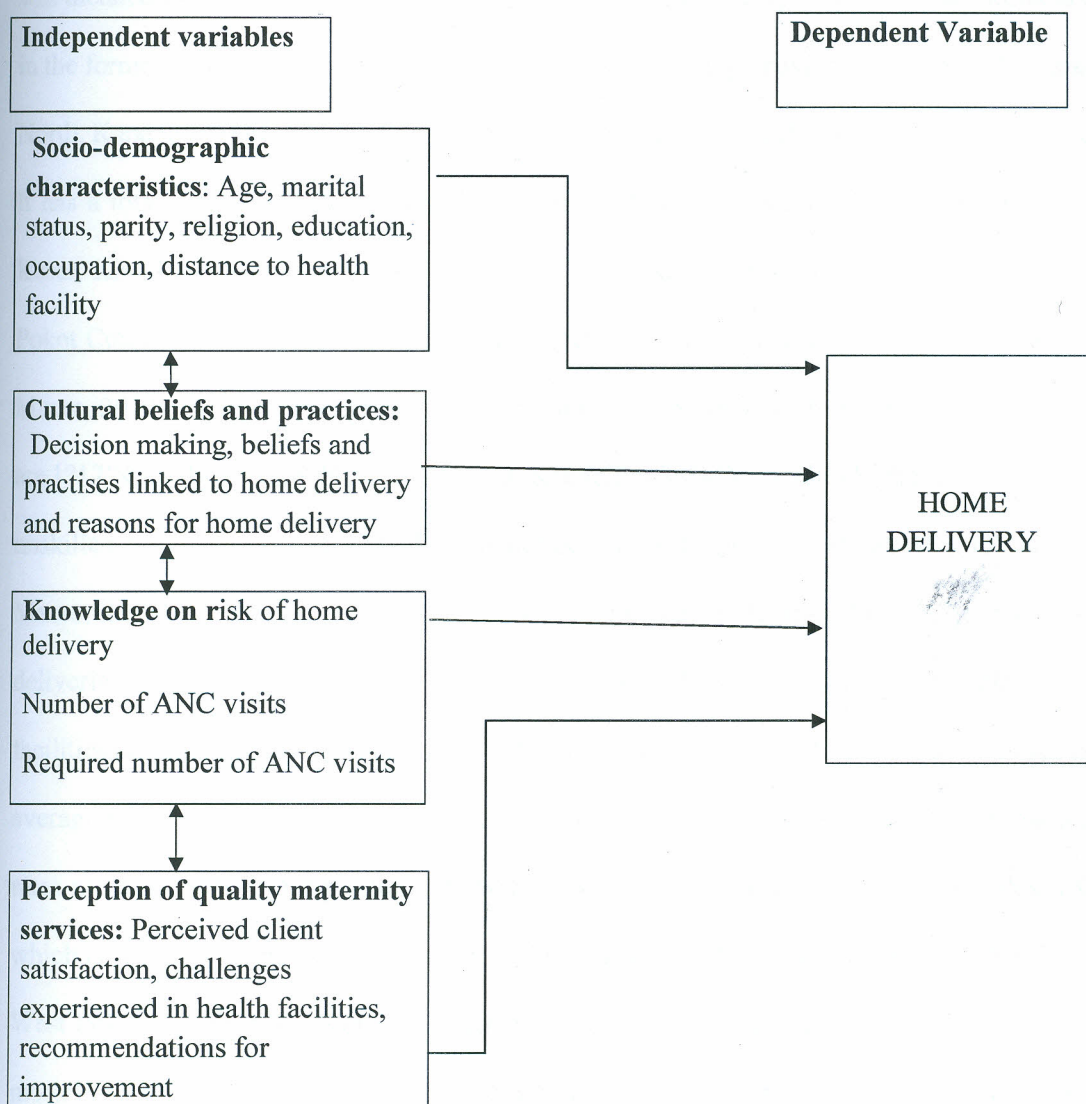


Figure 2.1 Conceptual Framework (Adopted from Mugenda, 2008)

CHAPTER THREE

METHODOLOGY

3.1 Study Area

The study was conducted in households within Kacheliba Sub-County with women aged 11-50 years who delivered in the last 2 years. The inhabitants of this area had a migratory lifestyle that was dictated by the vagaries of weather and the attendant security situation. Kacheliba is located in the former Northern frontier districts of former Rift Valley Province. It borders Turkana to the North, Kapenguria to the East, Trans Nzoia to the South, and the Republic of Uganda to the West. It has a total area of 9,169.4 square kilometers and is administratively divided into six wards; Kasei, Kiwawa, Kodich, Alale, Kapchok and Suam. Kacheliba lies on the western part of West Pokot County, it has a population of 156,011 persons with a growth rate of 3.1% (KNBS & ICF Macro, 2014). It lies at 1.2333 degrees north and 35.1167 degrees to the east and its coordinates are $1^{\circ}17'N$ $35^{\circ}01'E$ / $1.28^{\circ}N$ $35.02^{\circ}E$ / 1.28. Kacheliba Sub-County has high rates of FGM at 92%, unskilled home delivery at 72%, high maternal mortality rate of 565 per 100,000 (KNBS ICF Macro, 2014). The study area was purposively selected because of the high increase of home deliveries among women of West Pokot County. West Pokot has high ANC attendance in health facilities at 85.2 % however, the high prevalence of home delivery of 73% far higher than national average of 38%. This is of great concern particularly because it has been confirmed that mortality rates are high in this group. Home delivery stands at 73% of deliveries in West Pokot County which is two-fold of the national average of 38%. The high MMR 565 deaths per 100,000 births in West Pokot County alone annually in comparison to national average of 488 per 100,000. These mortalities are linked to unskilled home delivery which results in complications and neonatal mortalities.

Map of Kenya showing the study site

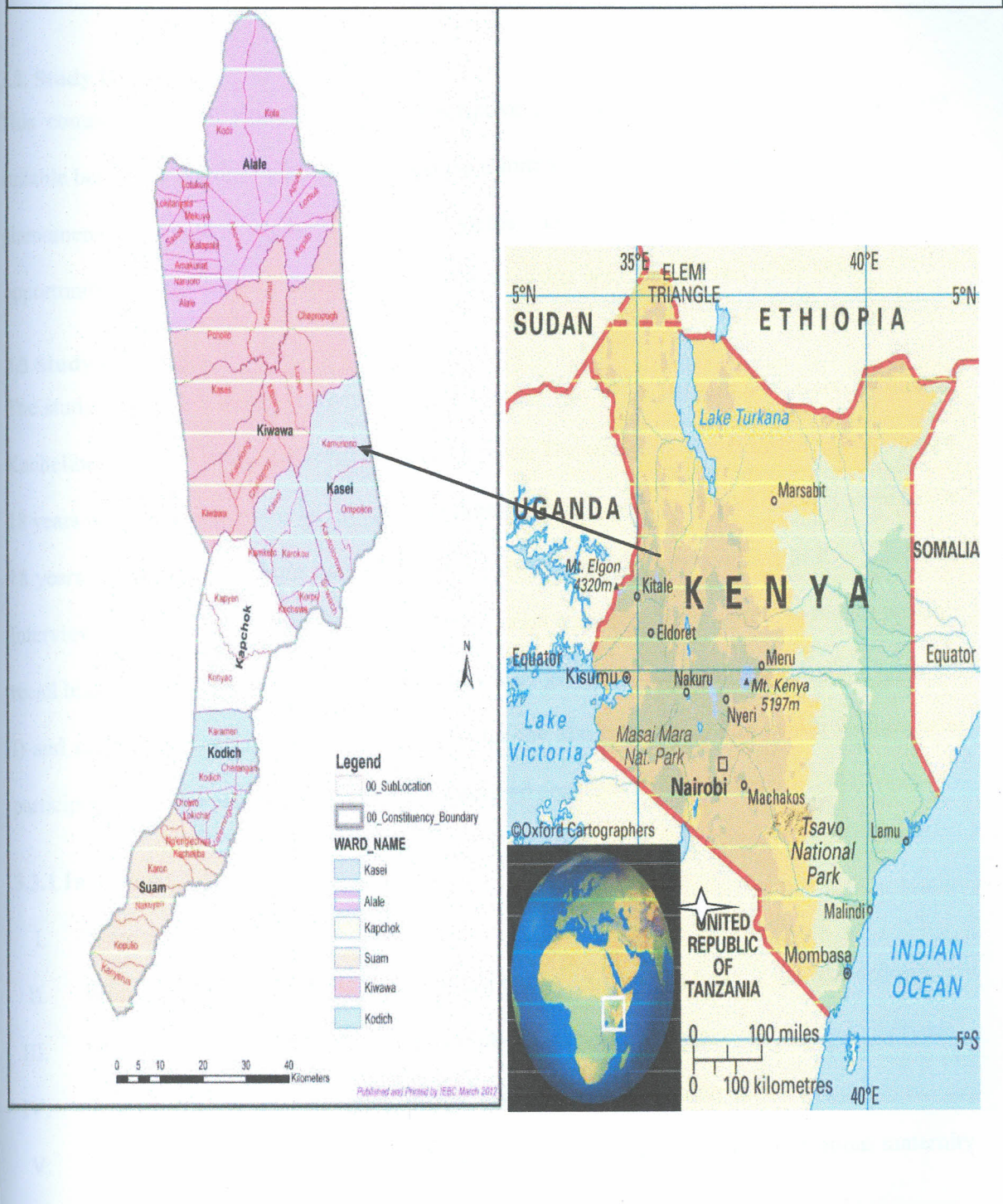


Figure 3.1

Source: Adopted from IEBC, 2012

3.2. Study Design

This community-based study adopted a descriptive cross-sectional design. This design was suitable because it obtained pertinent and precise information concerning the current status of the phenomena. Descriptive study design also yields maximum information and provides an opportunity for drawing valid inferences from the facts that were discovered in the study

3.3 Study Population

The study population included women of reproductive age 11 to 50 years who were residing in Kacheliba Sub-County and delivered in the last 2 years. The reason for targeting participants below 18 years was because from the DHIS data, a number of women who had home delivery were below 18 years. Health workers from Kacheliba Sub-County Hospital were involved in Key Informant Interview (KII). The post-delivery duration of two years was preferable in order to reduce possible recall bias. Mothers who participated in the study were given written informed consent (Appendix I) and must have been residents of Kacheliba for the last two years. The health workers who participated in KII were required to provide informed consent.

3.3.1 Inclusion Criteria

- I. Women aged 11-50 years
- II. Women who delivered at home in the last two years from the time of data collection
- III. Must have been residing in Kacheliba Sub-County during pregnancy to time of delivery.
- IV. Women who gave a written informed consent were enrolled into the study.
- V. For qualitative data, Sub-County health team who were knowledgeable about maternity services were involved in KII.

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3.3.2 Exclusion Criteria

- I. Unwillingness to give informed consent to participate in the study.
- II. Women who were under 11 years or above 50 years were excluded.
- III. Women who had mental challenges
- IV. Women who were not sure of the date of the recent delivery
- V. Women who were ill at the time of data collection
- VI. For qualitative, data, participants were excluded if they had history of mental instability. Mental instability was established if the participant showed signs of mental illness such as uncontrolled speech, hallucinations, delusions, confusion and violence.

3.4 Study Variables

3.4.1 Independent Variables

Review of previous studies had shown that the following independent variables were appropriate for this study Socio-demographic characteristics such as age of mothers, level of education, maternal occupation, marital status, religion, parity and distance to health facility. Cultural determinants measured were decision making for home delivery, beliefs and practices, reasons for home delivery. Knowledge on risk of home delivery, the variables include frequency of antenatal clinic attendance during the last pregnancy, risk of home delivery and required number of ANC visits. Perception of quality of maternity services include client satisfaction, challenges experienced in health facilities, recommendations for improvement.

3.4.2 Dependent Variables

The dependent variable for this study was home delivery.

3.5 Sample Size Determination

The sample size was determined using the sample estimation formula:

$$n = \frac{Z^2 (Pq)}{d^2}$$

by Fisher *et al.*, 1983 was used to calculate the sample size.

Where:

n = Desired minimum sample size

p = Proportion of target population estimated to have the characteristic being measured. Where p is not known, a value of 0.5 is used.

$$q = 1.0 - P (1 - 0.5 = 0.5)$$

d = Degree of tolerable error = 5% = 0.05

Z^2 = Z value of 95% confidence = 1.96 from the Z-table

$$\text{Substituting the values into the formula: } n = \frac{1.96^2 (0.5 \times 0.5)}{0.05^2} = 384$$

10% of sample size catered for non-respondents, hence 423 study participants were required to participate. However, a total of 390 participants were enrolled due to security reasons during data collection period in the other wards.

3.6 Sampling Procedure

Multi-stage sampling was used. Stage one involved the selection of one Sub-County randomly from the four known Sub-Counties in the study area. This was done by assigning the four Sub-Counties different numbers and only one was selected randomly using Ms Excel. The study was scheduled in all the six wards in Kacheliba Sub-County. However, because of the security situation, data collection was successfully conducted in two wards. Data was collected from 260 participants from Kiwawa determined by the population while Suam contributed 130 participants. The data provided was representative of West Pokot County, considering that the population is homogenous. The list with the number of population clusters in the selected location was obtained

from the county statistical officer and this was used as a sampling frame. Stage two of the sampling procedure involved the assigning of numbers to the households and eventually using Ms Excel to get random households until the calculated sample size was obtained. In some of the selected households, they lacked women who met the study inclusion criteria. These were replaced using Ms Excel generated random numbers until the target sample size was reached. In each selected household, one woman who delivered within the last two years prior to the study was included after they gave informed consent.

For Key informant interviews (KII), participants were purposively sampled according to their expertise in maternal health, accessibility and willingness to participate in the discussions. The study had at least 10 key informants made up of Medical Officer of Health, Sub-County Aids and STIs Coordinator, Sub-County community advocacy officer, Sub-County Reproductive Health Officer, Sub-County Nursing Officer, Sub-County Clinical officer, Kacheliba Sub-County Hospital Medical superintendent, Kacheliba Sub-County Hospital maternity in charge, Sub-County Public Health Officer and Community Health Worker were interviewed on the determinants of home delivery in the Kacheliba Sub-County.

3.7 Data Collection Tools

For this study pre-tested structured questionnaires (Appendix III) and key informant interview guides (Appendix IV) were used for data collection. The tools were designed after an in-depth literature review and according to the objectives of the study. The questionnaire consisted of questions regarding socio-demographic characteristics, knowledge on risks of home delivery, cultural beliefs and practices and home delivery and Perception of quality maternity services.

3.8 Validity and Reliability of Data Collection Tools

Piloting of the study was done on a sample of 40 respondents at Kacheliba Sub-County before the actual data collection. Pilot test checked on answerability of the questionnaire, sequence of the questions and number of minutes needed for the interview. Findings were used to refine the instrument for increased clarity, validity and reliability.

To ensure validity of the research instruments, content was evaluated and reviewed by experts for use of appropriate vocabulary, sentence structure and whether the questions were suitable for the intended respondents. The instruments were also scrutinized by the supervisors to determine whether they adequately addressed the objectives of the study.

Reliability was assured by standardizing the questionnaire through pre-testing. It was also achieved by using internal consistency (Cronbach's alpha) technique. Coefficient of 0.87 implied that there was a high degree of reliability.

3.9 Data Collection Procedure

Six research assistants (CHVs) were recruited from Kacheliba Sub-County who were familiar with local dialect. The Data collectors were trained on the data collection procedures. One group of data collectors (CHVs) were trained on how to administer questionnaires to community members. Social scientist was trained on how to conduct KIIs on CHWs and health care workers. They were trained on how to record people's voice during the interviews using digital recorders. The data collection instruments which included questionnaires for community members. KIIs for community leaders were pretested for standardization purposes and to ensure that the issues in the study objectives were captured. Trained field assistants then collected data using the standardized tools.

The training was set to ensure participants understood how to interview participants, how to ensure confidentiality, consenting process and basic training on ethical issues of concern in this research such as consenting of minors below 18 years.

3.10 Data Analysis

Two sets of data were generated from this process. Those were the results of the questionnaire and recordings from KII. The analysis was done separately for qualitative and for quantitative.

3.10.1 Quantitative Data Analysis

Quantitative data was verified before being entered into a monkey survey database then uploaded and organized using STATA 14.0 and was also used to ensure data cleaning. Data was then verified using the source documents and all errors rectified. The data was saved in secured back up flash disks to avoid any loss of data through power failures or mishandling.

Statistical analysis for objective one was conducted using Chi-square. Statistical analysis for objective two was conducted using regression analysis to determine associations between independent variables and the outcome. The association between independent variable and dependent variable was considered significant if p-value was less than 0.05. Odds ratios (OR) was calculated to estimate the probability of home delivery. Statistical analysis for objective three and four were done using chi-square. Thematic analysis was used for open ended questions in objective three and four.

3.10.2 Qualitative Data Analysis

The audio taped data was transcribed into full text and translated to English since Kiswahili language was used as a media of communication during the interviews. To ensure accuracy of the translation, the information was retranslated and checked by the researcher. The notes taken during the interviews and the transcribed data was typed on an Ms Word document and saved in flash

disks as back up. The notes were read and reread before sorting was done. Data analysis was done manually by coding the responses into themes. These were then analyzed through content analysis to derive themes relevant to answer the research questions. These themes were then categorized and summarized according to how they were discussed. Validation of the information was done before final conclusions were made. Key insight, patterns and relationships were drawn from the qualitative themes and used to validate and enrich the quantitative findings.

3.11 Ethical Considerations

The study was reviewed and approved by School of Graduate Studies (SGS) (appendix VI) and Maseno University Ethics and Review Committee (MUERC) (appendix V). Clearance from West Pokot County authorities was also sought before starting enrolment of participants.

The vulnerable participants were informed of their autonomy and respect to voluntarily participate in the study to ensure sufficient knowledge, capacity and free power. This was key to ensure protection of their rights. In addition, before the interviews were conducted, the purpose of the study was carefully explained to the respondents.

Ethical rights were up-held throughout this study to ensure dignity of the participants was maintained. Ethical issues of concern in this study included informed consent, privacy and confidentiality and anonymity. Participant's confidentiality and privacy was maintained by creating a password for access of the information in the computer and also unique codes were used to identify the participants instead of their names. Written informed consent from all the respondents was sought before data collection was done. Participants' were informed that there were minimal or no risks to participating in this study. Eighteen years was the age of consent according to Kenyan law but study participants between 11 to 18 years who had delivered were regarded as emancipated (mature) minors and gave self-assent. The parents or guardians gave a

written informed consent on their behalf (Appendix II). In the event that the parent or guardian did not allow the child to participate or if the minor declined participation, then they could not participate in the study. Participants were also given an option of withdrawing at any point even after consenting to participate in the study.

CHAPTER FOUR

RESULTS

4.1 Introduction

The results are on socio-demographic factors, knowledge on risks of home delivery, cultural beliefs and the Perception of quality maternity services among the women of of Kacheliba Sub-County, West Pokot County. Kenya.

4.2 Socio-demographic Characteristics of Participants

4.2.1 Age

A total target of 390 study participants were enrolled from two wards (Kiwawa and Suam). The quality of data however, was not affected. Key Informant Interview (KII) among ten key health staff in Kacheliba Sub County was done to reinforce the quantitative data. On analysis of social-demographic determinants, it was observed that majority of the respondents were young women in the age bracket of 21-25(29%) and 26-30 (25%). The findings therefore indicate that majority of the women had planned home delivery (Table 4.1). There was a statistically significant comparison between age and home delivery (p value=0.021(>0.05). This is further reinforced deeper by the findings from KII report below.

“Age is a key determinant to home delivery since most young women seem reluctant to deliver in hospital because of fear of public ridicule hence prefer home delivery which is private and accommodative. Older women with higher parity of more than two are more likely to deliver at home in their subsequent deliveries because they consider themselves more experienced and belief that delivery is a normal natural process. Once a woman has had the first successful delivery, they are more likely to assume that the next delivery will be equally successful even if conducted at home.”
(KII among health workers at Kacheliba Sub-County)

4.2.2 Marital status

The assumption that unmarried women were more likely to deliver at home than married women was disapproved in this study. The findings indicate that majority of the respondents who delivered at home 376(96.7%) were married, while 7(1.8%) were single, 5(1.3%) separated and 1(0.3%)

were widowed. Majority of the married women had planned home delivery. The findings indicated that marital status was non-comparable with home delivery (p-value of 0.249(>0.05)).

4.2.3 Education

Of the 390 women enrolled, 239 (61.3%) did not have any formal education (Table 4.1). Women with incomplete primary education as their highest level of formal education were 121 (31.0%) while 16 (4.1%) had complete primary education as their highest level of education. A very small proportion, 1.8% and 0.8%, had secondary and tertiary education, respectively. Education was non-comparable to home delivery with p-value of 0.119. However, women who were not educated were more likely to have planned home delivery 36.92% while 24.36% had unplanned home delivery.

“Most women lack the basic education, women are highly dependent on their husbands and other family for resources. We have women who even wanted to have skilled delivery but because they do not have the power to make any decision then that resulted in home delivery because the woman cannot raise the funds for transport. Culturally, the Pokot community did not value education of the girl child though there is so much improvement on this due to sensitization.” (KII among health workers at Kacheliba Sub-County).

4.2.4 Occupation

Home deliveries occurred mainly among women who were housewife's 366 (93.6%). Those who had some form of income were either casual workers 10 (2.6%), salaried workers 6 (1.5%) and 8 (2.1%) self-employed. Majority of the unemployed women were more likely to have planned home delivery 52.05% while those who had unplanned home delivery were 41.79%. Occupation of the women was statistically significant and was comparable to home delivery practices, p-value of 0.044(<0.05).

4.2.5 Religion

Majority of the respondents were Christians; Catholics were 266 (36.2%), protestants 113 (30.5%). Traditional believers and Muslims were the minority in the region. Similarly, there is a significant comparison between religion and home delivery as indicated by a p-value of 0.039(<0.05). The roman Catholics who were the majority were more likely to have home delivery at 40.77% when compared to the protestants at 15.38%. Roman Catholics who had unplanned home delivery was 27.44% while protestants were 15.13%.

4.2.6 Parity

Women with parity of more than four were 210(54.4%) of all the respondents, 74(19.2%) had a parity of three. Moreover, a sizable proportion 69(17.9%) of women had two children and 33 (8.5%) had delivered for the first time. Parity was not comparable to home delivery thereby nonsignificant in determining home delivery with p-value of 0.555. The findings indicate that women with higher parity of 4 and above were more likely to have planned home delivery than their counterparts with low parity (Table 4.1).

4.2.7 Distance from nearest health facility

The study revealed that majority 198 (51%) of the mothers who delivered at home resided within 3-4 kilometres to the nearest health facilities. While 127 (32%) mothers resided within 1-2 kilometers. However, 50 (13%) were residing over 5 kilometers from the nearest health facility. Majority of the respondents 48.2% resided near the Sub-County Hospital and 37.4% near dispensaries. Distance was not comparable to home delivery with p-value of 0.386.

“Some women decide to deliver at home even if residing within a radius of less than five kilometers to the nearest health facility. However, a good number of women are affected in some cases by the poor topography that also contributes to lack of basic infrastructure. This hinders access to the health facility hence may influence home delivery. More so to the women who have rapid progress of labor prefer to deliver from the TBA because of the time taken to access the health services” (KII among health workers at Kacheliba Sub-County).

Table 4.1: Socio-demographic characteristics of study participants

Age	Home delivery (Planned)		Home delivery (Unplanned)		df	χ^2	p-value
	n.	Percent	n.	Percent			
11-15	2	0.51 %	0	0.00%	7	9.57	0.021
16-20	23	5.90 %	29	7.44 %			
21-25	65	16.67 %	48	12.31 %			
26-30	59	15.13 %	37	9.49 %			
31-35	31	7.95 %	27	6.92 %			
36-40	25	6.41 %	22	5.64 %			
41-45	13	3.33 %	6	1.54 %			
46-50	3	0.77 %	0	0.00 %			
Marital status							
Separated	1	0.26 %	4	1.03%	3	4.12	0.249
Widowed	1	0.26%	0	0.00%			
Married	213	54.62%	163	41.79%			
Single	5	1.28%	2	0.51%			
Occupation							
Casual worker	10	4.52 %	0	0.00 %	3	8.08	0.044
Housewife	203	52.05 %	163	41.79%			
Salaried	3	0.77%	3	0.77%			
Self employed	5	1.28 %	3	0.77%			
Religion							
Islam	2	0.51%	0	0.00%	3	8.39	0.039
Protestant	60	15.38%	59	15.13%			
Roman Catholic	159	40.77%	107	27.44%			
Tradition	0	0.00%	3	0.77%			
Education							
College/university	1	0.26%	3	0.77 %	5	8.76	0.119
Complete secondary	3	0.77%	0	0.00%			
complete primary	8	2.05%	8	2.05%			
Incomplete secondary	2	0.51%	5	1.28%			
Incomplete primary	63	16.15%	58	14.87%			
None	144	36.92%	95	24.36%			
Parity							
One	17	4.36%	16	4.10%	3	2.09	0.555
Two	35	8.97%	34	8.72%			
Three	41	10.51%	33	8.46%			
Four and above	125	32.05%	85	21.79%			
Distance from health facility							
1 – 2 kilometers	66	16.92%	61	15.64%	3	3.09	0.386
3 – 4 kilometers	115	29.49%	83	21.28%			
Less than 1 kilometer	11	2.82%	4	1.03%			
Over 5 kilometers	29	7.44%	21	4.38%			

390 participants who had recent home delivery were enrolled into the study (planned n=221 or unplanned n=169) Variables include age, marital status, occupation, religion, level of education, parity and distance from health facility. χ^2 test was used to establish statistical differences between the variables. Statistically significant values are in bold.

4.3 Knowledge on risks of Home delivery

Women need to be knowledgeable about pregnancy and risk of home delivery and on importance of skilled delivery during their pre-conception period so that they can make informed decisions when pregnant. Mother's knowledge is an important determinant to place of delivery. Largest proportion of the respondents attended ANC clinic at least once 372 (95.4%) while 18 (4.6%) did not attend. Non-ANC attendance have significant influence on the home delivery practices with OR of 2.43 (p-value=0.037). This means that women who did not attend ANC were 3 times more likely to indulge in home delivery as compared to those who attended the ANC. Majority (80%) of those who attended ANC reported that they went to the clinic to confirm if the pregnancy was normal thereby deciding on home delivery.

More than half of the respondents attended ANC clinic at least three times 225(57.7%). The participants who attended clinic once were 89 (22.8). However, those who made more than four visits were 58(14.9%). The data indicates that attendance of ANC had a significant influence on home delivery practices with women who did not attend ANC and women who reported one ANC visit more likely to have planned home delivery with OR of 20.28 (p-value=0.005) and OR of 11.45(p-value=0.029) respectively. Participants who attended ANC clinic more than four times were not likely to have home delivery (Table 4.2).

Majority of the respondents were not aware of the number of times required to attend ANC during pregnancy 200 (50.3%). While 39 (10%) reported that pregnant women should have at least three ANC visits. Only 48 (12%) correctly reported that women should attend clinic at least four times before delivery. This study revealed that majority of the respondents considered home delivery to be a safe practice 275 (70.5%) while 90 (23.1%) considered it unsafe, 25 (6.4%) did not know. Those who did not know about home delivery safety and those who reported that it is safe were

likely to deliver at home with OR of 4.86 (p-value=0.014) and OR of 2.74 (p-value=0.039) respectively. The above findings are supported by the KII report below.

“Most women are not knowledgeable on risks of home delivery. However, for those villages where awareness has been created on importance of health facility delivery great improvement has been noted. Initially TBAs and CHVs were trained on the need to refer mothers for health facility delivery though it worked well in some villages. TBAs were awarded 1,000 shillings by USAID for every referral made to the nearest health facility however sustainability of this project by the County became a challenge. The ambulance services were also scarce in the Sub-County hence makes referral of pregnant mothers impossible hence contributing to home delivery and even mortalities.” (KII among health workers at Kacheliba Sub-County).

Table 4.2: Knowledge on Risk of Home delivery

Factors	Odds Ratio	p-value	95% Confidence Interval	
Attended ANC				
No	2.43	0.037	1.69	2.72
Yes	1.12(Reference)			
Number of ANC visits				
None	11.45	0.005	2.42	29.34
One visit	0.18	0.250	0.37	0.78
2-3 visits	0.03(Reference)			
4 or more visits				
Opinion on home delivery safety				
Don't Know	4.86	0.014	2.95	5.11
Safe	2.74	0.039	1.49	3.51
Not safe	1.7(Reference)			

Regression analysis was used for variables on knowledge on risks of home delivery. The variables includes the ANC attendance by participants who had home delivery, recommended number of ANC visits, safety of home delivery. Statistically significant values are in bold.

4.4 Cultural beliefs and home delivery

The study revealed that majority of the respondents have had home delivery previously 2-3 times 169(43.3%), four times and above 134 (34.4%). Those who had delivered once at home were 87 (22.3%). Previous history of home delivery was statistically significant with a p-value of

0.001(<0.05). The largest proportion of those who had home delivery 328 (84.1%) revealed that they had planned to deliver at home while 62(15.9%) did not plan to deliver at home. Those who did not intend to deliver at home revealed that they had planned to deliver at a health facility 48 (80.0%), some had planned to deliver at TBAs home 11 (18.3%) while 1 (1.7%) had planned to deliver at their mother-in-law's house (Table 4.3).

These findings indicate that majority of the participants 276 (70.8%) delivered at home because they did not experience any complication during pregnancy. Therefore, they assumed that delivery would be normal. Other participants 49 (12.6%) delivered at home due to presence of TBAs to conduct delivery. Comparatively, 42 (10.8%) reported sudden onset of labour as a reason for home delivery and 12 (3.1%) reported long distance to nearest health facility as a contributing factor to home delivery (Figure 4.1).

The findings reveal that TBAs delivered most of the respondents 276 (71%), relatives delivered 93 (23.9%). Neighbors delivered 18 (4.6%). However, two (2) mothers had self-delivery. Women who were in a monogamous type of marriage constituted 275(70.5%) of home deliveries. The women who were in a polygamous relationship were 23(25.7%) of home deliveries. There is a significant cultural influence through the decision making of home delivery practices with a p-value of 0.001(<0.05), this is also evident through the number of home deliveries reported with a p-value of <0.001(<0.05). For those women who had home delivery that was planned, most of the decisions on place of delivery was made by the mother in law at 288(73.8%) and husband made the decision in 56(14.4%). Whereas 46(11.8%) were because of self-decision. It is therefore clear that most women lack the decision-making power in Kacheliba Sub-County, West Pokot County. This can be linked to the low literacy levels and over dependence on the men for financial support due to unemployment as clearly indicated at Table 4.1).

Cultural beliefs and practices influence the decision for home delivery (P value=0.001). This fact is supported by 3% of the women who reported to have delivered at home due to cultural practices such as cleansing using herbal traditional medication after delivery and provision of special diet after delivery.

Table 4.3: Cultural beliefs and practices that influence home delivery among participants

	Home Delivery		Df	X ²	p-value
	Planned	Unplanned			
Decision maker					
Husband	26(6.67%)	30(7.69%)	2	14.8919	0.001
Mother in Law	179(45.90%)	109(27.95%)			
Self	16(4.10%)	30(7.69%)			
Number of home delivery					
4 or more	134(34.36%)	0(0.00%)	2	390.0000	<0.001
0-1	87(22.31%)	0(0.00%)			
2-3	0(0.00%)	169(43.33%)			
Attendant of Last Delivery					
Neighbor	7(1.79%)	11(2.82%)	3	4.8576	0.183
Relative	60(15.38%)	33(8.46%)			
TBA	153(39.23%)	123(31.54%)			
Others	1(0.26%)	1(0.26%)			
Preceding place of Delivery					
Health facility	42(10.77%)	22(5.64%)	3	29.7915	<0.001
Home	144(36.92%)	139(35.64%)			
On the way	3(0.77%)	6(1.54%)			
Not Applicable	32(8.21%)	1(0.26%)			

Cultural beliefs and practices that influence home delivery among participants. The variables measured that were statistically significant include decision maker for home delivery, number of previous home deliveries and preceding place of delivery. χ^2 test was used to establish statistical differences between the variables. Statistically significant values are in bold.

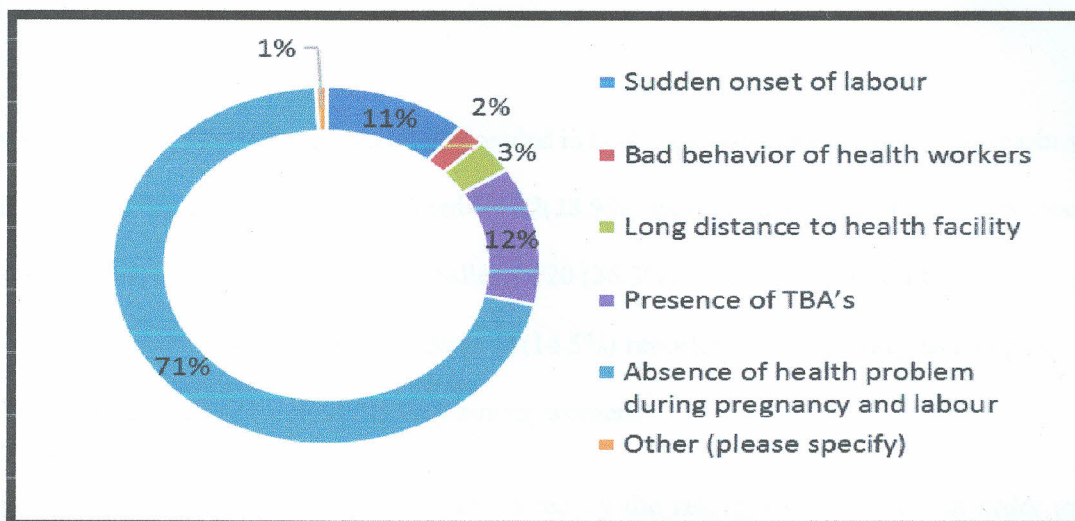


Figure 4.1: Reasons for home delivery. Majority reported absence of health problem during pregnancy. 12% delivered because of presence of TBAs, some reported sudden onset of labour and long distance to the facility.

The findings on culture being a determinant of home delivery has been supported by the KII conducted among Sub-County health team in Kacheliba Sub-County.

“Cultural practices in the nomadic community have had negative influence on women to opt for home delivery. For instance, culturally women do not have decision making power because of their position in the society which may be a barrier to skilled delivery. Majority of the TBAs also practice negative cultural practices such as cleansing using specific traditional herbal medication immediately after delivery and using ash as a disinfectant on the fresh wound at the cord of the new born. Some women deliver at home in order to get cleansing from the elder women immediately after delivery. (KII among health workers at Kacheliba Sub-County).

4.5 Perceived quality of Maternity Services

It is evident that there is a significant influence of the perception on maternity services to the home delivery practices with a p-value of 0.023(<0.05). Those who had a positive attitude towards maternity services still ended up delivering at home 306 (78.5%). The participants who had negative attitude tend to prefer home delivery at 77(19.7%). The findings indicate that women who had negative perception on skilled delivery opted for the home delivery.

Women who were not satisfied with services provided in health facilities indicated various reasons for their dissatisfaction. Challenges reported by 22(28.9%) include lack of drugs and supplies, 21(27.6%) reported long waiting time as a challenge, 20 (26.3%) revealed negative attitude among health workers as a setback. Some respondents 11(14.5%) reported lack of privacy as a negative determinant that discourages skilled delivery among women.

Participants made recommendations to be considered by the relevant stakeholders in order to improve quality of maternity services delivered in public health facilities. The largest proportion of respondents suggested an increase in the number of health workers 248 (63.65), ensure availability of drugs and supplies 57(14.6%), provide ambulance services 49(12.6%) and 36(9.2%) recommended increase in the number of public health facilities. The above findings are reinforced by the KII findings below.

*“Shortage of staff is a major hurdle in the facilities within Kacheliba Sub-County hence often resulting in burnout among the few health workers in the maternity department and that contributes to the low quality of maternity services in health facilities. The West Pokot County Government has improved immensely on accessibility and availability of health facilities drugs and supplies in health facilities however, it still remains a challenge in some public health facilities.”
(KII among health workers at Kacheliba Sub-County).*

Most of the mothers considered health facility delivery to be a good practice despite the fact that they did not utilize skilled delivery services. Majority 232(59.5%) participants indicated that health facility delivery was a good practice, while 117 (30%) reported that health facility delivery was an excellent practice. However, 16(4.1%) respondents perceived health facility delivery a bad practice while 3 (0.8%) were not sure.

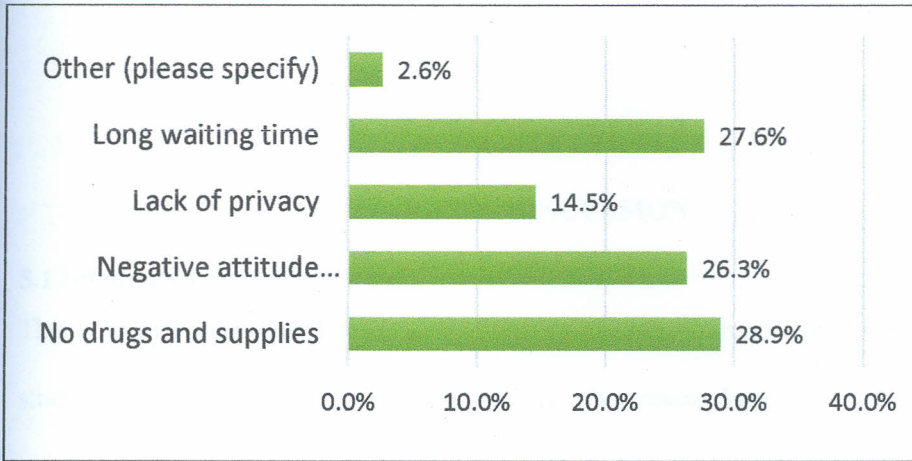


Figure 4.2: Reported challenges encountered by participants at the health facilities. The challenges reported include lack of drugs and supplies, long waiting time, negative attitude by staff and lack of privacy.

The participants had recommendations that would help enhance the quality of maternity services in the facilities; 63 % recommended increase of the number of health workers, 14.6% recommended that drugs and supplies should be made available. 12.6 % of the respondents recommended the availability of ambulance services while 9.2 % were for the option of increasing the number of health facilities.

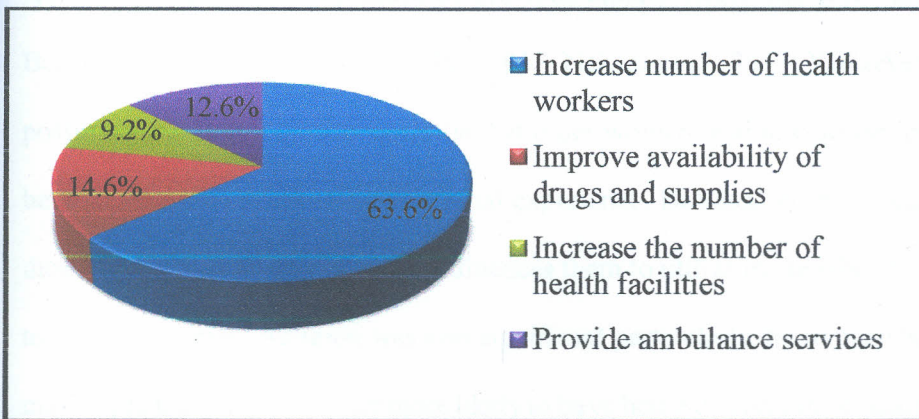


Figure 4.3: Recommendations made by participants in order to improve quality of maternity services in West Pokot County. Majority suggested hiring health workers, while some recommendations included; providing drugs and supplies, providing ambulance services and building more hospitals.

CHAPTER FIVE

DISCUSSION

5.1 Introduction

This chapter relates and discusses the findings of the research. It outlines the implications of the study findings, based on the study findings by other researchers.

5.2 Socio-Demographic Information

This study aimed at establishing determinants of home delivery among women aged 11-50 years in Kacheliba Sub-County, West Pokot County. This was a cross-sectional study that involved 390 respondents who had home delivery in the last 2 years. It sought to establish the determinants of home delivery among the women aged 11-50 years of Kacheliba Sub-County. It emerged that a number of socio demographic determinants had a significant influence on home delivery. They include woman's age, religion, and occupation on both groups who had planned and unplanned home delivery.

These findings agree with those of previous studies (Ravi and Ravishankar, 2014; Shah and Bélanger, 2011; Lwelamira and Safari, 2012; Nekesa et al., 2013; Yar'zever and Said, 2013). The possible explanation for this could be that older woman tend to consider giving birth at home to be not as risky as it has been their usual experience. Besides, older woman are more traditional, thus less likely to be educated and influences them to utilize modern health facilities as compared to younger women. Religion was also significant particularly the roman Catholic's who were the majority in the study area were more likely to have home delivery in comparison to the protestants. This study did not clearly establish how religion resulted in home delivery however, depending on the leadership and the priests of the church, they could be advocating for home delivery since there is a thin line between religion and culture. Occupation among women was key, for instance

unemployed women might indirectly increase the odds of home delivery since they are dependent on the husband's support. Home deliveries are considered to be cheaper by the mothers where health facilities are widely dispersed. The transport costs as well as maternity fees and other hidden costs can be barriers to use of skilled delivery (Kitui et al, 2013; Malderen et al., 2013). This can possibly be explained that women who are employed are more likely to have more autonomy and hence can make own decision regarding her own health unlike the unemployed women.

Primi-parous women were significantly more likely to use health services for delivery than multiparous women. Fear of a complication or lack of confidence in the face of problems may motivate women to use health services for delivery. Parity of the mother was not comparable to home delivery. The possible explanation for this could be that the women who had home delivery were of varied parities hence making parity nonsignificant determinant to home delivery. The qualitative component of this study also found consistent explanation.

Level of education, marital status, parity and distance to the nearest facility did not have a significant relationship with the outcome in this study in the two groups as was reported by other studies (Kitui et al., 2013). Marital status was not significant in this study, this can be explained by the fact that the women were not the decision makers for home delivery, instead the decisions were made by mother in law or the husbands. The non-educated women were more likely to have home delivery. This is because they do not have decision-making power on seeking health services nor the ability to travel outside the home. They are more exposed to family pressure and cultural influences. The findings imply that a woman who is not educated may be unable to make wise decisions about their own health than their counterparts. Similar findings have been reported by previous researchers (Shimamoto and Gipson, 2015; Adekoya and AlukoArowolo, 2012; Adekunle and Similoluwa, 2012).

Distance to the health facility was not statistically comparable to the outcome. Similar findings were reported by a number of previous studies (Awoyemi et al., 2011; Gabrysch et al., 2011). It should be noted that most women who lived less than 5 km from health facilities contributed to home deliveries. Studies from Afghanistan, Bangladesh, Malawi and Nepal have showed that living one hour away from a health facility increases the chance of a home delivery. The findings, therefore, differs to that by (Katimu, 2015) that measured distance in terms of the time it took to travel to the maternity hospital and not by the number of kilometers. However, in this research, distance was not a significant determinant to home delivery. This means that there were other factors other than distance that was promoting home delivery. The possible explanation for this could be that challenging terrain coupled with lack of transportation may reduce access to maternal service other than distance as a factor on itself.

5.3 Knowledge on Risks of Home Delivery

In previous studies, knowledge was identified as a major structural variable that could influence the decision on whether to utilize health facility services or not. Knowledge is dependent on level of education. This means that women with higher level of education were likely to be knowledgeable on the risks of home delivery compared to those who did not have formal education. Findings of this study indicated that majority of the respondents attended ANC at least once or more but were not aware of the importance of ANC visits nor the risks of home delivery. Women reported that they went to ANC to confirm the progress of their pregnancy and pick the mother baby booklet. Findings indicated that most women who deliver at home made at least 2-3 ANC visits. However, studies indicated that ANC attendance is associated with skilled delivery (Al Kibria et al., 2017). Some studies have failed to find this association between ANC attendance and subsequent delivery based on knowledge on risks of home delivery (Berhan and Berhan, 2014;

Choe et al., 2016). More than half of the participants visited ANC clinic 2-3 times however they delivered at home without support of a health provider. Previous studies indicate that women who had more than 4 ANC visits were more likely to deliver with a skilled attendant than those with fewer visits (Singh et al., 2014; Pervin et al., 2012). The study is congruent with the finding obtained from a study in Western Ethiopia where women who did not attend ANC were about 6 times more likely to give birth at home as compared to women who attended 4 times and more (Kihulya and Elia, 2015). Similar comparable findings from Oromia regional state, Tanzania, Nigeria and Nepal were found (Alemaw et al., 2014; Gistane et al.2015). The possible reason for this may be women who did not attend ANC or made lower visits would be less likely to get adequate information and counseling about advantages of delivering at health facility which favors them in experiencing home delivery

Majority of the women were not aware of the number of times that a pregnant woman was required to attend ANC clinic. This indicates the fact that women were not so much conversant with what is required of them during pregnancy and the need for ANC visits. ANC attendance during recent pregnancy was of significance to the outcome of home delivery. In Ethiopia, a study established similar findings that women making their first ANC visit after the first trimester were likely to deliver at home (Mengesha et al., 2013). The same has been observed among Kenyan women who attend fewer ANC visits than recommended (Malderen et al., 2013; Worku et al., 2013). This differed with findings of research in Tanzania indicated that majority of their respondents knew the required number of ANC visits to be made during pregnancy. This difference could be because this study was conducted only among women who delivered at home while Mrisho was focused on all women regardless of place of delivery.

The fact that majority of the women considered home delivery safe confirms that there is a knowledge gap that needs to be acted on in order to change the perspective of home delivery among the women. The findings were different from that of most researches that found home delivery to be unsafe. This is so considering the fact that this study was conducted among women who had delivered at home. Most women linked home delivery safety to a normal delivery process. Those who preferred home delivery did not elaborate much but felt that child birth was a natural process that did not require fussing over. Based on this finding, it is clear that the nomadic community of Kacheliba were not knowledgeable on the risks of home delivery. The possible explanation for this could be that women visited ANC to confirm the state of their pregnancy. Whenever they confirmed that all was well, it influenced their decision to deliver at home.

Lack of knowledge about ANC and delivery were the major concerns to seeking health care among pregnant women in Uganda (Matua, 2004). These findings are similar though Matua was concerned more with ANC and delivery while this study sought to establish determinants of home delivery among women of Kacheliba Sub-County. Majority of the participants indicated that they were not knowledgeable on risks of home delivery. This finding concurs with findings of a study in Ethiopia that assessed knowledge and place of delivery which indicated that participants were not knowledgeable on risks of home delivery (Awoke, 2013). The findings imply that women deliver at home because its more acceptable within the community but did not know the risks of indulging in it.

5.4 Cultural Beliefs and Practices and Home Delivery

This finding on cultural practice in the study area indicates that majority of the women who delivered at home had more than two previous episodes of home delivery. Previous place of delivery was strongly associated with subsequent place of delivery. Ashimi and Amole (2015),

also reported similar findings in Birnin Kudu, North-West Nigeria. This agrees with researches that have been conducted among the Turkana of Kenya and the Maasai of Tanzania possibly because both studies targeted nomadic communities (Abok, 2012). Those who had positive previous experiences of home delivery did not see the need to deliver in a health facility in their subsequent deliveries.

The findings in this study indicate that mothers were willing to follow instructions given by their mother-in-law and spouses on place of delivery. Majority of the respondents had planned home delivery with the help of the TBA or mother-in-law. The mother-in-law, was the primary decision maker in matters of place of delivery. This was also a finding in Indonesia where aspects of trust for traditional birth attendants and following instruction from family members were strongly reported (Titaley et al., 2010). Decision-making about seeking care for maternal health problems falls under the domain of women, but they are influenced by husbands and religious leaders (Haile, 2012).

Onset of labour at night, short labour, absence of health problem during pregnancy, presence of TBAs, long distance to health facility and health workers' attitudes were significant barriers that prevented women from delivering in a health facility. This is consistent with studies done in Kenya, Ethiopia, Malawi and Nigeria (Kitui et al, 2013; Malderen et al., 2013; Abebe et al., 2012; Palamuleni, 2011; Doctor and Dahiru, 2010) that indicated health facility staff as a barrier to access of skilled delivery. This study found that women reported having had no option but to deliver at home due to various circumstances. This element coupled with the unavailability of transportation due to lack of money to hire a vehicle or motorcycle. This made many women to opt to labour at home with the assistance of a traditional birth attendant or at times with no assistance at all. These

findings are comparable to those found in Burkina Faso and Tanzania (Some, Sombie and Meda 2011; Mrisho et al., 2007).

The study found a number of cultural practices that explained why women delivered at home. For instance, after delivery some TBAs performed cleansing rituals to the mother using traditional herbs before meeting the family members. This cultural practice led to home delivery practices to some extent. Traditional birth attendants (TBAs) have traditionally been assisting the women during child birth for centuries in Pokot community. TBAs provide community members with not only delivery services, but with emotional support and practical assistance both before and after delivery. TBAs are valued members of the community and can be more influential than the medical personnel in encouraging community members to modify and improve existing practices surrounding pregnancy and childbirth. In spite of the fact that a large proportion of the births in the country are being assisted by the TBAs particularly in the areas where higher health care is not accessible and the fact that the TBAs are culturally acceptable, the country health programmes have abandoned them for many years. This is consistent with a study in Ethiopia among nomads where TBAs play an integral role in home delivery (Malderen et al., 2013).

This research showed that majority of the women of West Pokot County do not make own decisions on own health matters. It is widely accepted that increased gender equality is a prerequisite for achieving improvement in maternal health. In Nepal, past research suggested that gender roles and relationships restrict women's use of skilled delivery during delivery (Baral et al., 2010). Lack of freedom of economic dependency before and following marriage also force them to depend on their family and husband seek decisions from others on their own health care. These aspects of reasons such as lack of women's decision-making power thus contributed to home delivery.

5.5 Perception of Quality Maternity Services

Majority of the women in this community perceive pregnancy as a normal phenomenon and did not see the necessity of delivering in a health facility with the help of skilled birth attendants. Several factors were considered as proxies of participants' Perception of quality maternity services offered in a facility and whether it influenced the decision to deliver at home. Majority of the participants were satisfied with the services they received in the health facilities including ANC, and post-natal services. This is despite the fact that they did not utilize health facility delivery services during their recent delivery. Perception of quality of maternity services was statistically associated with home delivery in influencing home delivery. The findings differ from a study conducted in Nyanza to evaluate perception of quality maternity services and home delivery that indicates that women perceived services negatively thereby influencing home delivery (Kitui et al., 2013).

Some women were unhappy with the services provided in the public health facilities due to lack of drugs and supplies, long waiting time, negative attitude among staff, lack of privacy and inadequate workforce. The factors above were not statistically significant in determining home delivery. Waiting time and perceived adequacy of equipment and medical supplies were critical factors in this community. These findings are similar with that of a study done by Abok, 2012 in Kenya among the Turkana. This is because both studies targeted the nomadic communities which have almost similar socio-cultural and economic characteristics. This is in contrast to a study in rural populations where distance to health facility and the non-friendly attitude of care givers were the major reasons given for opting for home delivery with a traditional birth attendant or a relative (Some et al., 2011; Onta et al., 2014).

The participants made recommendations that the county should employ more health workers, ensure availability of drugs and supplies, provide ambulance services and construct more health facilities. These recommendations were made based on the observations and needs assessment identified by women while seeking services in health facilities. This agrees with findings in many other studies (Tukur and Oche, 2015; Nduka and Nduka, 2014). The nomadic community were positive about delivery in health facility which is a good indicator to all stakeholders, indicating that with interventions, the high prevalence of home delivery can be reversed.

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CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Summary

The findings showed significant association between socio-demographic determinants and home delivery among the women. For instance, age, occupation and religion were determinants found to be significantly associated with home delivery. Knowledge gap on risks of home delivery was identified to influence the decision for home delivery. Majority of the participants were not knowledgeable on the risks of home delivery and was thus a major contributing factor to home delivery among the women of Kacheliba Sub-County. Cultural beliefs and practices contributed to home delivery. The cultural practices highlighted included cleansing using herbs after delivery. Decision making power on place of delivery was dependent majorly on the mother in law or other relatives including the husband. The presence of Traditional Birth Attendants who were culturally inclined, was shown to encourage home delivery. Perception of quality maternity services was not significant in influencing home delivery. Majority of the women have trust in the quality of maternity services provided in the facilities, however they still opted for home delivery.

6.2 Conclusion

Based on the findings of this study, the following conclusions are deduced as contributing to the high incidence of home delivery among women of Kacheliba Sub-County included:

1. The findings showed significant association between socio-demographic determinants and home delivery among the women. For instance, age, occupation and religion were determinants found to be significantly associated with home delivery. Education, marital status and distance from the nearest health facility were not comparable to home delivery.

2. Majority of the participants were not knowledgeable on the risks of home delivery and was thus a major contributing factor to home delivery among the nomadic community of Kacheliba Sub-County, West Pokot County. Lack of knowledge on risks of home delivery may be linked to low levels of education among the women of the nomadic community.
3. Cultural beliefs and practices contributed to home delivery. The cultural practices such as cleansing using herbs after delivery, decision making power for home as place of delivery and presence of Traditional Birth Attendants who were culturally inclined, have been shown to encourage home delivery.
4. Perception of quality maternity services was important but not significant in influencing home delivery. Majority of the women have trust in the quality of maternity services provided in the facilities. Some women however, reported negative attitude among health workers, long waiting time, lack of drugs and supplies, lack of privacy and inadequate health workforce as major setbacks in health facility services hence their decision to deliver to home.

6.3 Recommendations from the Current Study

Based on the findings and conclusions, the study recommends evidence-based strategies and interventions to ensure reduction in episodes of home delivery by increasing community demand for maternal health care services.

1. Continue in efforts of keeping girls longer in schools at least to attain secondary level of education. There is need to develop infrastructure that is friendly to adolescent girls and young women under age of 25 years. Religious and community leaders should be encouraged to advocate for better utilization of maternal health care services. Empowerment of women to ensure self-reliance is necessary to avoid the high dependency

because of unemployment. Lastly male involvement in reproductive health is key in ensuring their positive involvement during pregnancy and choice of safe delivery.

2. Since the ANC clinic is the first contact with the women, it is necessary for the midwives to seize the opportunity and spend more time than is currently done on each mother to give appropriate counselling, health education and discussion of plans for delivery. This may not only provide knowledge, but also trust.. An advocacy group comprising local and community leaders may be established to advocate for better utilization of maternal health care services. The CHVs should also be involved to minimize home delivery since most women may be reached with relevant information and can be referred to the facility for delivery.
3. Cultural beliefs and practices of concern such as use of herbs to cleanse after delivery should be minimized through proper community sensitization. The County government should include nomadic CHWs and nomadic Traditional Birth Attendants within existing human resources, for health strategic policy and develop curricula for basic and in-service training programmes. TBAs are valued culturally inclined members of the community and can be more influential than the medical personnel in encouraging community members to modify and improve existing practices surrounding pregnancy and childbirth.
4. West Pokot County should sensitize and train health staff on nomads' special needs. They should also improve the quality of maternal health care services by improving the provision of essential equipment, instruments and supplies. Hiring more health professionals, ensuring the necessary drugs and equipment are available to avoid transfer of burden to the community. Lastly by introducing temporary waiting homes for women who are closer to their delivery dates may enhance service delivery utilization during delivery.

6.4 Recommendation for Further Research

This study did not involve male participants such as husbands and partners.

1. There is need for research involving the male counterparts and home delivery.
2. There is need for other studies on home delivery among women of nomadic communities using various designs.