UTILIZATION OF UNSKILLED BIRTH ATTENDANTS’ SERVICES AMONG WOMEN IN MBIRIKANI DIVISION, LOITOKITOK DISTRICT OF KAJIADO COUNTY, KENYA

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P57/PT/10508/2008

A Research Thesis Submitted to the School of Public Health of Kenyatta University in partial fulfillment for the award of the degree of Master of Public Health.

NOVEMBER, 2013
DECLARATION

This thesis is my original work and has not been presented for a degree award in any other university.

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DEDICATION

I dedicate this work to my mother Sarah Luchera and my friend Ann Lurie. Their support and encouragement saw me through the course.
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I acknowledge the guidance and supervision of Dr. Harun Kimani and Dr. Daniel Muia. They shared their time and expansive knowledge with me from the start to the completion of this study. I learnt a lot from them.

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<td>AFR</td>
<td>African Region</td>
</tr>
<tr>
<td>AMR</td>
<td>Americans’ Region</td>
</tr>
<tr>
<td>ANC</td>
<td>Antenatal Care</td>
</tr>
<tr>
<td>CBS</td>
<td>Central Bureau of Statistics</td>
</tr>
<tr>
<td>CI</td>
<td>Confidence Interval</td>
</tr>
<tr>
<td>DF</td>
<td>Degrees of Freedom</td>
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<tr>
<td>EMR</td>
<td>Eastern Mediterranean Region</td>
</tr>
<tr>
<td>FCI</td>
<td>Family Care International</td>
</tr>
<tr>
<td>FGM</td>
<td>Female Genital Mutilation</td>
</tr>
<tr>
<td>FP</td>
<td>Family Planning</td>
</tr>
<tr>
<td>GoK</td>
<td>Government of Kenya</td>
</tr>
<tr>
<td>H/F</td>
<td>Health Facility</td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td>Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome</td>
</tr>
<tr>
<td>ICPD</td>
<td>International Conference on Population and Development</td>
</tr>
<tr>
<td>JHPIEGO</td>
<td>Johns Hopkins Program for International Education in Gynecology and Obstetrics</td>
</tr>
<tr>
<td>KDHS</td>
<td>Kenya Demographic Health Survey</td>
</tr>
<tr>
<td>Ksh</td>
<td>Kenya shilling</td>
</tr>
<tr>
<td>KSPA</td>
<td>Kenya Service Provision Assessment</td>
</tr>
<tr>
<td>KNBS</td>
<td>Kenya National Bureau of Statistics</td>
</tr>
<tr>
<td>LDPPP</td>
<td>Loitoktok District Development Plan</td>
</tr>
<tr>
<td>LR</td>
<td>Logistic Regression</td>
</tr>
<tr>
<td>M &amp; E</td>
<td>Monitoring and Evaluation</td>
</tr>
<tr>
<td>MDGs</td>
<td>Millennium Development Goals</td>
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<tr>
<td>MMR</td>
<td>Maternal Mortality Ratio</td>
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<tr>
<td>MoH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>NCAPD</td>
<td>National Coordinating Agency for Population and Development</td>
</tr>
<tr>
<td>NGO</td>
<td>Non Governmental Organization</td>
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OR         Odds Ratio
PNC        Postnatal Care
RH         Reproductive Health
SEAR       South-East Asia Region
SPSS       Statistical Package for the Social Sciences
SSA        Sub-Saharan Africa
SBA        Skilled birth Attendants
STIs       Sexually Transmitted Infections
Std Err    Standard Error
TBA        Traditional Birth Attendant
TFR        Total Fertility rate
TV         Television
UBA        Unskilled Birth Attendant
UN         United Nations
UNFPA       United Nations population Fund
UoN        University of Nairobi
USA        United States of America
USAID      United States Agency for International Development
Vs          Versus
WHO        World Health Organization
DEFINITION OF TERMS

Antenatal Care (ANC): Care given to women from time of conception till onset of labor

Maternal death: Death of a woman while pregnant or within 42 days after termination of pregnancy irrespective of cause and duration and site of pregnancy from any cause related to or aggravated by pregnancy or its management but not from accidental or incidental causes.

Maternal Mortality Ratio: Maternal deaths per 100,000 live births.

Prenatal period: The time of pregnancy preceding labor and delivery.

Postnatal period: The time starting immediately after delivery till six weeks later.

Reproductive age: 15-49 years for women

Traditional Birth Attendant: A person, publicly known by the community, who assists women during pregnancy and the delivery process whose knowledge, was acquired through apprenticeship.

Skilled attendant (Skilled Birth Attendant): A health professional such as midwives, doctors and nurses who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth, and the immediate postnatal period and in the identification, management and referral of complications in women and children (Buigutt, 2007).

Unskilled Birth Attendant: Includes TBA and any other person who gives reproductive health services to mothers yet he/she is not adequately educated or trained formally to do so.
ABSTRACT

Utilization of unskilled birth attendants’ (UBA) services by women in Mbirikani division of Kajiado County was studied. The study described the proportion of women who utilized UBA services, determined factors that influenced the utilization, established the levels of awareness and acceptance of the 2007 RH policy action on TBAs and suggested ways to engage UBAs in RH. 328 women, 15 TBAs and 3 key informants were sampled in the cross sectional study. Questionnaires and interviews were used to collect data. TBAs’ activities over four weeks were recorded. The study area was selected purposively. Mbirikani Division was clustered into four sub-locations from which women were selected by simple random sampling. Purposive sampling of TBAs and key informants was employed. Data was analyzed by Statistical Package for the Social Sciences (SPSS) and presented in charts, graphs and tables. Statistical tests and qualitative inference were used to interpret the results. 84.1% (276) of women utilized the services at least once. Utilization of UBA services was highest during delivery at 68%, was 49% for antenatal care (ANC) and 53% for postnatal care (PNC). TBAs offered ANC, delivery, PNC and family planning (FP) services. Utilization of UBA services at least once was higher among uneducated women, those who lived more than 1 hour from a health facility, had more than six children and were aged 35-49 years, Odds ratio (OR) 10.46, 4.21, 3.25 and 2.69 respectively. Women’s education, distance to the health facility and age were significantly associated to ANC, delivery and PNC services. The number of children was associated with delivery and PNC services’ utilization, marital status with ANC services while income level with PNC services, p values <0.05. TBAs’ factors did not affect ANC. TBAs’ age and experience affected women’s utilization of delivery services while age affected utilization of PNC services (p > 0.05) both with negative correlation. 20% of women and 73% of TBAs were aware of RH policy on TBAs, 62% and 67% rejected the policy respectively. Allowing UBAs to distribute health care supplies and drugs, assist in delivery preparedness, refer and assist women with house chores were some of the suggested ways to utilize UBAs. Majority of women were utilizing UBA services despite policy actions in RH, largely due to low literacy levels and cultural influence. The study recommended sensitization and promotion of skilled RH services among women and TBAs; campaigning against negative culture, improve literacy levels among women and insecurity from wild life. Safe utilization of UBAs and how best to eliminate the barriers in poor rural settings should be carried out.
CHAPTER 1: INTRODUCTION

1.1 Background

The right of men and women to access quality Reproductive Health (RH) information and services is encompassed in the definition of RH by the World Health Organization (World Health Organization [WHO], 2011). While some nations have been able to provide quality RH care to most of their citizens, many others are still working on strategies to improve RH care.

Armbruster, Levin and Strachan (2003) reported that many countries had formulated policies and restructured health care to improve RH of their citizens and attain their national RH goals. Most of these goals were adopted from recommendations of meetings such as the International Conference on Population and Development (ICPD), Millennium Development Goals (MDGs) and the Maputo protocol. Common among the recommendations was the need to have all women access skilled birth attendance.

The strategies employed by nations to achieve the RH objectives were varied, resulting in RH status disparities among nations as reported by the WHO in table 1.1.

The report showed that developed countries like those in AMR reported better national indicators in RH than developing countries. Similar views were pointed out by Gribble and Haffey (2008) that Sub-Saharan Africa (SSA)’s maternal mortality rate (MMR) of 900 was the highest among world regions with the central Africa having an average rate of 1,150. This being more than 10 times the statistic in the region of the Americans. This was likely because developed countries had the resource capacity with political stability (as opposed to countries like Afghanistan and Haiti) among other factors.
Table 1.1 International comparison of RH statistics

<table>
<thead>
<tr>
<th></th>
<th>Contraceptive use</th>
<th>Antenatal Care</th>
<th>Maternal Mortality Rate</th>
<th>%Skilled Birth Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFR Average</td>
<td>24.4</td>
<td>74</td>
<td>620</td>
<td>46</td>
</tr>
<tr>
<td>Kenya</td>
<td>45.5</td>
<td>92</td>
<td>530</td>
<td>42</td>
</tr>
<tr>
<td>Low</td>
<td>2.8 (Chad)</td>
<td>28 (Ethiopia)</td>
<td>36 (Mauritius)</td>
<td>6 (Ethiopia)</td>
</tr>
<tr>
<td>High</td>
<td>75.8 (Mauritius)</td>
<td>98 (cape Verde)</td>
<td>1200(Chad)</td>
<td>99 (Mauritius)</td>
</tr>
<tr>
<td>AMR Av</td>
<td>74.5</td>
<td>95</td>
<td>66</td>
<td>-</td>
</tr>
<tr>
<td>Low</td>
<td>32.0 (Haiti)</td>
<td>84 (Ecuador)</td>
<td>12 (Canada)</td>
<td>26 Haiti</td>
</tr>
<tr>
<td>High</td>
<td>80.3 (Brazil)</td>
<td>100 (8 states)</td>
<td>300 (Haiti)</td>
<td>99 (&gt;15)</td>
</tr>
<tr>
<td>EMR Average</td>
<td>42.7</td>
<td>68</td>
<td>320</td>
<td>-</td>
</tr>
<tr>
<td>Low</td>
<td>7.8 (Afghan)</td>
<td>26 (Sudan)</td>
<td>8 (Qatar)</td>
<td>14 (Afghan)</td>
</tr>
<tr>
<td>High</td>
<td>73.3 (Iran)</td>
<td>100 (Bahrain)</td>
<td>1400 (Afghan)</td>
<td>100 (&gt;7)</td>
</tr>
</tbody>
</table>


These disparities are not only at the international level but also within nations. In Kenya, poorer indicators were reported in rural settings such as northeastern and southern Kajiado County (e.g. Loitoktok district) as compared to the urban areas such as Nairobi.

The table below displays some of the statistics.

Table 1.2: Kenya RH status-regional comparison

<table>
<thead>
<tr>
<th></th>
<th>% Contraceptive use</th>
<th>% ANC (skilled)</th>
<th>TFR</th>
<th>% SBA</th>
</tr>
</thead>
<tbody>
<tr>
<td>National</td>
<td>46</td>
<td>92</td>
<td>4.6</td>
<td>43.8</td>
</tr>
<tr>
<td>Rift Valley province</td>
<td>42.4</td>
<td>88</td>
<td>4.7</td>
<td>33.7</td>
</tr>
<tr>
<td>Loitoktok district</td>
<td>25.3</td>
<td>81.5</td>
<td>5.9</td>
<td>30.7</td>
</tr>
<tr>
<td>North Eastern</td>
<td>3.5</td>
<td>69</td>
<td>5.9</td>
<td>31.7</td>
</tr>
<tr>
<td>Nairobi</td>
<td>55.3</td>
<td>96</td>
<td>2.8</td>
<td>88.9</td>
</tr>
</tbody>
</table>

The importance of quality RH to nations cannot be overemphasized. In Kenya, conditions arising during perinatal period were the second leading causes of death in 2010 (Government of Kenya, 2010). According to the Division of Reproductive Health, Kenya faced specific challenges that resulted in this poor trend to include: medical staff shortage; inadequate access to skilled RH care; poor infrastructure and socio-economic and cultural barriers to seeking skilled care. In the Rift Valley region, only 38% of the available health facilities provided both ANC and normal delivery management, and only 21% and 28% of the facilities could provide maternal emergency transport and postnatal care respectively (NCAPD et al., 2005).

Those challenges and the quest to achieve optimum RH for all Kenyans saw the proposal of the RH bill and later the formulation and adoption of the national RH policy. The formulation of the RH policy was guided by eight principles, two of which state that RH must be responsive to the expressed needs of consumers and achieve consumer participation in all aspects of policy formulation, implementation and M & E; and that RH care must endeavor to eliminate inequitable access especially among vulnerable groups, among which are the poor in urban, rural and hard to reach areas. These principles, were pertinent to bridging of regional disparities during implementation of RH strategies (Ministry of Health, 2007).

The Kenyan RH policy has nine components: safe motherhood, maternal and newborn health; unmet family planning needs; adolescent/youth sexual and reproductive health; and gender issues, including sexual and reproductive rights; HIV/AIDS; reproductive tract infections; infertility; cancers of reproductive organs and RH for the elderly.
This study focused on the safe motherhood, maternal and neonatal health component whose priority actions are summarized in the box below:

- All women access and receive skilled reproductive health services and information and that TBAs are not recognized as skilled caregivers.
- Geographic, socio-cultural, economic, legal and regulatory barriers that impede access to skilled health care are removed.
- The capacity of the health system at all levels is strengthened for efficient and effective delivery of reproductive services.
- Strengthen the capacity of community owned resource persons (CORPS) and Traditional Birth Attendants (TBAs) to play designated roles such as promotion of birth preparedness, early identification and referrals of complications, postnatal care and registration of births

*Source: National reproductive health policy (Ministry of Health [MoH], 2007)*

On comparison of the policy expectations versus outcomes, there seemed to be a disconnection between the strategists and policy implementation. As shown in the statistics in table 1.2 above, more than 50% of women in Kenya and 69.3% in Loitoktok district were not accessing skilled birth attendance despite the well formulated RH policy actions (CBS *et al*, 2010; RoK 2008 & MoH, 2007). Moreover, disparities in the national RH indicators implied regional inequalities in tackling barriers and implementing policy actions contrary to the policy principle that sought to ‘eliminate inequitable access especially among vulnerable groups, among which are the poor in urban, rural and hard to reach areas.’

Furthermore, there lacked coordination between some RH partners and the government in the execution of RH interventions. For example, AMREF endeavored to train TBAs in deliveries yet the RH policy did not support TBAs to carry out such roles (*Kimenderi et*
It can be assumed therefore, that the 2007 RH policy had not yet been very instrumental in reversing the RH trends and realizing its policy objectives and MDG 5.

1.2 Problem statement

At the time of the study, Kenya had not met the desired objective stated by the 2007 RH policy of having all women access skilled birth attendance. Furthermore, the maternal mortality increased from 414 in 2003 to 488 in 2010 (CBS et al 2004, KBNS & ICF macro 2010). Also, unskilled birth attendance remained high e.g. at 69.3% in Loitoktok district (LDDP, 2008) compared to the national rate of 56.3%.

The study set out to explore the persistent utilization of Unskilled Birth Attendants’ services among the women of Mbirikani Division despite the adoption of RH policy in 2007 by Kenya.

Canavan (2009) documented evidence of reduced mortality and morbidity with skilled attendants and therefore if women continue to utilize unskilled attendants, maternal morbidity and mortality will not reduce.

1.3 Justification

Having worked in the study area and noticed that the women’s uptake of skilled reproductive health services especially delivery was low, the study set out to provide information on current utilization of unskilled birth attendants’ services. This was stimulated even more by the 2007 RH policy that had been adopted which had intended for all to utilize skilled RH services. It was necessary therefore for the study to show the proportion of women in Mbirikani division who were utilizing UBA services as a concurrent control indicator of policy implementation.
Many studies had focused on utilization of UBA services during the antenatal and delivery periods but this study went a step further to shed light on utilization of FP and PNC services as well, which are important aspects of RH. The services that were being offered to women by TBAs in the area were also studied, again having in mind the roles that were designated to TBAs in the policy document. This would inform on the extent the unskilled attendants have deviated from the policy recommendations and also provide information on the safety of UBA services. It was also important to find out if the women and TBAs were aware that TBAs were not to be recognized as skilled RH services’ providers given that they are directly affected by such a policy action.

There is evidence of factors that influence women to seek unskilled services. This study determined which among the likely factors significantly influenced the women’s utilization of unskilled services in Mbirikani division, hence providing information that would assist RH stakeholders in prioritizing policy actions.

1.4 Research questions

The study answered the following questions.

1. What is the proportion of women seeking UBA services in Mbirikani division?

2. What factors significantly influence the utilization of RH services among the women in Mbirikani division?

3. Which RH related services are currently being offered by TBAs in Mbirikani division?

4. What is the level of awareness and acceptance of the policy action not to recognize TBAs as skilled providers of RH services?
1.5 Objectives

The broad objective was to describe the Mbirikani division women’s utilization of UBA services after the 2007 RH policy and determine the women’s views on what roles UBAs can play.

To achieve the broad objective, the study aimed to:

1. Establish the proportion of women utilizing UBA services in Mbirikani division.

2. Determine the factors that significantly influenced women’s utilization of UBA services in the division.

3. Determine the reproductive health services that TBAs were offering to women in Mbirikani division

4. Establish the proportion of women and TBAs who were aware of the policy action on TBAs.

5. To determine activities that UBAs can carry out to improve RH in the division.

1.6 Null Hypothesis

Women’s and TBA’s factors have no significant effect on the women’s utilization of UBA services in Mbirikani division.

1.7 Significance and anticipated output of the study

The RH stakeholders in the community; the government, NGOs and the community members can use the results to formulate specific strategies to improve RH in Mbirikani division and similar poor rural communities. This is by targeting significant factors influencing utilization of UBAs and by promoting safe UBA services. The documented
current level of utilization of UBA services can act as a basis upon which to monitor and evaluate future RH interventions.

1.8 Conceptual framework

The theory of planned behavior, developed by Ajzen (1991) was used to construct the conceptual framework. Figure 1.1 below shows the relationships of the issues studied to the outcome. In this framework, a woman’s belief that utilizing a given RH provider will have the desired outcome is shaped by the RH experiences she and her colleagues have gone through as well as her education. This belief also forms the attitudes towards the services. The influence of others and self efficacy modify the attitudes to the intention to choose a given provider. This is to say the woman considers her ability to utilize a given provider as well as how that utilization will be perceived by her peers and relations.

Perceived behavior control

Figure 1.1: Conceptual framework: Constructed from (Ajzen 1991)

Actual behavior control determines the ultimate action that will be taken when need arises. For example, a mother may intent to deliver in the hospital but if labor starts at night and she has no means to get to a hospital, she will have to deliver at home, assisted
by whoever is available. This ultimate action is the outcome behavior; the dependent variable of the study.

1.9 Delimitations and Limitations of the study

1.9.1 Delimitations

This study was restricted to finding out utilization of UBA services among women in the community. Results obtained were therefore derived from the responses of the community members and not professionals of health institutions. The study determined women and TBAs’ familiarity with the policy action not to recognize TBAs as skilled providers as indicated in the 2007 RH policy and not with the whole policy document per se for simplicity of study.

1.9.2 Limitations

The study focused on women of reproductive age. It would therefore not be suitable to generalize findings to men or to women outside this age bracket. Application of the findings of this study is limited to populations with similar characteristics (i.e. resource poor, rural areas with underdeveloped infrastructure). The study was not able to collect TBAs activity registers for more than 28 days due to lack of adequate funds. However, the activities noted in the short period were able to answer the relevant research questions.
CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

Various international meetings have been held to formulate strategies to improve RH. The 1994 Cairo International Conference on Population and Development (ICPD)’s goals were to reduce infant and child mortality, reduce maternal mortality and improve access to skilled reproductive and sexual health services including family planning (United Nations (UN), 1994). Later on, in the year 2000, the millennium summit formulated MDGs, one of which was goal 5; to improve maternal health with two targets: to reduce the MMR indicated by MMR & proportion of births attended to by skilled health personnel and to achieve universal access to skilled RH services (Bernstein, 2005).

The African Union further adopted the Maputo protocol which focused on the welfare of women. Article 14 of the protocol affirmed the rights of women to make their RH decisions and to be provided with adequate, affordable and accessible RH services including FP, ANC delivery and PNC services (African Union, 2003). These documents demonstrate how important RH is in the welfare and development of not only women but nations as a whole.

Despite the commitment by nations to the documents, achievement of the objectives and directives stated has not been fully realized. One aspect is utilization of unskilled birth attendants in the provision of RH services. The literature herein discusses the continued practice of TBAs, why they were persistent and recommendations that had been put forth in efforts by countries to offer quality reproductive health service to their citizens.
pursuant to the reproductive goals proposed nationally and at international meetings such as those described above.

Provision of skilled reproductive health services has been and remains a vital issue in countries hoping to improve quality and outcomes in RH as well as achieve MDGs.

A skilled birth attendant (SBA) is one who is trained and educated to handle normal and complicated pregnancy, labor and delivery, postnatal and the immediate newborn care. WHO recognizes doctors (generalists with midwifery skills and obstetrician/gynecologists), midwives and nurse-midwives as skilled RH providers while those without midwifery skills (e.g. community health workers, TBAs, volunteer workers/supporters, family members, friends, and women themselves) are unskilled providers of reproductive health services; herein referred to as unskilled birth attendants (UBAs). While they are not recognized as skilled attendants, UBAs still offer RH services in developing countries and are believed to be contributing significantly to poor maternal and infant outcomes. (WHO, 2002)

2.2 Reproductive health services provided by UBAs

TBAs continue to be a source of RH services especially in SSA. A study done by Bisika (2008) in Malawi concluded that TBAs were an important source of maternal care especially in rural areas. Bisika observed that the utilization levels of TBAs were far much greater than presently acknowledged suggesting inadequacies within the formal health system.

The SSA has the poorest rates of women attended to by skilled attendants shown in the WHO’s world health statistics. Many developed countries have achieved 100% skilled
birth attendance while developing countries have lowest rates of up to 6% in Ethiopia. UBAs are delivering more than 50% of women in the poorer regions (WHO, 2011).

UBAs provide a wide range of services including herbal medicines in conception, FP and pregnancy, labor augmentation, postpartum periods and in the treatment of reproductive tract ailments. A qualitative study by Family Care International (FCI) reported the use of herbs in reproductive health in Migori and Homabay districts in Kenya. Almost all community members who participated in the study were said to perceive TBAs’ herbal medicines as important during pregnancy and to be essential for maternal health and well-being including management of troublesome pregnancies. One woman was quoted to have said, “It is required that women take traditional herbs,” (FCI, 2003).

In the antenatal period, some TBAs in Swaziland palpated pregnant women, did external cephalic version, vaginal examinations and provided advice on nutrition and general care. They also assisted women through labor and delivery (Lech & Mngadi, 2005). In Kenya, 92% of women received antenatal care from a health care professional but only 43.8% nationally and 30.7% in the Rift valley were delivered by a skilled attendant (Central Bureau of Statistics [CBS] Kenya, et al., 2010). Unskilled birth attendants delivered a significant number of women; TBAs delivered 28%, friends and relatives delivered 22.1% while 8% delivered by themselves. It seemed the TBAs delivered more in the rural areas, with up to 82.8% in North Eastern counties compared to 9.4 % in the urban county of Nairobi, Kenya. The rural problem is further compounded by high fertility rates standing at a TFR of 5.2 children per woman as opposed to 2.9 in the urban counterparts (CBS et al., 2004). This was worrying because there was less access to skilled attendance among women who had the potential to give birth more.
The statistics above showed that a big percentage of women, 26.7%, were being delivered by UBAs excluding TBAs. It is necessary to recognize these other UBAs (relatives, neighbors and women themselves) and target them in policies too, an omission made by the 2007 RH policy.

In the postpartum period, UBAs play the role of caretaking mainly but also advise the women on when to resume activity and sexual intercourse. Among the Luo community in Migori and Homabay, TBAs reported that they usually examined the woman during the first hour after birth to make sure that the uterus was contracting well and that there was no heavy bleeding. Thereafter, care was handed over to the relatives such as husbands, mothers-in-law, and co-wives who were expected to assist with household chores. It was pointed out by community members that women who were ‘well’ after delivery needed not visit the hospital (FCI, 2003).

In addition to these services, it was also revealed that some TBAs performed harmful cultural practices such as female genital mutilation (FGM) (Lech & Mngadi, 2005).

2.3 Factors affecting utilization of RH services

Several factors influencing the choice of birth attendants have been pointed out. Boogaard et al. (2008) cited transportation problems, socio-cultural reasons and birth unpreparedness to be causing the majority of women to turn to traditional birth attendants in rural Zambia. Gabrysch and Campbell (2009) reviewed literature on factors that determined use of delivery services. In the review, they found evidence that higher maternal age, education, household wealth and lower parity increased utilization of skilled attendants, as did urban residence. Facility use in the previous delivery and antenatal care use as well as presence of obstetric complications increased utilization of
skilled attendants. They also explained that a woman’s perceived benefits/need of skilled care influenced the utilization of skilled services, including her facility experiences as well as those of people she knew, in relation to medical care as well as other issues such as waiting time among others.

These factors affected utilization of birth attendants across the board, that is, all over the developing regions. The Kenya Demographic Health Survey 2008-2009 stated similar factors affecting choice of attendant: age and parity where younger women and those with lesser parity were more likely to seek skilled care than their counterparts (KNBS and ICF Macro, 2010).

In another Kenyan study, it was found that mothers were more likely to deliver in the hospital in places with more health facilities such as central counties of Kenya. In these counties, approximately 70% of the women were delivered by skilled professionals. Education level and economic status were also cited to have an influence where more educated and wealthier women sought skilled attendants as opposed to their counterparts (CBS et al, 2004).

The choice of which factors to study was guided by lessons from a Karlsen et al (2011) study. In their study, they investigated the association of maternal age, marital status and parity among others to maternal mortality and concluded that low education level, age above 35 years and being unmarried were associated with higher maternal mortality even for mothers utilizing skilled health care. The outcome, it was noted, could be worsened should such factors be compounded by the lack of the skilled attendants. They advised that attention should be given to the wider social determinants of health when devising
strategies to reduce maternal mortality and to achieve the increasingly elusive MDG for maternal mortality.

2.4 Effectiveness of UBA services

Studies in Africa suggested that TBAs were lacking critical skills especially to handle obstetric complications and thus contributed to perinatal mortalities and morbidities. The difficulties encountered by the TBAs in the course of assisting delivery included retained placenta, difficulty with breech deliveries, prolonged bleeding and lack of facilities as recorded by Bello et al (2009) in Nigeria. As in many developing countries, only about a third of births were attended by skilled personnel in Nigeria. Sadoh and Ogungbe (2008) also concluded that high neonatal mortality was the hallmark of developing countries and that most of the deaths were preventable with access to safe delivery.

Seeing as developing countries did not have sufficient resources to provide skilled care to all mothers and that many women still relied on TBAs, suggestions came up on how to safely utilize TBAs so that they could offer quality RH care. Bisika (2008) suggested that TBAs needed to be empowered to ensure infection free deliveries. This would be through training, provision of supplies and supervision from skilled providers. Such thoughts guided the actions of AMREF who initiated TBA training programs in Kenya (Kimenderi, 2010).

However, another Kenyan study provided contradictory evidence to such suggestions. The Ministry of Health (MoH) (Kenya), University of Nairobi (UoN) and Population Council (2003) studied the TBAs’ role in maternal health programs. They noted that there was no improvement in maternal mortality and morbidity despite tremendous efforts to train TBAs. Any improvement at the beginning of such trainings was attributed to close
supervision from the trainers who were skilled in maternal health. This outcome could also have been due to the fact that a good number of women were delivered by other UBAs who were not recognized as TBAs hence did not receive any training. Views similar to the MoH (Kenya) et al (2003) study were echoed by Horner (2009) where the MoH of Sierra Leone made a decision to ban the practice of TBAs. This was because they noted that the most common causes of maternal deaths were complications that arose, which TBAs could not handle. These facts amplify the essence of the Kenyan policy action on TBAs that they are not to be recognized as qualified RH care givers.

Recent research demonstrates that delivery by a skilled birth attendant (SBA) serves as an indicator of progress towards reduction of maternal mortality worldwide whereby estimates between 13% - 33% of maternal deaths could be averted by the presence of a skilled birth attendant (Canavan, 2009).

2.5 Persistent utilization of unsafe UBAs services

Why then, with evidence and policies against TBAs’ practice have the systems been unable to reverse the RH seeking trends and improve RH status? According to Izugbara, Ezeh and Fotso (2009), the TBAs attributed the persistent demand of their services to non-cooperative and disrespectful attitudes of providers in hospitals, ‘the high quality’ and wide-ranging nature of their services, and to their sensitivity to their clientele's needs, as opposed to the ‘abusive treatment’ the women purportedly received in hospitals. This goes hand in hand with Gabrysich and Campbell’s (2009) study that a woman’s facility experience determined where she would seek care on subsequent visits.
Anyangu-Amu (2010) interviewed Kenya’s MoH RH officials, a popular TBA in Mathare slums and clients of the TBA. The interviews highlighted some barriers to skilled attendance, summarized in the box below

**Arising issues favoring UBAs**
- Low work load hence more individualized attention
- Better attitudes to vulnerable groups such as teenagers
- Lower cost of treatment and flexible payment modules.
- Easily accessible day or night.

**Arising issues against the MoH**
- Limited resources e.g. poor infrastructure, inadequate ambulances and staff etc
- Weak bridges between the community and the public health system

*Source: Anyangu-Amu, 2010.*

The issues raised from Anyangu-Amu’s interviews were not isolated to Mathare slums but replicated in many poor settings. In Loitoktok district, 67% of the population was categorized as being poor (Republic of Kenya, 2008). Furthermore, wild animals lived in and pried the division, making night movement quite risky, a situation worsened by poor road networks. Bearing Anyangu Amu’s findings in mind, should obstetric emergencies happen at night in such an area, the cheaper and accessible solution for many residents would also be the unskilled attendants. The 2008-2009 KDHS provided more evidence that 42.2% of Kenyan women delivered at home because of lack of transportation (CBS et al, 2010).

Studies from elsewhere described more reasons why utilization of UBAs was persistent. The UNFPA’s (2005) RH fact sheet accentuated the factors that contributed to the lack of (or slow) progress in RH in the developing countries. These included: poor resources-
inadequate budgetary allocations to health; persistence of harmful traditions such as FGM, wife inheritance and polygamy; low literacy levels and hence low sensitization in health issues; heavy burden of HIV/AIDS; and rigid laws such as no abortion resulting in increased unsafe abortions and hence high morbidity and mortality.

A study on the determinants of skilled birth attendant utilization in Afghanistan determined that wealth, literacy level and residing near a health facility that had a female SBA were strongly associated with utilization of SBAs. They recommended that the rate of use of safe delivery care be improved by reducing the financial barriers of poor and uneducated women and considering culturally acceptable alternatives (Mayhew et al., 2008).

Many studies have linked low literacy levels to the lack of appreciation and utilization of skilled RH services. In Indonesia, respondents reported that trained delivery attendants or an institutional delivery were only aimed at women who experienced obstetric complications (Titaley et al., 2010). In the study area, only 20% of school age children enrolled in primary school and 43.5% of those in primary proceeded to secondary school. Studies into the utilization of skilled services provided more lessons that can be learnt for the ultimate improvement of RH. In Tanzania, Magoma et al. (2010) noted that more than 90% of all pregnant women attended antenatal care at least once and approximately 62% four times or more, yet less than five in ten received skilled delivery care at available health units. Their study in Ngorongoro district among Maasai and Watemi women attributed this trend to the failure of health care providers to consistently communicate the importance of skilled delivery and immediate post-partum care for all
women during routine antenatal visits. It is safe to conclude that factors impeding access to skilled RH care encourage utilization of UBA service.

2.6 Effectiveness of strategies to improve RH and abolish UBA services

An evaluation of 13 high-performing facilities in Kenya showed that the facilities shared five performance factors: knowledge and skills; infrastructure, equipment, and supplies; leadership and management systems; motivation; and client and community focus (Rawlins et al, 2003). The evaluation implied that the formal health care systems needed to be strengthened and supported both technically and supervisory in order to improve accessibility to quality RH services. Titaley et al. (2010) recommended further that health education strategies were required to increase community awareness about the importance of health services along with the existing financing mechanisms for the poor communities. Public health strategies involving traditional birth attendants would have been beneficial particularly in remote areas where their services were highly utilized.

The other area of interest is the policy process, which needs to be strengthened for it to meet stipulated goals. In 2004, a ten-year review of national progress in implementing the ICPD Program of Action by the FCI (2005) found that of 151 countries, 85 (61%) had advanced policies or legislation on reproductive rights and Sexual and Reproductive Health for adolescents. The FCI however noted that even though this progress was encouraging, further action was needed to make sure that these international commitments and national laws were actualized. It pointed out further that too many of the enacted laws have not been implemented, and so the benefits of the legislative process did not reach the target population.
A leaf can also be borrowed from the USAID’s POLICY project which successfully fostered the adoption of more than 140 RH policies in developing countries. It used strategies such as: building RH advocacy networks; mobilizing groups and businesses into the health policymaking process; giving grants to support grassroots policy dialogue and advocacy efforts; raising awareness of RH policy issues and assisting countries and partners allocate, mobilize, and/or leverage additional funding in RH (USAID, 2006). Their success lay in the multifaceted approach, dealing with multiple areas and involving many stakeholders.

The USAID approach is supported by Hardee, Irani and Rodriguez (2012) who pointed out severally that communicating RH policy is vital to the success of policy process. They noted that informing the stakeholders, technical implementation team and the general public on the policy contents and processes fosters policy uptake and implementation. In a decentralized government, the regional and district-level officials who have increased responsibility for planning and managing programs must be adequately informed on the policies they are charged with implementing. In addition, they should have unlimited access to up-to-date information on best practices and evidence-based programming. Anecdotal evidence suggests that this is not the case in the Kenyan setting, with many public and private sector health workers lacking information on current health policies. With poorly informed policy implementers, it is no wonder that the community remains unaware of policies intended to improve their well being.

Implementation of proposed strategies needs to involve all stakeholders. In RH, UBAs are significant stakeholders who cannot be ignored as they can be a major setback if they continue operating unchecked yet fruitful if engaged positively. A study by Rodgers et al.
(2004) in Honduras pointed out the need to integrate trained TBAs into the local health infrastructure, establish accessible centers capable of providing essential obstetrical services, and develop transportation systems available to high-risk pregnancy patients and those with emergent complications at the time of delivery. Also, addressing underlying conditions that predispose women to increased obstetrical risks, such as poor health status as well as high parity and pregnancy at extremes of their reproductive lives are also noted to be critical to improving maternal health status.

Dadhich (2009) proposed ways in which TBAs in India can be used to reduce neonatal morbidity and mortality by using them to improve, among other things, cleanliness after delivery and in cord care, thermal protection, early and exclusive breastfeeding, eye care, immunization, recognition of illness and referral and care of the preterm and/or low birth weight newborn. UBAs can also contribute in community sensitization and positive change in RH seeking behavior as is exemplified the safe motherhood project in Sabatia Health Centre, Vihiga Kenya where TBAs held sensitization forums in the community (Warren and Liambila, 2004).

While it remains a struggle to offer skilled RH to all, some efforts are bearing fruit and more strategies being developed to address the barriers.

2.7 Gaps in literature reviewed

Gaps were identified that this study set out to bridge. The need to carry out the study in an area with a unique combination of factors associated with unfavorable RH status i.e. the rural, resource poor and with strong cultural beliefs and practices.
The selective recognition of TBAs instead of UBAs as a whole in research, policies and RH programs yet the RH outcomes from either group are not favorable.

Not many studies had explored the full range of RH services offered by UBAs, from conception to care of the newborn. Similarly, many factors focus on women’s factors in influencing utilization of RH services and not on the provider factors. This study looked at some of the TBA factors and how they influenced RH service utilization.

2.8 Conclusion of literature review

The RH status in the developing world is unacceptably low. It is important to have thorough research to provide objective M & E grounds prior to, during and after policy formulation and implementation. Similarly, all stakeholders in RH need to be involved in RH and strive to provide quality accessible, affordable and acceptable health care to all.
CHAPTER 3: METHODOLOGY

3.1 Research design

A cross sectional descriptive study was carried out to determine the prevalence of a select population’s utilization of UBA services and to provide associations to the utilization at that point in time.

3.2 Variables

3.2.1 Independent variables

Women’s characteristics: age, marital status, number of children, education level, economic status and distance from nearest health facility.

TBA characteristics: Age, source of skills and years of experience.

Also studied qualitatively was cultural influence to UBA utilization.

3.2.2 Dependent variables

The dependent variable here was the utilization of UBA services.

3.3 Study Area

The study was carried out in Mbirikani division of Loitoktok district, which lies to the south of Kajiado County, Kenya. Mbirikani division was divided into four sub-locations and had a total population of 11,569 people, mainly Maasai. The county in the Kenyan map is in the appendices.
3.4 Target Population

The study focused on women of reproductive age, 15 to 49yrs, who were 23.8% of the total population in the division (2,753) (RoK, 2008).

3.5 Sampling technique

3.5.1 Area

The area was purposively sampled. Having worked in the area and noted active participation of unskilled birth attendants in RH activities, where they delivered women at home and escorted some to hospital. This was supported by low skilled birth attendant rates in the region (30.7%) compared to 43.7% nationally (RoK, 2008 and KNBS & ICF Macro 2010)

3.5.2 Study subjects

Women, TBAs and key informants were sampled as follows:

3.5.2.1 Women

Cluster random sampling was used with 4 geographical clusters, along sub-location boundaries. From the clusters, households were selected by simple random sampling and by the same method a woman was selected from the household. The population ratio of the four sub-locations was 3:3:3:1. This ratio was used to get subjects evenly so that to get the 328 participants, 100 women were selected from Imbirikani, Karei and Oltiasika while 28 were from Emukutan. This technique was so as to get subjects of varied characteristics in order to strengthen the study associations e.g. distance to nearest health facility and income levels. The following selection criteria were used:
Inclusion criteria

- Women aged between 15 to 49 years old (reproductive age bracket).
- Women who had given birth or were pregnant.
- Women who had lived in Mbirikani division for at least 9 months.

Exclusion Criteria

- Subjects who do not or unable to consent such as those of unsound mind.
- Subjects not willing to respond unconditionally

3.5.2.2 TBAs

TBAs were selected by purposive sampling where known (by registration) TBAs were selected. TBAs were necessary so as to provide in depth knowledge in the UBA services and current activities.

Inclusion criteria

- Registered with the government of Kenya
- Having lived in Mbirikani Division for at least 5 years
- Willing to stay in the division for at least 28 days period during study time

Exclusion Criteria

- Subjects who do not or unable to consent such as those of unsound mind.
- Subjects not willing to respond unconditionally
3.5.2.3 Key informants

The key informants were purposively sampled; they had to be conversant with RH related cultural practices of the community. This was guided by qualitative sampling principles described by Marshall (1996) that, “Qualitative researchers recognize that some informants are 'richer' than others and that these people are more likely to provide insight and understanding for the researcher.” An opinion leader (man), was a clan leader and also managed a level two hospital, an elderly woman was a well respected person with insight in the Maasai culture and a 28 year old woman was a youth leader with more understanding of youth behavior.

Inclusion Criteria

- From the majority tribe; Maasai.
- Having resided in study area for at least 20 years
- Conversant with RH practices of the community

Exclusion criteria

- Subject not willing to respond unconditionally.

3.5.3 Sample sizes

To calculate women’s sample size, the Cochran (1963) formula was used because the study was interested in an attribute of the population (% of births attended to by unskilled attendants) whose probability was known.

A precision level of 0.05 was desired.

\[ n = n_0 + \frac{n_0-1}{z^2pq} \]

Where: \( n_0 = z^2pq \)
**N** \( = \) Target population size (2,753)  
\( z = 1.96 \) (two tailed z score at 0.05 significance level)  
\( p \) = probability of births attended to by skilled professionals (0.307)  
\( q \) = probability of births not attended to by skilled professionals (0.693)  
\( d^2 \) = precision level of 0.05

\[
n_0 = \frac{1.96^2 \times 0.307 \times 0.693}{0.05^2} = 326.9
\]

\[
n = \frac{326.9}{1 + (326.9 - 1)/2753} = 327.02 \text{ rounded up to 328.}
\]

Marshall (1996) noted that, “An appropriate sample size for a qualitative study is one that adequately answers the research question.” By this principal, TBAs’ and key informants’ sample sizes were determined. All TBAs in the study area who fit the criteria, 15, were sampled.

Three key informants were selected; each from a category of interest mentioned under the key informants’ sampling technique.

**3.6 Research instruments**

**3.6.1 Primary Data**

Four instruments were used. An interviewer administered questionnaire was used to collect women’s data on their demographics, factors affecting utilization of RH services and there awareness and acceptance of the designated roles of TBAs. A second interviewer administered questionnaire was used to collect data from TBAs on their age, years of experience, source of skills and the services they offered as well as their awareness and acceptability of the 2007 RH policy on TBAs. An activity register was designed in which the RH activity log (RH services provided) of each of the 15 TBAs
was recorded over a period of four weeks. Each TBA was visited daily and assisted to log in the activities of the previous day. This helped authenticate services provided by TBAs and calculate their current workload. There was an interview guide for the key informants which gave data on the community’s practices in RH.

3.6.2 Secondary data

The 2007 RH policy document, district hospital data, national documents, publications, journals, books, reports and the internet sources were used in reviewing literature.

3.7 Validity and reliability

3.7.1 Validity

Research methods and tools developed in consultation with experts who had a command in quantitative and qualitative research methods, hence study methodology designed to address the objectives adequately. Properly selected and trained assistants secured confidence in the data collection process while regular checking, correction and completion of responses ensured that what was reported was solely based on study findings.

3.7.2 Reliability

Research methods and tools developed in consultation with experts again assured reliability of the study. A pre-test study was instrumental in final fine tuning of tools; editing questions and harmonizing language especially since translation was used widely.

3.8 Data collection techniques

Questionnaires were administered to women and TBAs while the key informants were interviewed. This enabled clarification of responses and overcame illiteracy barriers as
questions were translated to those who didn’t understand English. Activity registers were used to document TBAs’ RH activity over four weeks (28 days).

3.9 Data Analysis, presentation and interpretation

Data collected was edited, coded and counted, categorized and tabulated as appropriate. SPSS and Excel spreadsheets were used to analyze and present the data respectively. Data was analyzed by descriptive statistics (frequencies and cross tabulations).

Inferential statistics; chi square, t test, F test, odds ratios with 95% confidence intervals, correlation and regression statistics were used to provide objective interpretations of data. Chi square test was used to determine if independent variables had a significant association to the utilization of UBA services and to determine the significance in the difference of means between groups e.g. between UBA with significant levels placed at P value ≤ 0.05. T test was used to analyze TBA data with N being 15, F test was used to compare TBAs’ source of skills to utilization of their services by women. Correlation and regression statistics interpreted relationships between continuous variables. Odds ratios and confidence intervals compared utilization of services between categories of groups. Multivariate regression was further used to control for confounders to the utilization, hence model the best fitting factors. Linear regression was applied to continuous data to determine strength and nature of correlation of TBA factors to the utilization of TBA services where applicable.

Qualitative data analysis was employed to provide in depth knowledge by inferring directly to interviews held. Information generated was presented in prose, tables, charts and graphs.
3.10 Ethical considerations

Approval to carry out the research was obtained from the Graduate school and the National Council of science and Technology. The local administration was informed, approval sought and gotten.

Informed consent was sought from each participant. Those who could read Swahili or English read, sought clarifications where necessary and participated after signing. Those who could not read were assisted by persons of their choice. The guardians of participants as well as participants themselves aged below 18years gave consent. Confidentiality was assured throughout the process. No names were required and so no responses could be traced to individuals but also data collected was not discussed in reference to individuals. No participant was forced to answer questions they did not wish to answer.

Data reported was as collected and conclusions based on study findings only.
CHAPTER 4: RESULTS

This chapter presents results of the study and a discussion of the findings.

4.1 Socio-demographic characteristics of study participants

Below are the characteristics of study participants.

4.1.1 Women

Table 4.1 below represents the socio-demographic characteristics of the 328 women who participated in the study.

Table 4.1: Women’s Socio-demographic characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Group</th>
<th>Number of respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (yrs)</td>
<td>15-24</td>
<td>70</td>
<td>21.3%</td>
</tr>
<tr>
<td></td>
<td>25-34</td>
<td>137</td>
<td>41.8%</td>
</tr>
<tr>
<td></td>
<td>35-49</td>
<td>121</td>
<td>36.9%</td>
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<tr>
<td>Education</td>
<td>None</td>
<td>194</td>
<td>59%</td>
</tr>
<tr>
<td></td>
<td>Primary</td>
<td>92</td>
<td>28%</td>
</tr>
<tr>
<td></td>
<td>Post primary</td>
<td>42</td>
<td>13%</td>
</tr>
<tr>
<td>Marital Status</td>
<td>Married</td>
<td>262</td>
<td>79.9%</td>
</tr>
<tr>
<td></td>
<td>Widowed</td>
<td>46</td>
<td>14%</td>
</tr>
<tr>
<td></td>
<td>Single</td>
<td>20</td>
<td>6.1%</td>
</tr>
<tr>
<td>Distance (min) to</td>
<td>≤ 30</td>
<td>180</td>
<td>54.9%</td>
</tr>
<tr>
<td>nearest H/F</td>
<td>31-60</td>
<td>65</td>
<td>19.8%</td>
</tr>
<tr>
<td></td>
<td>&gt;60</td>
<td>83</td>
<td>25.3%</td>
</tr>
<tr>
<td>No of Children</td>
<td>≤ 3</td>
<td>148</td>
<td>45.1%</td>
</tr>
<tr>
<td></td>
<td>4 to 6</td>
<td>143</td>
<td>43.6%</td>
</tr>
<tr>
<td></td>
<td>&gt;6</td>
<td>37</td>
<td>11.3%</td>
</tr>
<tr>
<td>Level of Income</td>
<td>Low</td>
<td>235</td>
<td>71.6%</td>
</tr>
<tr>
<td></td>
<td>Medium</td>
<td>80</td>
<td>24.4%</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>13</td>
<td>4.0%</td>
</tr>
</tbody>
</table>
Women aged 15 to 49 years were interviewed. Most respondents, 41.8%, were 25 to 34 years old.

Most women, 59%, had no formal education at all and only 13% had post primary education. This literacy level is very low compared to the national level as documented in the 2008-2009 KDHS where only 10.8% of females aged 15 to 49 years have no education (KNBS and ICF Macro, 2010).

Time to walk to the nearest health facility (irrespective of level) was used so as to get accurate and standardized measure of distance since many women were poor at approximating distance in kilometers. The majority of the respondents, 54.9%, lived within 30 minutes walk to a health facility while more than 25% of the respondents had to walk for more than one hour to reach the nearest facility. A few reported up to 3hrs to walk to a dispensary and up to 5hrs to a level 3 hospital.

The respondents had at least one child and at most 10. Mean and mode of the number of children per woman were 4.

The monthly income estimate and the number of animals owned were recorded. The level of income was classified into three; low (<ksh5000 ± <10 animals), medium (Ksh 5000 to 10000 + ≤10 animals) and high (>Ksh. 10001 + >10 animals). The number of animals was still used because it was a more standard measure of wealth among the Maasai (Republic of Kenya, 2008). Many women, 71.6%, were housewives. The 24.4% in medium income category ran small businesses or reported to be receiving an allowance from their relatives. A few women, 4% had a monthly income of more than Ksh10000 and had more than 10 animals. The 2008-2012 Loitoktok district plan categorizes 67% of
the population as being poor but in this case, even more women are poor (Republic of Kenya, 2008).

Most of the respondents, 79.9% were married.

4.1.2 TBAs

Here is a tabulation of TBAs’ demographic characteristics. TBAs were also asked about their education level and none of the TBAs had any formal education. Of note also, is the fact that 33.3% of the TBA respondents practiced FGM as well.

Table 4.2: TBAs’ Socio-demographic characteristics

<table>
<thead>
<tr>
<th>Factor</th>
<th>Group</th>
<th>No. of TBAs (%)</th>
<th>median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience (yrs)</td>
<td>≤ 20</td>
<td>8 (53%)</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>&gt; 20</td>
<td>7 (47%)</td>
<td></td>
</tr>
<tr>
<td>Age (yrs)</td>
<td>&lt; 60</td>
<td>7 (47%)</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>≥ 60</td>
<td>8 (53%)</td>
<td></td>
</tr>
<tr>
<td>Source of Skills</td>
<td>Seminars</td>
<td>8 (53%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Apprenticeship</td>
<td>4 (27%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inborn</td>
<td>3 (20%)</td>
<td></td>
</tr>
<tr>
<td>Other occupation</td>
<td>Agriculture</td>
<td>2 (13.3%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Business</td>
<td>3 (20%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FGM</td>
<td>5 (33.3%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>H/Wife</td>
<td>5 (33.3%)</td>
<td></td>
</tr>
</tbody>
</table>

4.2 Services offered by TBAs

The 15 TBAs saw a total of 453 clients in 28 days; hence their workload ratio per day is 1:1:1. TBAs were offering a wide range of RH services to their clients, ANC, delivery,
PNC and FP. In the study period, TBAs offered ANC services to most clients. Figure 4.3 shows number of clients seen per category of service. A description of the services is provided under each service category in the subsections that follow.

![Graph showing number of clients seen per category of service](image.png)

*Figure 4.2: No of clients seen by TBAs per category of service*

### 4.2.1 ANC Services offered by TBAs

The TBAs offered ANC services to 165 clients distributed as shown in Table 4.3 below.

*Table 4.3: Antenatal Services offered by TBAs*

<table>
<thead>
<tr>
<th>Service</th>
<th>No of clients</th>
<th>% of total (165)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical therapies</td>
<td>67</td>
<td>41%</td>
</tr>
<tr>
<td>Use of Herbal and Traditional Medicine</td>
<td>33</td>
<td>20%</td>
</tr>
<tr>
<td>Nutrition guidance</td>
<td>21</td>
<td>13%</td>
</tr>
<tr>
<td>Psychological support</td>
<td>18</td>
<td>11%</td>
</tr>
<tr>
<td>Advice on delivery preparedness</td>
<td>16</td>
<td>10%</td>
</tr>
<tr>
<td>Referral</td>
<td>15</td>
<td>9%</td>
</tr>
</tbody>
</table>

*8 women (5%) received more than one services on each visit hence total % of 105%*

Some women received more than one service on each visit. Most women, 67 (41.1%), received physical therapies during ANC. These included massage, fetus palpation, external rotation of the fetus and application of warm packs. Leaves and roots made the herbs while traditional medicine was composed of animal fats or other animal products.
mixed with herbs. The elderly key informant explained the uses of herbs and traditional medicines. "During the ANC period are used to massage the feet and abdomen of the woman, to aid in abdominal palpation and to treat the woman when she has problems like fever and vaginal discharge. They are also used to reduce a woman’s appetite and induce vomiting. Soups mixed with special herbs are also used to make a woman urinate a lot when they develop swelling of the face and feet.'

Nutrition guidance included choice and amount of food to be eaten. They limited the mothers to 1 meal per day and eliminated foods such as fatty foods and meats after 6th month of gestation. The nutritional instructions were said to be culturally influenced. The male key informant said, ‘According to our (Maasai) culture, 6-7 months after conception, a woman is not allowed to eat certain foods. She is not to eat fat (including meat) and milk. She is allowed only one meal per day.’ Asked why this was so, he said, ‘To retard the growth of the baby so that they are small to ensure easy delivery.’ ‘In many cases,’ he explained further, ‘They are sent away from home to herd goats and sheep so that they avoid temptation to eat. For those found to have eaten more meals or the forbidden foods, some herbs are given to induce vomiting.’ The younger informant said, ‘At 3 to 4 months, they are allowed to eat anything they want except milk and after the 6th month, they are allowed to eat thick porridge only.’

Psychological support entailed encouraging the mothers and reassuring them when they presented with minor discomforts of pregnancy such as nausea. Delivery preparedness included planning with the mother on what to have ready for delivery such as baby clothes. It was up to the TBAs to prepare the instruments to be used such as razor blades and threads to tie the cords. The number of women referred to SBAs during ANC was
only 9.2% (15). Of the women who were referred to the hospital (66.7%) were said to have had ‘serious’ problems such as antepartum hemorrhage, loss of fetal movements or the mother being too sick (being very hot or fainting). TBAs reported attempts to institute home therapies such as herbs and palpation and referred only when these did not work. Other women (33.3%) were sent to the hospital to be tested or to have the baby checked.

4.2.2 Delivery Services offered by TBAs

A total of 160 women were seen and offered delivery services by TBAs in the 28 days of study. Some women received more than one service during a visit. Majority of the women, 65.6% (105) were assisted to deliver. There were 2 stillbirths and 1 premature infant died within minutes of delivery.

Table 4.4: Delivery Services offered by TBAs

<table>
<thead>
<tr>
<th>Services</th>
<th>No of clients</th>
<th>% of total (160)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivery assistance</td>
<td>105</td>
<td>65.6%</td>
</tr>
<tr>
<td>Referral</td>
<td>57</td>
<td>35.6%</td>
</tr>
<tr>
<td>Use of Herbal and Traditional Medicine</td>
<td>49</td>
<td>30.6%</td>
</tr>
<tr>
<td>Physical therapies</td>
<td>21</td>
<td>13.1%</td>
</tr>
</tbody>
</table>

*72 women (45%) received more than one services on each visit hence total % of 145%

Herbs (and traditional medicines such as goat fat) and physical therapies (massage, palpation, external rotation of the fetus and application of warm packs) were used to ease complications such as bleeding, prolonged or obstructed labor. They were also used to reduce pain during delivery and to augment labor for women who whose labor was deemed not strong enough. The male informant elaborated on this by saying, ‘Women are given goat fat, taken orally, to make the baby slippery so as to hasten delivery’. On difficult labor, the younger informant said, ‘A thick handle of a traditional knife or bottle
is pushed down a woman's throat to induce vomiting so that the retching gives her power to push the baby.' The younger female informant also stated that, 'It is common practice for relatives or TBAs to put ash and/or saliva on the raw cord to aid healing.'

Complications experienced during deliveries were the main reasons for referral such as prolonged bleeding following delivery. TBAs also reported experiencing problems of prolonged and obstructed labor. Some TBAs would keep the women and try to manage them while others would refer to the hospital. 'Many women fear that they will be send for operations and will end up losing their babies and so do not want to be referred to the hospitals,' said the older female informant. Massage and external cephalic version and herbs were some of the remedies used. More women were referred, 35.6% (57) than during the ANC period.

4.2.3 Postnatal services offered by TBAs

TBAs collectively saw 114 women seeking postnatal services. Table 4.5 below shows how the services were utilized. Nutrition guidance for mother and baby was provided to about 33% of the clients. During this period, mothers were encouraged to eat plenty of most foods and to breastfeed. Home care services were offered to mothers who had delivered including maintaining hygiene and care of the newborn.

Table 4.5: Postnatal Services offered by TBAs

<table>
<thead>
<tr>
<th>Services offered</th>
<th>No of clients</th>
<th>% of total (114)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition guidance</td>
<td>38</td>
<td>33.3%</td>
</tr>
<tr>
<td>Total Home Care</td>
<td>37</td>
<td>32.5%</td>
</tr>
<tr>
<td>Counseling</td>
<td>22</td>
<td>19.3%</td>
</tr>
<tr>
<td>Referral</td>
<td>14</td>
<td>12.3%</td>
</tr>
<tr>
<td>Use of Herbal and Traditional Medicine</td>
<td>3</td>
<td>2.6%</td>
</tr>
</tbody>
</table>
Postnatal mothers were counselled on hygiene, exercise and rest. Use of herbs and traditional medicine was minimal, being offered to under 3% of clients.

4.2.4 Family Planning services offered by TBAs

Only 3% of the women sought FP services from TBAs. Advice on natural FP (timing of conjugal visits) was given to 35.7% and referral to the hospital to 64.3% of them. This low number confers with the fact that most women (98%) sought FP services from SBAs, a fact supported by all the key informants.

4.3 Utilization of Unskilled birth attendants’ services

Women were asked whose services they utilized in the latest reproductive health care after the year 2007. Statistics in table 4.6 below show utilization of unskilled attendants at that 49% ANC, 68% delivery, 53% PNC and <3% FP. Some women utilized both skilled and unskilled services at 16% and 13% for ANC and PNC respectively. Among the UBAs, TBAs were utilized most during antenatal and delivery, while relatives were utilized more for postnatal care by 84 women (25.6%). Other UBAs; neighbors and selves also offered services to a few women.

*Table 4.6: Proportion of women utilizing unskilled and skilled attendants’ services*

<table>
<thead>
<tr>
<th>Service Category</th>
<th>Unskilled</th>
<th>Both</th>
<th>Skilled</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TBA</td>
<td>Relatives</td>
<td></td>
</tr>
<tr>
<td>Antenatal</td>
<td>95 (29%)</td>
<td>13 (4%)</td>
<td>54 (16%)</td>
</tr>
<tr>
<td>Delivery</td>
<td>194 (59%)</td>
<td>23 (7%)</td>
<td>(other) 6 (2%)</td>
</tr>
<tr>
<td>Postnatal</td>
<td>46 (14%)</td>
<td>84 (26%)</td>
<td>42 (13%)</td>
</tr>
<tr>
<td>F/Planning</td>
<td>0</td>
<td>(self) 3 (&lt;1%)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>160 (49%)</td>
</tr>
</tbody>
</table>
The key informants supported the fact that TBAs delivered more women than any other delivery service providers in the last few years. The older female explained, ‘*women still fear to deliver in the hospitals because they feel some exams (digital vaginal exams) are degrading yet always done at the hospitals, that in many cases, when one goes to the hospital, they are sent for operations (caesarean section) and that at home unlike in the hospital, there are no men at the delivery site.*’ The male informant added that some TBAs kept women at home even when they took too long, in an attempt to deliver the woman for payment. However, he said, ‘*Hospital deliveries are now increasing due to improved ambulance service (from the level 3 facility) getting women in labor from Mbirikani group ranch to the hospitals.*’ However, the younger informant said according to her, skilled attendance had reduced. She said, ‘*other than the digital vaginal exams, many women complain and fear having metals inserted into them, hence prefer to deliver at home.*’

Relatives provided most of the unskilled postnatal services at 26% of total. This was supported by all the key informants’ recount that PNC services were mainly being provided by mother in-laws or other older female relatives and that TBAs only cared for PNC women for 3-4 days then handed over the care to the relatives. Some women, 13%, reported visiting both skilled and unskilled providers on different occasions. The male informant provided more information on this utilization by saying, ‘*women who go to the skilled attendants within a month of delivery most likely go to seek treatment for prolonged bleeding, hotness of the body and breast infections while most of those who visit later mainly take their babies for weighing and immunization.*’
A total of 163 (49.7%) women reported to have used a form of FP. All the women who reported using unskilled FP services (3) used condoms purchased over the counter while the rest, 98% utilized skilled FP services. The key informant reported that SBAs provided FP services more than the UBAs. To support the low utilization of UBA family planning services, the male informant explained: “women seeking family planning services are considered by the community to be promiscuous and so they shy away from seeking the service especially from people known to them like TBAs.”

4.4. Factors affecting the Utilization of Unskilled Birth Attendants’ Services

The analysis of the association of six women factors; age, education level, marital status, distance to the nearest health facility, number of children and level of income and three TBA factors; age, years of experience and source of skills to the utilization of unskilled birth attendants’ services at least once, for antenatal, delivery and postnatal is done, results presented under each category.

4.4.1 Factors affecting utilization at least once

The study documented that 276 (84.1%) women had utilized the services of UBA at least once after 2007 while 52 (15.9%) had not utilized the services at all. A woman’s education, distance to the nearest health facility, number of children and age were found to be significantly associated to UBA utilization at least once at p values of <0.001, 0.007, 0.014 and 0.048 respectively. The associations were linear.

Women with no formal education were 10.46 times more likely to utilize UBA services at least once than those with post primary education (95% C.I 4.55-23.96). The likelihood of utilizing UBA services at least once was also higher among women who lived more than 1 hour from a health facility, those with more than six children and among women
aged 35-49 years, compared to their group counterparts with odds of 4.21, 3.25 and 2.69 respectively. Level of income and marital status were not found to be significant, p> 0.05. The table below shows how women factors were associated to UBA utilization.

Table 4.7: Women factors Vs Utilization of UBA Services at least once
N=328

<table>
<thead>
<tr>
<th>Factor</th>
<th>Group</th>
<th>Yes n=276</th>
<th>No n= 52</th>
<th>O.R.</th>
<th>95% CI for OR</th>
<th>χ2 (df)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>None</td>
<td>181</td>
<td>13</td>
<td>10.46</td>
<td>4.55-23.96</td>
<td>38.492</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Primary</td>
<td>71</td>
<td>21</td>
<td>2.54</td>
<td>1.95-8.66</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Postprim.</td>
<td>24</td>
<td>18</td>
<td>Ref</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distance (min)</td>
<td>≤ 30</td>
<td>142</td>
<td>38</td>
<td>Ref</td>
<td></td>
<td>9.937</td>
<td>2</td>
</tr>
<tr>
<td>to nearest h/f</td>
<td>31-60</td>
<td>56</td>
<td>9</td>
<td>1.68</td>
<td>0.79-7.88</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;60</td>
<td>78</td>
<td>5</td>
<td>4.21</td>
<td>1.58-11.04</td>
<td>P&lt; 0.001</td>
<td></td>
</tr>
<tr>
<td>No of Children</td>
<td>≤3</td>
<td>115</td>
<td>33</td>
<td>Ref</td>
<td></td>
<td>8.603</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>4 to 6</td>
<td>127</td>
<td>16</td>
<td>2.28</td>
<td>0.39-5.16</td>
<td>p=0.014</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;6</td>
<td>34</td>
<td>3</td>
<td>3.25</td>
<td>0.94-11.26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (yrs)</td>
<td>15-24</td>
<td>54</td>
<td>16</td>
<td>Ref</td>
<td></td>
<td>6.055</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>25-34</td>
<td>113</td>
<td>24</td>
<td>1.39</td>
<td>0.92-4.04</td>
<td>p=0.048</td>
<td></td>
</tr>
<tr>
<td></td>
<td>35-49</td>
<td>109</td>
<td>12</td>
<td>2.69</td>
<td>1.19-6.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level of Income</td>
<td>Low</td>
<td>192</td>
<td>43</td>
<td>1.23</td>
<td>0.26-5.76</td>
<td>4.526</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Medium</td>
<td>73</td>
<td>7</td>
<td>0.527</td>
<td>0.1-2.87</td>
<td>0.104</td>
<td></td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>11</td>
<td>2</td>
<td>Ref</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital status</td>
<td>Married</td>
<td>220</td>
<td>42</td>
<td>0.76</td>
<td>0.24-2.4</td>
<td>0.535</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Widowed</td>
<td>40</td>
<td>6</td>
<td>0.60</td>
<td>0.15-2.41</td>
<td>p= 0.765</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Single</td>
<td>16</td>
<td>4</td>
<td>Ref</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

When the women factors were controlled for confounders, education level and distance to the health facility remained significant as shown in table 4.8 below. The model provided a prediction of 25.5%.
Table 4.8: Logistic regression model for Utilization of UBA services at least once

LR $\chi^2$ (df 5) = 41.198, p value <0.001
Log likelihood = -122.81, Pseudo $R^2 = 0.255$

N=328

<table>
<thead>
<tr>
<th></th>
<th>O.R.</th>
<th>Z</th>
<th>95% CI for OR</th>
<th>Std Err</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>3.041</td>
<td>5.334</td>
<td>2.021 – 4.577</td>
<td>0.209</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Distance</td>
<td>0.571</td>
<td>2.40</td>
<td>0.362 – 0.902</td>
<td>0.233</td>
<td>0.016</td>
</tr>
<tr>
<td>Income</td>
<td>0.610</td>
<td>1.49</td>
<td>0.318 – 1.167</td>
<td>0.331</td>
<td>0.135</td>
</tr>
<tr>
<td>Marital Status</td>
<td>0.752</td>
<td>1.008</td>
<td>0.432 – 1.309</td>
<td>0.283</td>
<td>0.313</td>
</tr>
<tr>
<td>Age</td>
<td>0.871</td>
<td>0.606</td>
<td>0.557 – 1.362</td>
<td>0.228</td>
<td>0.544</td>
</tr>
<tr>
<td>No of children</td>
<td>1.087</td>
<td>0.225</td>
<td>0.527 – 2.241</td>
<td>0.369</td>
<td>0.821</td>
</tr>
</tbody>
</table>

4.4.2 Factors affecting utilization of Antenatal services

Women factors’ effect on the Utilization of ANC Services

The statistics of how women utilized ANC services by characteristics is displayed in Table 4.9. For the purpose of further analysis in this study, women who utilized both UBA and SBA were recorded under UBA only since that is the interest here. Therefore, 162 and 166 women utilized UBA and SBA services respectively. The secondary and tertiary levels have been collapsed to a new group, post primary (postprim) for analysis since the tertiary group had less than 5 frequencies.

Utilization of UBA services during ANC was more among women aged 35-49yrs (60%), those with no formal education (57%), widowed (72%), lived less than 30min from the health facility (57%), had 4-6 or more than 6 children (55% and 62% respectively) and had medium or high income utilized (56% and 62% respectively).
Table 4.9: Women factors Vs Antenatal Services’ Utilization

N=328

<table>
<thead>
<tr>
<th>Factor</th>
<th>Group</th>
<th>UBA n=162</th>
<th>SBA n=166</th>
<th>O.R.</th>
<th>95% CI for OR</th>
<th>χ² (df)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (yrs)</td>
<td>15-24</td>
<td>22</td>
<td>48</td>
<td>Ref</td>
<td></td>
<td>14.482 (2)</td>
<td>p=0.001</td>
</tr>
<tr>
<td></td>
<td>25-34</td>
<td>67</td>
<td>70</td>
<td>2.08</td>
<td>1.78-6.18</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>35-49</td>
<td>73</td>
<td>48</td>
<td>3.32</td>
<td>1.14-3.82</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>None</td>
<td>111</td>
<td>83</td>
<td>Ref</td>
<td></td>
<td>12.872 (2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Primary</td>
<td>38</td>
<td>54</td>
<td>0.52</td>
<td>0.31-0.87</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Postprim.</td>
<td>13</td>
<td>29</td>
<td>0.33</td>
<td>0.16-0.68</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td>Married</td>
<td>120</td>
<td>142</td>
<td>Ref</td>
<td></td>
<td>10.696 (2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Widowed</td>
<td>33</td>
<td>13</td>
<td>3.00</td>
<td>1.51-5.96</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Single</td>
<td>9</td>
<td>11</td>
<td>0.96</td>
<td>0.38-2.41</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distance (min)</td>
<td>≤30</td>
<td>102</td>
<td>78</td>
<td>Ref</td>
<td></td>
<td>10.528 (2)</td>
<td></td>
</tr>
<tr>
<td>to nearest H/F</td>
<td>31-60</td>
<td>22</td>
<td>43</td>
<td>0.39</td>
<td>0.21-0.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;60</td>
<td>38</td>
<td>45</td>
<td>0.64</td>
<td>0.38-1.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No of Children</td>
<td>≤3</td>
<td>60</td>
<td>88</td>
<td>Ref</td>
<td></td>
<td>9.012 (2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 to 6</td>
<td>79</td>
<td>64</td>
<td>1.81</td>
<td>1.13-2.88</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;6</td>
<td>23</td>
<td>14</td>
<td>2.41</td>
<td>1.14-5.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level of Income</td>
<td>Low</td>
<td>109</td>
<td>126</td>
<td>Ref</td>
<td></td>
<td>3.124 (2)</td>
<td>p=0.21</td>
</tr>
<tr>
<td></td>
<td>Medium</td>
<td>45</td>
<td>35</td>
<td>1.48</td>
<td>0.89-2.47</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>8</td>
<td>5</td>
<td>1.84</td>
<td>0.58-5.82</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A woman’s age, level of education, marital status, distance to the nearest health facility and number of children were found to be significantly associated to utilization of unskilled birth attendants’ services during the antenatal period with p values at 0.001, 0.002, 0.005, 0.005 and 0.011 respectively. For these five factors, the null hypothesis is rejected but accepted for level of income as there was no significant association to utilization of ANC services, p value of 0.21.
The likelihood of women utilizing unskilled services during ANC increased with increase in age and number of children, odds for 25-34yrs 2.08 (95% CI 1.78-6.18) and for 35-49yrs 3.31 (95% CI 1.14-3.82) and odds for number of children 4 -6 children 1.81 (95% CI 1.13-2.88) and >6 at 2.41 (95% CI 1.14-5.05). As the women’s education advanced, the likelihood of utilizing unskilled services during the ANC reduced, OR 0.52 (95% CI 0.31-0.87) for primary and 0.33 (95% CI 0.16-0.68) for women more education.

Widowed women were 3 times more likely to utilize unskilled services than the married (odds 3, 95% CI 1.52-5.9), while the single were least likely to utilize UBA services during ANC. This is explained in part by the younger informant’s statement, ‘Single women with unwanted pregnancy hide the pregnancy from the community members and so go to seek care in the hospitals instead of from TBAs.’ Women who lived 30-60 min and those who lived 1hr to a health facility were 0.39 and 0.6 times more likely to utilize unskilled services more than those who lived within 30 min to the health facility.

Table 4.10 below presents the model achieved after multivariate logistic regression.

According to this model, education, distance, age, income and marital status remained significantly associated to utilization of unskilled ANC services p < 0.05, when all confounders were considered. Young women (15-24yrs), those with low income, those who lived 30min to the health facility, those married and those with no education were 0.6, 0.6, 1.5, 0.6 and 1.8 times respectively more likely to utilize unskilled birth attendants’ services more than their counterparts when confounders were considered. 8.4% of variation in utilization of ANC services can be predicted from this model, which was extremely significant at p value = <0.001. (LR χ² = 38.430, pseudo R² =0.084).
Table 4.10: Logistic regression model for Utilization of ANC services

<table>
<thead>
<tr>
<th>Factor</th>
<th>Odds Ratio</th>
<th>Z score</th>
<th>95% CI for OR</th>
<th>Std Err</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>1.752</td>
<td>3.04</td>
<td>1.221 – 2.514</td>
<td>0.184</td>
<td>0.002</td>
</tr>
<tr>
<td>Distance</td>
<td>1.528</td>
<td>2.96</td>
<td>1.154 – 2.022</td>
<td>0.143</td>
<td>0.003</td>
</tr>
<tr>
<td>Age</td>
<td>0.613</td>
<td>2.87</td>
<td>0.439 – 0.855</td>
<td>0.170</td>
<td>0.004</td>
</tr>
<tr>
<td>Income</td>
<td>0.612</td>
<td>2.20</td>
<td>0.395 – 0.948</td>
<td>0.223</td>
<td>0.028</td>
</tr>
<tr>
<td>Marital Status</td>
<td>0.631</td>
<td>2.14</td>
<td>0.414 – 0.962</td>
<td>0.215</td>
<td>0.032</td>
</tr>
<tr>
<td>No. of children</td>
<td>1.047</td>
<td>0.184</td>
<td>0.647 – 1.694</td>
<td>0.246</td>
<td>0.853</td>
</tr>
</tbody>
</table>

TBA factors’ effect on the Utilization of ANC Services

A comparison was made between the number of ANC clients seen by TBAs from a category of a factor and those seen by TBAs from another category of the same factor. There was no significant difference in the mean number of ANC clients seen across all TBA factors, p values > 0.05; the null hypothesis is accepted that TBA factors were not significantly associated with utilization of TBA services during ANC.

Table 4.11: TBA factors Vs Utilization of ANC services

<table>
<thead>
<tr>
<th>Factor</th>
<th>Group</th>
<th>No of clients seen</th>
<th>Mean clients per group</th>
<th>statistic/ Value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source of Skills</td>
<td>Seminars</td>
<td>84</td>
<td>10.5</td>
<td>F test (df 2,14)</td>
<td>0.194</td>
</tr>
<tr>
<td></td>
<td>Apprenticeship</td>
<td>41</td>
<td>10.25</td>
<td>1.888</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inborn</td>
<td>40</td>
<td>13.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (yrs)</td>
<td>&lt; 70</td>
<td>115</td>
<td>11.5</td>
<td>t test (df 13)</td>
<td>0.285</td>
</tr>
<tr>
<td></td>
<td>≥ 70</td>
<td>50</td>
<td>10</td>
<td>1.114</td>
<td></td>
</tr>
<tr>
<td>Experience (yrs)</td>
<td>≤ 20</td>
<td>86</td>
<td>10.75</td>
<td>t test (df 13)</td>
<td>0.692</td>
</tr>
<tr>
<td></td>
<td>&gt; 20</td>
<td>79</td>
<td>11.29</td>
<td>0.409</td>
<td></td>
</tr>
</tbody>
</table>
4.4.3 Factors affecting utilization of delivery services

Women factors’ effect on the utilization of delivery Services

Table 4.12 below displays statistics of women’s utilization of RH services during delivery.

*Table 4.12: Women factors Vs delivery services’ utilization*

<table>
<thead>
<tr>
<th>Factor</th>
<th>Group</th>
<th>UBA n=223</th>
<th>SBA n=105</th>
<th>O.R.</th>
<th>95% CI for OR</th>
<th>χ² (df)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>None</td>
<td>156</td>
<td>38</td>
<td>8.21</td>
<td>3.94-17.08</td>
<td>41.489(2)</td>
<td>p= &lt;0.001</td>
</tr>
<tr>
<td></td>
<td>Primary</td>
<td>53</td>
<td>39</td>
<td>2.71</td>
<td>2.71 -5.83</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Postprim.</td>
<td>14</td>
<td>28</td>
<td>Ref</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (yrs)</td>
<td>15 -24</td>
<td>46</td>
<td>24</td>
<td>Ref</td>
<td></td>
<td>9.075 (2)</td>
<td>p= 0.011</td>
</tr>
<tr>
<td></td>
<td>25-34</td>
<td>83</td>
<td>54</td>
<td>0.8</td>
<td>0.44-1.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>35-49</td>
<td>94</td>
<td>27</td>
<td>1.81</td>
<td>0.94-3.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No of Children</td>
<td>≤3</td>
<td>90</td>
<td>58</td>
<td>Ref</td>
<td></td>
<td>7.479(2)</td>
<td>p= 0.024</td>
</tr>
<tr>
<td></td>
<td>4 to 6</td>
<td>103</td>
<td>40</td>
<td>1.66</td>
<td>1.01-2.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;6</td>
<td>30</td>
<td>7</td>
<td>2.76</td>
<td>1.13-6.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distance (min)</td>
<td>≤ 30</td>
<td>113</td>
<td>67</td>
<td>Ref</td>
<td></td>
<td>6.595(2)</td>
<td>p= 0.037</td>
</tr>
<tr>
<td>to nearest H/F</td>
<td>31-60</td>
<td>45</td>
<td>20</td>
<td>1.33</td>
<td>0.72-2.44</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;60</td>
<td>65</td>
<td>18</td>
<td>2.14</td>
<td>1.17-3.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td>Married</td>
<td>174</td>
<td>88</td>
<td>Ref</td>
<td></td>
<td>1.79(2)</td>
<td>p= 0.408</td>
</tr>
<tr>
<td></td>
<td>Widowed</td>
<td>35</td>
<td>11</td>
<td>1.62</td>
<td>0.78-3.32</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Single</td>
<td>14</td>
<td>6</td>
<td>1.18</td>
<td>0.43-3.17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level of Income</td>
<td>Low</td>
<td>160</td>
<td>75</td>
<td>Ref</td>
<td></td>
<td>1.344(2)</td>
<td>p= 0.511</td>
</tr>
<tr>
<td></td>
<td>Medium</td>
<td>56</td>
<td>24</td>
<td>1.09</td>
<td>0.63-1.89</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>7</td>
<td>6</td>
<td>0.55</td>
<td>0.17- 1.68</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A total of 223 (68%) women utilized UBA services while 105 (32%) utilized skilled services during delivery period. Women utilized UBA services more than SBA services during delivery across all factor classes (54 to 80%) except for women with post primary
education who utilized them at 33%. A woman’s level of education, age, number of children and distance to the nearest health facility were significantly associated to utilization of unskilled birth attendants’ services for delivery with p values at <0.001, 0.012, 0.024 and 0.037 respectively. For these four factors, the null hypothesis is rejected but accepted for marital status and level of income as there was no significant association to utilization of delivery services, p value of 0.408 and 0.511 respectively.

Women with no education and those with primary education were 8.2 and 2.7 times more likely to utilize UBA services for delivery than those with post primary education. The more children a woman had the more they were likely to utilize unskilled services for delivery, OR for 4 -6 children 1.66 (95% CI 1.01-2.71) and >6 at 2.76 (95% CI 1.11-6.7). Women who lived more than one hour from a health facility and those who lived 30min to 1 hr away were 2.14 and 1.33 times more likely to utilize unskilled services more than those who lived within 30min to a health facility respectively. The women’s leader added that, ‘Sometimes labor starts at night and because of the roaming wild animals like elephants, women have no option than to be delivered at home.’

Table 4.13 below presents the statistics showing that education and marital status were still significantly associated to utilization of UBA delivery services, effects of confounding factors; income, age, number of children and distance controlled, p values <0.001 and 0.027 respectively. Women with no education and those married were 3.2 (95% CI 2.222 – 4.565) and 0.6 (95% CI 0.361 – 0.941) times more likely to utilize UBA services more than their counterparts when the effects of all factors were considered. 11% of variation in utilization of delivery services can be predicted from this model.
Table 4.1: Logistic regression model for utilization of delivery services

\[ LR \chi^2 (df 2) = 45.569, \text{ p value } < 0.001 \]

Log likelihood = -182.795, Pseudo \( R^2 = 0.111 \)

\[ \text{N}=328 \]

<table>
<thead>
<tr>
<th>Factor</th>
<th>Odds Ratio</th>
<th>Z score</th>
<th>95% CI for OR</th>
<th>Std Err</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income</td>
<td>1.238</td>
<td>0.884</td>
<td>0.771 – 1.988</td>
<td>0.242</td>
<td>0.376</td>
</tr>
<tr>
<td>Age</td>
<td>1.092</td>
<td>0.388</td>
<td>0.699 – 1.707</td>
<td>0.228</td>
<td>0.698</td>
</tr>
<tr>
<td>No of children</td>
<td>0.943</td>
<td>0.216</td>
<td>0.556 – 1.601</td>
<td>0.270</td>
<td>0.828</td>
</tr>
<tr>
<td>Distance</td>
<td>0.739</td>
<td>1.871</td>
<td>0.538 – 1.014</td>
<td>0.162</td>
<td>0.061</td>
</tr>
<tr>
<td>Education</td>
<td>3.185</td>
<td>6.306</td>
<td>2.222 – 4.565</td>
<td>0.184</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Marital status</td>
<td>0.591</td>
<td>2.214</td>
<td>0.361 – 0.941</td>
<td>0.238</td>
<td>0.027</td>
</tr>
</tbody>
</table>

TBA factors’ effect on the Utilization of delivery Services

The number of delivery clients seen by TBAs from a category of a factor and those seen by TBAs from another category of the same factor was compared. Statistics generated are presented in table 4.14.

Table 4.14: TBA factors Vs utilization of delivery services

\[ \text{N}=15 \]

<table>
<thead>
<tr>
<th>Factor</th>
<th>Group</th>
<th>No of clients seen</th>
<th>Mean clients per group</th>
<th>statistic/ Value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience (yrs)</td>
<td>\leq 20</td>
<td>99</td>
<td>12.4</td>
<td>t test (df 13)</td>
<td>0.013</td>
</tr>
<tr>
<td></td>
<td>&gt; 20</td>
<td>61</td>
<td>8.7</td>
<td>2.864</td>
<td></td>
</tr>
<tr>
<td>Age (yrs)</td>
<td>&lt; 70</td>
<td>87</td>
<td>12.4</td>
<td>t test (df 13)</td>
<td>0.029</td>
</tr>
<tr>
<td></td>
<td>\geq 70</td>
<td>73</td>
<td>9.1</td>
<td>2.445</td>
<td></td>
</tr>
<tr>
<td>Source of Skills</td>
<td>Seminars</td>
<td>72</td>
<td>9</td>
<td>F test (df 2,14)</td>
<td>0.051</td>
</tr>
<tr>
<td></td>
<td>Apprenticeship</td>
<td>48</td>
<td>12</td>
<td>3.864</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inborn</td>
<td>40</td>
<td>13.3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This analysis showed that during the 28 days, TBAs with less than 20 years of experience and younger TBAs, <70 years old, saw significantly more clients, \( \text{p values 0.013 and 0.029} \) respectively. Although TBAs who had acquired their skills without any training...
saw more clients, this was not significant, p 0.051. Linear regression was applied on TBA factors that were significantly associated to utilization of TBA services. TBA’s experience correlated strongly and negatively with utilization of delivery services, R of -0.707 while age had a negative moderate correlation, R= -0.521. The less experience a TBA had and the younger she was, the more delivery clients she was likely to see. TBAs’ experience accounted for 49.9% of the variation in the number of clients being seen during delivery, while age accounted for 27.2% of the same; R² 0.499, F 12.968, p value 0.003 and R² 0.272, F 4.853, p value 0.046 respectively. Years of TBA experience was found to be significant when controlled for age, t test -2.477, p value 0.003 while age lost its significance t test -0.684 p value 0.507.

4.4.4 Factors affecting utilization of postnatal (PNC) services

Women factors’ effect on the utilization of postnatal Services

A summary of how women utilized postnatal services by characteristics is displayed in table 4.15 below. A total of 172 (52%) women utilized UBA postnatal services.

Women with no formal education utilized unskilled services more that skilled services during the postnatal period at 65% as did the married at 52%, widowed at 69%, those who lived more than 60min from the health facility at 67%, had 4-6 children at 64%, more than 6 children at 65%, had medium income at 77%, high income at 61%, those aged 25 to 34yrs at 53% and those aged 35-49yrs at 60%.

A woman’s level of education, income, number of children, distance to the nearest health facility and age were significantly associated to utilization of unskilled birth attendants’ services for PNC with p values at <0.001, <0.001, <0.001, 0.005 and 0.008 respectively.
Table 4.15: Women factors Vs postnatal services’ utilization

N=328

<table>
<thead>
<tr>
<th>Factor</th>
<th>UBA</th>
<th>SBA</th>
<th>O.R.</th>
<th>95% CI for OR</th>
<th>χ² (df)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>126</td>
<td>68</td>
<td>Ref</td>
<td></td>
<td>32.509  (2)</td>
<td>p &lt; 0.001</td>
</tr>
<tr>
<td>Primary</td>
<td>36</td>
<td>56</td>
<td>0.35</td>
<td>0.20-0.57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postprim.</td>
<td>10</td>
<td>32</td>
<td>0.16</td>
<td>0.07-0.36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level of Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>102</td>
<td>133</td>
<td>Ref</td>
<td></td>
<td>28.268  (2)</td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>62</td>
<td>18</td>
<td>4.48</td>
<td>2.50-8.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>8</td>
<td>5</td>
<td>2.07</td>
<td>0.66-6.56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No of Children</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤3</td>
<td>56</td>
<td>92</td>
<td>Ref</td>
<td></td>
<td>23.057  (2)</td>
<td></td>
</tr>
<tr>
<td>4 to 6</td>
<td>92</td>
<td>51</td>
<td>2.96</td>
<td>1.8-4.77</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;6</td>
<td>24</td>
<td>13</td>
<td>3.02</td>
<td>1.42-6.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distance (min) to nearest H/F</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤30</td>
<td>88</td>
<td>92</td>
<td>Ref</td>
<td></td>
<td>10.713  (2)</td>
<td>0.005</td>
</tr>
<tr>
<td>31-60</td>
<td>28</td>
<td>37</td>
<td>0.79</td>
<td>0.44-1.40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;60</td>
<td>56</td>
<td>27</td>
<td>2.16</td>
<td>1.21-3.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (yrs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-24</td>
<td>26</td>
<td>44</td>
<td>Ref</td>
<td></td>
<td>9.628   (2)</td>
<td>p = 0.008</td>
</tr>
<tr>
<td>25-34</td>
<td>73</td>
<td>64</td>
<td>1.93</td>
<td>1.07-3.48</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35-49</td>
<td>73</td>
<td>48</td>
<td>2.58</td>
<td>1.40-4.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>137</td>
<td>128</td>
<td>Ref</td>
<td></td>
<td>2.49    (2)</td>
<td>p = 0.288</td>
</tr>
<tr>
<td>Widowed</td>
<td>32</td>
<td>14</td>
<td>2.14</td>
<td>1.11-4.28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>6</td>
<td>14</td>
<td>0.4</td>
<td>0.15-1.09</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For these five factors, the null hypothesis is rejected but accepted for marital status as there was no significant association to utilization of PNC services, p value of 0.288.

Women with primary education and those with post primary education were 0.35 and 0.16 times likely to utilize UBA services during the PNC period as those with no education (95% CI 0.20-0.57 and 0.07-0.36 respectively). As the women had more children, there likelihood of utilizing unskilled PNC services increased, odds for 4 -6
children 2.96 (95% CI 1.8-4.77) and >6 at 3.02 (95% CI 1.42-6.43). The more advanced a women’s age was, the more likely they were to utilize UBA services for PNC, OR for 25 to 34 yrs and 35 to 49 yrs being 1.93 and 2.58 respectively. Women of medium income and those who lived more than 60 min away utilized UBA services for PNC significantly more than their counterparts.

Logistic regression model is presented in table 4.16 below.

*Table 4.16: Logistic regression model for Utilization of PNC services*

N=328        LR $\chi^2$ (df 2) = 57.425, p value <0.001
Log likelihood = -198.795, Pseudo $R^2 = 0.126$

<table>
<thead>
<tr>
<th></th>
<th>Odds Ratio</th>
<th>Z</th>
<th>Std Err</th>
<th>95% CI for OR</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>0.932</td>
<td>0.317</td>
<td>0.221</td>
<td>0.604 – 1.438</td>
<td>0.750</td>
</tr>
<tr>
<td>No of children</td>
<td>0.763</td>
<td>1.066</td>
<td>0.254</td>
<td>0.464 – 1.254</td>
<td>0.286</td>
</tr>
<tr>
<td>Marital status</td>
<td>0.858</td>
<td>0.691</td>
<td>0.222</td>
<td>0.555 – 1.325</td>
<td>0.489</td>
</tr>
<tr>
<td>Distance</td>
<td>0.846</td>
<td>0.500</td>
<td>0.146</td>
<td>0.635 – 1.126</td>
<td>0.251</td>
</tr>
<tr>
<td>Income</td>
<td>0.319</td>
<td>4.625</td>
<td>0.247</td>
<td>0.197 – 0.518</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Education</td>
<td>2.823</td>
<td>5.54</td>
<td>0.187</td>
<td>1.956 – 4.075</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Education and income were still significantly associated to utilization of UBA postnatal services, both p values <0.001, controlling for age, number of children, marital status and distance. 12.6% of variation in utilization of PNC services can be predicted from this model (LR $\chi^2 = 57.425$, p value = <0.001, pseudo $R^2$=0.126).

*TBA factors’ effect on the Utilization of PNC Services*

A total of 114 clients were seen by the 15 TBAs and offered PNC services during the 28 days of study. Below is the analysis of the clients seen, starting with the comparison of means of PNC clients seen by TBA factor in table 4.17.
Younger TBAs attended to significantly more women during the postnatal period, p 0.049; therefore the null hypothesis is rejected. There were no significant differences in the means of women seen across experience and source of skills’ groups. TBAs’ age correlated moderately and negatively with utilization of PNC services, R -0.455. Even though 20.7% of the variation in number of clients seen was due to variation in TBAs’ age, this was not significant; R^2 0.207, F 3.385 and p value of 0.089.

4.5 Awareness and willingness to accept RH policy action on TBAs

The study undertook to find out the level of awareness and acceptance of the 2007 RH policy and particularly the policy action not to recognize TBAs as skilled service providers who, therefore were not to offer RH services such as antenatal care and delivery assistance. Below are the results.

4.5.1 Awareness of RH policy action on TBAs

Women and TBAs were asked if they had heard of the policy action not to recognize TBAs as skilled service providers. Figure 4.3 shows the responses.
Many respondents, 80% (262) women and 27% TBAs (4) were not aware of the policy action on TBAs. Asked about awareness of the said policy action, the male informant said, ‘Some TBAs were recruited for training in 2007. Later on, the policy to stop utilizing TBA services was announced by a local administrator but there was no follow up. This could explain why some TBAs would know about it but have not stopped practicing.’

4.5.2 Willingness to Accept the RH policy action on TBAs

Women and TBAs were asked if they were willing to accept the policy action that TBAs should not be recognized as skilled RH service providers except as referral purposes. Those who were not aware of the policy were informed and asked if they accepted it. Figure 4.5 below shows the level of acceptance of the 2007 RH policy action on TBAs among women and TBAs interviewed. The majority of the respondents 63% (207) women and 67% (10) of TBAs did not accept the policy action.
Figure 4.4: Willingness to accept Policy Action on TBAs

5.3 Reasons for Accepting/rejecting the Policy action on TBAs’ role

The reasons given for rejecting and accepting the policy are listed in the table 4.18 and 4.19 below respectively. Majority of the women (63%) rejected the policy because they felt TBAs offered good services that should not be done away with. 14% of women rejected the policy for no reason while 13% pointed out long distance to the SBAs (and unavailability of services such as ambulance or night transportation) as the reasons why they rejected the policy.

Table 4.18: Reasons for rejecting Policy action on TBAs

<table>
<thead>
<tr>
<th>Reason</th>
<th>Women n=207</th>
<th>TBAs n=10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good Service from TBAs</td>
<td>130 63%</td>
<td>Availability to mothers 7 70%</td>
</tr>
<tr>
<td>Distance</td>
<td>27 13%</td>
<td>High demand 5 50%</td>
</tr>
<tr>
<td>No Reason</td>
<td>29 14%</td>
<td>Skilled and experienced 5 50%</td>
</tr>
<tr>
<td>Other</td>
<td>21 10%</td>
<td></td>
</tr>
</tbody>
</table>

*a some TBAs gave more than one reason*
Other reasons cited by 10% of the women included TBAs being famous and skilled, women being related to TBAs, TBA having been present during ANC and that TBAs are not invasive as SBAs. TBAs gave more than one reason, summary as shown on the right side of table 4.18. Many TBAs, 70%, said they lived with the women and so they were ready to assist anytime, from minor discomfort to emergencies, a point echoed by the younger informant who said, ‘It is difficult to stop TBAs because women themselves go to TBAs or send for them and a TBA is unable to deny them help.’ 5 TBAs reported that women were coming to them for the services and so they would not turn them away, and 5 TBAs said they had the skills and experience required to attend to the mothers. The male key informant said, ‘TBAs are paid, monetary or most commonly one adult goat per delivery and so some are reluctant to stop offering the services.’

A total of 121 women and 5 TBAs were accepted the policy action. Table 4.19 below shows the distribution of the responses.

Table 4.19: Reasons for willing to accept Policy action on TBAs

<table>
<thead>
<tr>
<th>Reason</th>
<th>Women n=121</th>
<th></th>
<th>Reason</th>
<th>TBAs n=5</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>%</td>
<td></td>
<td>No</td>
<td>%</td>
</tr>
<tr>
<td>Good service from SBAs</td>
<td>57</td>
<td>47%</td>
<td>Government says so</td>
<td>4</td>
<td>80%</td>
</tr>
<tr>
<td>Government says so</td>
<td>21</td>
<td>17%</td>
<td>No reason</td>
<td>1</td>
<td>20%</td>
</tr>
<tr>
<td>No reason</td>
<td>18</td>
<td>15%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cross Infections</td>
<td>17</td>
<td>14%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>8</td>
<td>7%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>121</td>
<td>100</td>
<td></td>
<td>5</td>
<td>100</td>
</tr>
</tbody>
</table>

57 of the women (47%) said they accepted the policy action on TBAs because skilled providers gave good services while 17% of women and 80% of TBAs said because the government says so. 15% of women and one TBA did not give a reason and 14% women said they accepted the policy because TBAs may spread illnesses to them and their
babies. 7% of women gave other reasons for accepting the policy which included the following: more diseases can be diagnosed and treated by SBAs, SBAs are the experts and TBAs are not educated and lack supplies.

4.6 Suggestions on safe utilization of UBAs.

Women and TBAs were asked to suggest ways to how to safely utilize UBAs to improve RH. Below is table 4.20 showing their suggestions.

*Table 4.20: Suggestions on safe utilization of UBAs*

<table>
<thead>
<tr>
<th>Women Suggestions</th>
<th>No.</th>
<th>%</th>
<th>Women Suggestions</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offer herbs and refer only</td>
<td>81</td>
<td>25</td>
<td>Train TBAs</td>
<td>6</td>
<td>40</td>
</tr>
<tr>
<td>Distribute RH Supplies</td>
<td>71</td>
<td>22</td>
<td>Offer Supplies to TBAs</td>
<td>5</td>
<td>33</td>
</tr>
<tr>
<td>Train TBAs</td>
<td>63</td>
<td>19</td>
<td>TBAs to refer only</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>Screen TBAs regularly</td>
<td>60</td>
<td>18</td>
<td>Screen TBAs regularly</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>TBAs to work in hospitals</td>
<td>38</td>
<td>11</td>
<td>None</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Other</td>
<td>15</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>328</td>
<td>100</td>
<td></td>
<td>15</td>
<td>100</td>
</tr>
</tbody>
</table>

Many women, 25%, said TBAs should continue offering herbs and referring women to hospitals while 22% of women wanted TBAs to be allowed to distribute supplies like mosquito nets and common medicines like iron and folate during ANC period. Formal training of TBAs on safe RH services was suggested by 19% of women while 18% said screening and treating TBAs of illnesses regularly would improve safe RH services. Other women, 11%, said TBAs could be attached to hospitals to gain experience from SBAs. Other suggestions on safe utilization of UBAs by women included the following: government to allow both SBAs and UBAs to practice, UBAs to help with household chores, newborn care, and to encourage women during delivery.
Formal training of TBAs was suggested by 6 TBAs. 5 TBAs wanted to be provided with supplies such as gloves and delivery kits so they could carry out deliveries safely. 2 TBAs suggested that they be allowed to refer only. The older female informant said, ‘TBAs should be trained and facilitated with delivery kits,’ and the younger said, ‘the community should be educated on skilled services for them to accept them,’ while the male said that their referral role should be encouraged e.g. by giving them means to communicate to the hospital in case of need or emergencies and recommended that another health facility with capacity to handle RH matters be set up in the division and that TBAs be trained to offer safe RH services.
CHAPTER 5: DISCUSSION OF RESULTS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Discussion of results

Utilization of unskilled birth attendants’ services remains a big challenge to the attainment of quality reproductive health for all. The developing countries have particularly lagged behind in the quest to have all access quality reproductive health services and information. The results presented above are discussed in a public health perspective.

5.1.1 Proportion of utilization of unskilled birth attendants’ services in Mbirikani Division

The study established that 85% of the women in Mbirikani division utilized unskilled reproductive health services at least once. While this percentage seems high, it is really incomparable to other studies simply because other studies provide statistics of unskilled services’ utilization for antenatal, delivery or postnatal separately. This percentage on the other hand is cumulative across the three RH stages.

On the other hand, 81% of women have also utilized SBA services at least once. This offers a window of opportunity where health care workers can meet and sensitize women on skilled care eventually getting them to utilize skilled services. Olaogun (2013) told a story of a woman who had had four deliveries attended to by UBAs but went to the hospital on the fifth delivery because she was experiencing danger signs which a skilled provider had informed her about. This story demonstrates that giving women information on the wide variety and scope of skilled care services enlightens women and sensitizes them on the need to see skilled providers.
The national utilization of ANC services is 92% while the district utilization is at 81.5% for first visit (CBS et al., 2010; RoK, 2008). Even though many studies reported high utilization of skilled ANC services, nationally at 92% and some regions like Mbeere in Eastern Kenya at 97.5%, this study documented more utilization of unskilled ANC services at 49.4% while women utilizing SBA at least once during ANC are at 61%. Perhaps the difference was in the survey methodologies where one study used hospital data while this study used interviews. Again, there are women who utilize both UBA and SBA services even during the same pregnancy (Kenya National Bureau of Statistics [KNBS], 2010; Mwaniki et al., 2002).

In most Developing countries like Kenya, unskilled delivery services are utilized more than skilled. For instance, Kenya’s national utilization is at 58%, Haiti at 74% and Ethiopia at 94%. Utilization of unskilled delivery services was more in some regions (especially poor rural setups) such as North Eastern Kenya at 68.3% and Loitokitok district at 69.3% (WHO, 2009; KNBS, 2010). This study documented utilization of unskilled delivery services at 68%. This comparison shows regional disparities in RH status. Two of the top five leading causes of maternal mortality; severe bleeding and obstructed labor, occur during the delivery period. These conditions can very well be prevented and treated by skilled attendants (WHO, 2010). Unfortunately, many women still utilize UBA services during delivery, especially in rural, resource poor settings and therefore remain at risk of maternal mortality from such causes. As key informants related, many women feared invasive examinations such as digital examinations and speculum examinations and also feared being sent for operations where, from their point of view, had outcomes for their babies. Extensive community sensitization into the
benefits of these procedures and of early referral should be done so that they can be more willing to accept the skilled services.

This study showed that 52.4% of women utilized UBA postnatal services at least once. The Mbirikani community delegated most postnatal care to relatives, which put the women at risk of complications such as infections and prolonged bleeding, considering most of them were delivered at home and by UBAs. The lack of total or prompt seeking of skilled PNC care could increase mothers’ and neonates’ morbidity and mortality as noted by the 2008-2009 KDHS that ‘a large proportion of maternal and neonatal deaths occur during the first 48 hours after delivery’ (CBS et al, 2010). A study by Sines et al. (2007) noted that essential postnatal care services are often absent and that where available, often lack essential elements of care required for the optimum health of the mother and her newborn. The same study suggested training TBAs on PNC so they can offer good care to those women they encountered. However, in Mbirikani, most women utilizing UBA services for PNC (60%) get the services from relatives so training TBAs would not have the desired impact. PNC services as explained by the key informant focus on nutrition and rest for mother and baby but, just as Sines et al noted, lack some essential services such as proper umbilical cord care, perineal hygiene and breast care for the mother.

Skilled family planning utilization usage in Kenya is at 46% going by the 2008-2009 KDHS statistics (KNBS and ICF Macro, 2010). In the Mbirikani Division, utilization was documented at 49%, a level influenced by culture. The TBA registers recorded that TBAs offered FP services (advice on natural FP and referral). However, many women receiving advice on natural FP may not consider this as FP service per se and so such utilization
might not be captured in other studies. A study done by Owino (2001) documented similarly low levels of unskilled FP utilization at 15.6% in Nyanza.

### 5.1.2 Services offered by TBAs in Mbirikani Division

On average, all TBAs saw at least one RH client daily. This low TBA work load, could be the reason why some women, such as those interviewed by Anyangu-Amu (2010), reported being offered more care and attention by TBAs than at health facilities.

The findings of this study confirmed that TBAs were still offering services that could be harmful resulting in worse perinatal outcomes. Employment of physical therapies and physical maneuvers on the belly, use of herbs and nutritional modifications stood out among others. FCI (2003) documented TBAs offering similar services in Nyanza such as the physical therapies and use of herbs while Lech and Mngadi (2005), noted that TBAs offered herbs and nutritional guidance in Swaziland. Just as MoH (Kenya), UoN and Population Council (2003) noted, these practices are part of the culture that are used whether or not the TBAs are trained, explaining why there was no improvement in maternal mortality and morbidity despite tremendous efforts to train TBAs. Herbs were a remedy to a wide range on conditions e.g. to induce diuresis for edematous women and vomiting for a woman who ate more than the permitted one meal per day. Kaingu, Oduma and Kanui (2011) described use of herbs in ten pregnancy related conditions with over fifty five different plants in Machakos county Kenya including pregnancy edema. The nutritional restrictions in the third trimester were also harmful to the health of mother and baby. It is no wonder that anemia was highly prevalent, accounting for 31% of RH related admissions to the level 3 facility (August to October 2011 Mbirikani hospital statistics).
With only 9.2% of women referred to the SBA by the TBAs during ANC, it is clear that some women who do not take the initiative to visit the SBA themselves miss out on skilled services such as immunization, prevention of mother to child transmission of HIV e.t.c. Instead of the RH policy letting TBAs recognize and refer complicated mothers, TBAs should refer all mothers to the skilled providers, as the aim is to have all women access skilled services.

During delivery, there are a number of practices that put women and their children at the risk of morbidity and mortality; the lack of sterility, the delay in referral, the use of herbs and risky manoeuvres such as cephalic version. However, TBAs explained that they were available all the time including night time, a factor that the women echoed and supported by findings from other studies like Anyangu-Amu’s interviews (Anyangu Amu, 2010). Mwangi and Warren (2004) reported that TBAs offered delivery assistance to women in western Kenya while the FCI (2003) reported that they offered assistance, physical therapies, herbs during delivery in Nyanza. Even though more women were referred, 35.6% during labor and delivery period, the key informant reported that many TBAs waited too long. The fact that they were paid by the community members for each delivery just made it more difficult for them to refer mothers to SBA. Again, policy actions should endeavor to facilitate TBAs to be able to refer all mothers to health facilities.

Nutritional guidance in the postnatal period was more liberal where mothers were assured of enough for themselves and for their babies. This is one of the cultural practices that can be encouraged, just as much as the encouragement to breast feed. However, in the
advent of HIV/AIDS, breastfeeding has it’s limitations and so must be dealt with cautiously, an issue that may not be well understood by UBAs.

Other supportive services that could also be reinforced include total home care and counselling, services that are allowed by the policy document (MoH, 2007) and are supported by studies in India (Dadhich, 2009). Culture also reflected in PNC where the key informant said, ‘after delivery, cute and big babies are hidden from women of certain families so they do not look at the baby badly’. He clarified the statement, saying that some women would make the baby ill just by looking at it. He said, ‘A mother and her baby were not allowed to leave the house for 1-2 months after delivery.’ This is more the reason why other women had to tend to the needs of the mother and baby. Mothers and UBAs all need to have correct information about such support services. For instance, if the woman is being catered to for a period of 1-2 months and her main chores are to sleep and feed the child, the complications of inactivity like deep venous thrombosis or bone weakness may set in and so they need to be aware of the limits. At the same time, the tradition of not allowing the newborn out of the hose for one month means delays in skilled child welfare services such as immunization and growth monitoring as well as development of rickets.

5.1.3 TBA vs. UBA Services’ utilization

It was documented that TBAs provided unskilled services more than other UBAs (relatives, neighbors and self) in all categories i.e. FP, ANC, delivery and PNC. This is contrary to some studies like the one done in Nyandarua, Kenya in the year 2009 which reported that of the deliveries attended by unskilled birth attendants, 50.3% were by other UBAs (neighbors and/or relatives and self) while TBAs delivered only 1.5% (Wanjira, et
al 2010). What this and other studies are implying is that other UBAs are still offering unsafe RH services and just like TBAs, should be included in RH programs.

5.1.4 Factors affecting utilization of UBA services

Women’s education, distance to the health facility and age were found to be the three factors among the nine studied that were significantly associated with all categories of service utilization; at least once, ANC, delivery and PNC (p values <0.05). Education also remained significant across all categories when controlled for the effects of confounders. The significance of education was echoed by Babalola and Fatusi (2009) in their Nigerian study on determinants of maternal health services’ utilization where education was found to predict utilization of ANC, delivery and postnatal services. The significance of distance on RH services’ utilization was supported by Mwaniki et al. (2002). A woman’s education bears a lot on her ability to access correct RH information for decision making and the ability to recognize the need to use available RH services.

Distance, for the people of Mbirikani division, impacts on them on several aspects. The division’s road network is underdeveloped and there are no public means of transport especially for people living more than 30min walk away from the health facilities (45.1%). There are also the dangers of encountering wild animals that pry the division especially at night as explained by the women’s leader. Cases of elephant, buffalo and hippo attacks were not uncommon. This really confirms the sentiments expressed by one of the TBAs interviewed by Anyangu-Amu that insecurity causes the women to find the nearest service which is the UBAs for RH care (Anyangu-Amu, 2010).

The number of children a woman had was significantly associated with utilization of UBA services at least once and utilization of delivery and PNC services, marital status
with ANC services alone while income with PNC services, all significant association having \( p < 0.05 \). These agree with findings of Gabrysch and Campbell (2009) where educational status, marital status, occupational level, age and parity among other factors were significantly associated with choice of place of delivery. In RH, age is an important factor to consider as it determines a woman’s RH choices including her ability to be influenced by relatives, peers and media. It also impacts on her fertility, occurrence of age related RH problems faced. This is supported by the women’s leader’s remark, ‘women are likely to return to providers who successfully assisted them previously.’

The number of children a woman has is important because women may consider visiting the provider who has given them the most successful outcomes in terms of assisted them to get babies. And also the experience and burden they have in child bearing and rearing may influence their decisions in RH. A woman’s level of income gives her an advantage in terms of affording to beat the distance and cost barriers to accessing RH services. Similarly, the ability to provide her needs such as food and hygiene which are crucial in RH may be dependent on her income. Awusi et al. (2009) found that a woman’s income affected her utilization of ANC services even though this study did not find the association significant, \( p > 0.21 \). There was a rather interesting observation by a key informant that women (especially single) wishing to hide their pregnancy would seek care from hospitals instead of from UBAs. This goes to show that for some women, skilled services are a second or alternative option and not chosen for their quality.

The three TBAs’ factors studied; age, source of TBA skills and years of experience were not found to be affecting the utilization of ANC services significantly (\( p > 0.05 \)) but age and experience were found to significantly affect the utilization of delivery services (\( p \)}
while only age was found to significantly affect the utilization of postnatal services. Indonesian health literature review by Titaley et al. (2008) supported that education, income and distance affected utilization of PNC services. Younger TBAs were preferred for delivery as well as PNC services. The implication of TBA’s age could be its relation to the physical abilities of the TBA in terms of e.g. eyesight and physical strength. There is limited data to support or contradict the findings on TBA factors. Further research into the influence of TBA factors to the utilization of UBA services need to be conducted using bigger sample sizes and longer periods of study. The fact that all TBAs who participated in the study were uneducated clearly shows how the attempts to train TBAs might not have borne much fruit. It is quite difficult to impact modern formal knowledge to one who’s used to the informal way of learning skills.

5.1.5 Awareness and acceptance of the 2007 RH Policy on TBAs

The results of this study demonstrate the lack of awareness by women and some TBAs to important RH information, reporting that 80% of women were not aware of the RH policy action on TBAs. This may explain partly why they continued to utilize UBA services. Majority of the TBAs on the other hand were aware of the policy action. Dissemination of the policy information having been done selectively has not borne fruit as neither women nor TBAs had adhered to it, with over 63% of the respondents rejecting the policy on TBA roles. The key informant attributed the high level of awareness among TBAs to seminars that had been held with the majority in the year 2007.

Most of the policy dissemination strategies like Kenya’s RH communication strategy are well designed for communication at strategic and technical levels of management. However, missing and quite crucial is the communication to consumers/clients of RH
itself particularly through the media they can access most and in a form the community members can comprehend best (C-Change, 2011). For this reason, many intended beneficiaries of policy actions end up missing out as pointed out by family care international (FCI, 2005).

5.1.6 Suggestions on Utilization of UBAs

From the reviewed literature, it has already been established that training TBAs does not bring positive change in RH outcomes and therefore such suggestions would be rejected (MoH, UoN and Population Council, 2003). Similarly, considering that many TBAs are not educated, in this study 100%, it would be hard to impact meaningful knowledge in them. Therefore, the suggestions that should be looked into further include:

- Educate women and men on the benefits of skilled services to foster utilization
- Screen and treat UBAs who come in contact with many women of ailments to minimize the risk of spreading infecting to mothers and the newborns.
- UBAs to support mothers psychologically during the phases of reproduction
- Delegating house chores to UBAs to help rest the woman
- UBAs to distribute supplies from the health facilities such as mosquito nets
- UBAs to assist women prepare for delivery
- Support their role to refer all clients to SBAs.

The last five suggestions are also pointed out in studies by Dadhich (2009) in India and Mwangi and Warren in western Kenya. Rodgers et al. (2004) found it useful to integrate TBAs in health institutions in Honduras.
5.2 Conclusions

This study provided recent supportive evidence that many women are still utilizing UBAs’ services despite policies against this.

UBAs and especially TBAs were offering services that only skilled providers should be providing. Most of the services were found to be risky and some harmful with high potential of resulting into perinatal morbidity and mortality. This was clearly brought out through their cultural practices.

Many factors affect RH but this study determined which of them were significant and to what level and hence, making it easier for strategists to prioritize their action plans.

The RH policy document was very well formulated and would be an effective tool to guide the achievement of its objectives but it lacks, largely, in communication and implementation.

Suggestions brought forth on how to utilize UBAs need to be looked into further and tested before adoption.

5.3 Recommendations

The utilization on UBA services in Mbirikani division and in similar marginalized areas being as high as it is, public health professionals need to drive change that will ensure a reversal of the poor statistics in RH. Recommendations brought forth from the findings of this study are:

1. Active education of the community on the benefits of skilled services should be intensified in order to create demand for the skilled services. Sensitization on policy
actions should also be done to gain grass root rapport, which will improve adherence policies and hence utilization of skilled services.

2. Prioritize RH approaches in the elimination of barriers to accessing quality RH services according to the level of significance of their influence. In this population for example, boosting literacy would come first. Similarly reinforce strategies in place that are producing desired results such as family planning since women with less children utilized skilled attendants more.

3. Culture in RH needs more address since some practices such as limiting a pregnant woman to one meal per day as well as uncontrolled use of herbs can have detrimental outcomes.

4. Since several factors were significantly associated to UBA utilization, there is need to collaborate with all ministries, just as the 2007 policy states in order to eliminate the barriers for example liaison with wildlife management authorities.

5. There is need to direct the focus of UBAs from offering harmful services to offering supportive services as outlined in the RH policy.

5.4 Areas of further research

Research should be carried out into activities that UBAs can carry out to improve RH in order to determine which ones are safe and practical for adoption in the area.

More research is needed with emphasis on cultural influence (nationwide and worldwide) to RH in order to bring to light all the practices. This would then guide stakeholders in finding solutions to abolish harmful practices and reinforce beneficial ones.
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APPENDICES

I. WOMEN’S QUESTIONNAIRE

This questionnaire was used to collect data on women’s demographics, factors influencing their utilization of UBA services and their awareness and acceptance of the 2007 RH policy on TBAs as well as get suggestions from the women on how TBAs can be usefully engaged in RH activities.

1. Demographic statistics
   a) Age (years) ______
   b) Marital status    Married □    Single □    Widowed □
   c) No. of children_______
   d) Level of education
      □ None        □ Primary      □ Secondary    □ Tertiary
   d) Estimated monthly income
      o Low (<ksh5000 ± <10 animals)
      o Medium (Ksh 5000 to 10000 ± ≤10 animals)
      o High (>Ksh 10000 ± >10 animals)

2. Distance to nearest health facility ________ (Approximate time taken to walk from home to the nearest health facility?)

3. Utilization of reproductive health services

   For all responses asking for a RH service provider, check Skilled if seeking a professional (nurse, doctor) or opting to go to the health facility, TBA, relative or other (self, neighbors and passersby). Can check more than one.

   Family planning
   a) Have you ever used a family planning method after 2007? □ yes □ no
   b) Which RH service provider did you consult for FP services?
Antenatal Care

Which health care provider did you consult for antenatal care for your latest pregnancy after 2007?

Skilled □ TBA □
Relative □ Other □

Delivery

Which health care provider did you consult for labor and delivery attendance for your latest delivery after 2007?

Skilled □ TBA □
Relative □ Other □

Postnatal care

Which RH service provider did you consult for postnatal care after 2007?

Skilled □ TBA □
Relative □ Other □

4. The 2007 RH policy Action on TBAs role

a) Have you ever heard of the national RH policy that TBAs are not recognized as skilled providers of RH services?

Yes____ No_______

(Explain the policy action to those who have never heard of it before proceeding to part b)

b) Are you willing to accept the policy action to ban TBAs from offering skilled RH services? Yes____ No_______
c) Briefly state reasons for your response above

d) How can TBAs/UBAs be safely involved to improve the state of reproductive health?

e) Anything else you wish to add?
II. TBAS’ QUESTIONNAIRE

Fifteen registered TBAs were interviewed. Their demographic data was collected and information on their practice, awareness and acceptance of the policy as well as suggestions to safely utilize UBAs recorded.

1. Characteristics of TBAs
   a) Age (years) __________
   b) Level of education (check one, highest level of education achieved)
      □ None    □ Primary    □ Secondary    □ Tertiary
   c) Occupation (other than birth attending)
      Agriculture □ Business □
      □ FGM        □ None
      Other (state) __________________________
   d) Years of experience __________
   e) Source of TBA skills. How were the skills acquired?
      Apprenticeship □ Seminars/workshops □
      Natural □ Other (state) __________

2. The 2007 RH Policy on TBAs and safe utilization of TBAs
   a) Have you heard of the national RH policy action that TBAs should not be recognized as skilled RH service providers?
      □ Yes    □ No
      (Explain the policy action to those who have never heard of it before proceeding to part b)
   b) Are you willing to accept the RH policy on TBAs’ role?
      □ Yes    □ No
   c) Briefly state reasons for your response above.
d) How can TBAs/UBAs be safely involved to improve the state of reproductive health?

e) Anything else you wish to add?
III. **TBAS' ACTIVITY REGISTER**

Services rendered over four weeks during the study period were recorded daily in registers. Each TBA’s activities were logged into one register. Each client seen was noted, her complain and service rendered noted. The lists of services/ailments below provided a guide to the services.

1. **CONCEPTION AND ANTENATAL SERVICES OFFERED**
   
   - FP /Upangaji uzazi
   - ANC/ Huduma wakati wa uja uzito
     - Nutritional guidance/ Lishe
     - Palpation /Kuhisi mtoto kwa kushika tumbo ya mama
     - Abdominal manipulation eg ECV/Kugeuza motto tumboni
     - Assistance on delivery preparedness/Kusaidia mipango ya siku ya kujifungua
     - Psychological support/mazungumzo ya kuhimiza
     - Hospital referral/ Kuelekeza mama hospitalini
     - FGM/ukeketaji
     - Other services(state)/Huduma nyingine (taja)

2. **INTRAPARTUM/KUJIFUNGUA**
   
   - Labor induction in post dates/ kuanzisha uchungu kwa mama aliyepitisha siku
   - Preterm labor/uchungu wa kujifungua kabla ya mimba kukomaa
   - Term labor/ uchungu wa kujifungua kama mimba imekomaa
   - Prolonged labor/Uchungu uliokawia sana
   - Obstructed labor/Mtoto kukuwama
   - Delivery/kujifungua
   - Excessive bleeding/Kuvuja damu kwa wingi
   - Placenta retention/Kuwama kwa numba ya motto
ix. Fetal malformations/watoto waliona shida ya maumbile
x. First aid to the newborn/kuduma ya kwanza ya motto mchanga
xi. Referral/Kumatuma mama hospitalini

3. POSTPARTUM/Baada ya kujifungua

i. Nutritional guidance for the mother and baby/ Lishe la mama na motto
ii. Psychological support/Mawasiliano ya usaidizi
iii. Exercise and rest/Mazoezi na kupumzika
iv. Personal hygiene/Usafi wa mwili
v. House Chores/Kazi ya nyumba
vi. Complications and Curative services/Utata na matibabu
vii. Bleeding/Kuvuja damu
viii. Psychosis/Kichaa
ix. Infections (hotness of body/chills, foul smell)/Maradhi (joto/kibaridi, harufu mbaya
x. Hospital referral/Kumatuma mama hospitalini
xi. Other services (state)/Huduma nyingine (Taja)

SAMPLE OF THE REGISTER

TBA No___________ (1, 2...15)

<table>
<thead>
<tr>
<th>Day</th>
<th>ANC clients and service given per complaint</th>
<th>Delivery clients and service given per complaint</th>
<th>PNC clients and service given per complaint</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1, palpation</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2...</td>
<td>0</td>
<td>1, Herbs and delivery</td>
<td>0</td>
</tr>
<tr>
<td>28 (last day)</td>
<td>3, i. palpation</td>
<td>1, delivery</td>
<td>2, i. referral</td>
</tr>
<tr>
<td></td>
<td>ii. ECV and massage</td>
<td></td>
<td>ii. home care and counseling</td>
</tr>
<tr>
<td></td>
<td>iii. nutrition advice</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


IV. **KEY INFORMANTS INTERVIEW GUIDE**

This interview brought out community practices and views in RH.

1. Who provides RH services mostly in Mbirikani division? (FP, ANC, delivery, PNC)
   
   a. Skilled attendants (doctors and midwives)
   b. TBAs
   c. Relatives
   d. Other (state)

2. Which services do the providers listed above offer?
   
   a. FP
   b. Antenatal care
   c. Labor and delivery
   d. Identification and Referral
   e. Postnatal care including the newborn
   f. Other (state)

3. Which traditions being practiced affect RH care?
   
   a. FGM
   b. Nutrition/chores in pregnancy and after birth (state)
   c. Herbal/traditional medicines (state when they are used)
   d. Delivery practices (explain)
   e. Postnatal and baby care (explain)
   f. Others (state)

4. What factors influence women’s decision on source of RH services?

5. Are you or any other members of the community aware of the RH policy action on TBAs?
6. Are there any differences in RH status between now and before 2007? If so, state.

7. How can TBAs/UBAs be safely involved to improve the state of reproductive health?

8. What are your recommendations to improve RH services in the community?
V. MAP OF STUDY AREA

VI. PARTICIPANTS’ CONSENT FORMS

1. WOMEN AND KEY INFORMANTS’ INFORMED CONSENT FORM (English)

You are invited to participate in a study conducted by Shelmith Mituko, MPH student at Kenyatta University. I hope to learn about the utilization of unskilled birth attendants’ services in Mbirikani division. You were selected as a possible participant in this study because you are a female, living in Mbirikani for at least 9 months, of reproductive age (15-49) and have delivered before.

If you decide to participate, I and/or a research assistant will interview you just once.

Any information that is obtained in connection with this study and will remain confidential as it will not be traced back to you since names or tags will not be used/required. If you give us your permission by signing this document, we plan to submit the findings to Kenyatta University for the purposes of the award to master’s degree, to the national council of science and technology as a requirement of all such academic studies, the division RH stakeholders and the to the ministries of health for strategizing RH interventions.

If you have any questions, please ask. Thank you very much.

You are making a decision whether or not to participate. Your signature indicates that you have decided to participate, being aware of the information provided above.

Date  Signature/Thumb print

----------------------------------  ----------------------------------

Signature of Investigator

----------------------------------
2. **RUHUSA YA KINA MAMA NA MENYE HABARI KAMBAMBE WALIOFAHAMISHWA** (Swahili)

Umekaribishwa kuhusika kwenye utafiti huu ambao unaendelezwa na Shelmith Mituko, mwanafunzi kwenye masomo ya afya ya umma, chuo kikuu cha Kenyatta. Natarajia kujifunza juu ya matumizi ya huduma za wahudumu wasiohitimu kimasomo kwenya afya ya uzazi. Umechaguliwa kama awezaye kuwa mhusika kwa ajili wewe ni mwanamke, aliyeishi Tarafa ya Mbirikani kwa angalau miezi 9, mwenye umri ya uzazi (15 – 49yrs) na ambaye amewahi kujifungua.

Ukiamua kushiriki, mimi na/au msaidizi wangu atakuhoji mara moja tu.

Habari zozote zitakazotokana na utafiti huu zitakuwa zenye siri na hazitawekana kuambatanishwa nawe maana hatutatumia majina wala alama yoyote ya kukutamblisha.

Ukinipa ruhusa kwa kutia sahihi stakabadhi hii, matokeo yatapelekwa chuo kikuu cha Kenyatta kwa ajili ya kuzawadiwa shahada ya master’s degree, shirika la taifa la sayansi na teknologia, kama inavyohitajika kwa utafiti wa masomo, mashirika yanayoshughulikia afya ya uzazi kwenye division na kwa wizara za afya kwa ajili ya kutafuta suluhu.

Ukiwa na mwaswali yoyote tafadhali uliza. Asante sana.

Unafanya uamuzi ikiwa utashiriki au la. Sahihi yako inaashiria kwamba umekubali kushiriki, ukiwa umejua habari zilizoelezwa hapa mbeleni.

Tarehe

Sahihi/Alama ya kidole gumba

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Sahihi ya mtafiti

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3. TBAS’ INFORMED CONSENT FORM (English)

You are invited to participate in a study conducted by Shelmith Mituko, MPH student at Kenyatta University. I hope to learn about the utilization of unskilled birth attendants’ services in Mbirikani division. You were selected as a possible participant in this study because you are a female, living in Mbirikani for at least 9 months, of reproductive age (15-49) and have delivered before.

If you decide to participate, I and/or a research assistant will interview you and also record the RH services you offer to women on a daily basis for 28 days.

Any information that is obtained in connection with this study and will remain confidential as it will not be traced back to you since names or tags will not be used/required. If you give us your permission by signing this document, we plan to submit the findings to Kenyatta University for the purposes of the award to master’s degree, to the national council of science and technology as a requirement of all such academic studies, the division RH stakeholders and the to the ministries of health for strategizing RH interventions.

If you have any questions, please ask.

You are making a decision whether or not to participate. Your signature indicates that you have decided to participate, being aware of the information provided above.

Date

Signature/Thumb print

---------------------------------------------

Signature of Investigator

---------------------------------------------
4. RUHUSA YA MKUNGA ALIYEFAHAMISHWA (Swahili)

Umekaribishwa kuhusika kwenye utafiti huu ambao unaendelezwa na Shelmith Mituko, mwanafunzi kwenye masomo ya afya ya umma, chuo kikuu cha Kenyatta. Natarajia kujifunza juu ya matumizi ya huduma za wahudumu wasiohitimu kimasomo kwenya afya ya uzazi. Umechaguliwa kama awezaye kuwa mhusika kwa ajili wewe ni mwanamke, aliyeshi Tarafa ya Mbirikani kwa angalau miezi 9, mwenye umri ya uzazi (15-49yrs) na ambaye amewahi kujifungua.

Ukiamua kushiriki, mimi na/au msaidizi wangu atakuhoji na pia tuandike rekodi ya huduma ya uzazi ambazo utawapa kina mama kila siku kwa mda wa siku 28.

Habari zozote zitakazotokana na utafiti huu zitakuwa zenye siri na hazitawekana kuambatanishwa nawe maana hatutatumia majina wala alama yoyote ya kukutamblisha.

Ukipeana ruhusa kwa kutia sahihi stakabadhi hii, matokeo yatapelekwa KU kwa ajili ya kuzawadiwa shahada ya master’s degree, shirika la taifa la sayansi na teknologia, kama inavyohitajika kwa utafiti wa masomo, mashirika yanayoshughulikia afya ya uzazi kwenye division na kwa wizara za afya kwa ajili ya kutafuta suluhu.

Unafanya uamuzi ikiwa utashiriki au la. Sahihi yako inaashiria kwamba umekubali kushiriki, ukiwa umejua habari zilizoelezwa hape mbeleni.

Ukiwa na mwaswali yoyote tafadhali uliza.

Tarehe

Sahih/Alama ya kidole gumba

------------------------  ------------------------

Sahii ya mtafiti

------------------------
VII. Authorization by National Council of Science and Technology

NCST/RRI/12/1/MED-011/143/5

Shelmith Mituko Luchera
Kenyatta University
P. O. Box 43844
NAIROBI

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on “Utilization of unskilled birth attendants’ services in Mbirikani division, Kajiado County, Kenya” I am pleased to inform you that you have been authorized to undertake research in Loitokitok district for a period ending 31st December 2011.

You are advised to report to the District Commissioner, the District Medical Officer of Health & the District Education Officer, Loitokitok district before embarking on the research project.

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

P. N. NYAKUNDI
FOR: SECRETARY/CEO

Copy to:
The District Commissioner
Loitokitok District

The District Medical Officer of Health
Loitokitok District