BARRIERS TO UTILIZATION OF SKILLED BIRTH ATTENDANCE AMONG POST-NATAL WOMEN IN NORTH HORR WARD, MARSARBIT COUNTY

KAME WATO KOFO

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DECLARATION AND APPROVAL

Declaration by the candidate

This research thesis is original work I did and has not been presented to any learning institution or another school-based forum.

Signature **Date 20th July 2024**

Kame Wato Kofo

SHS/MPH/5000-1/2022

Approval by the Supervisors

This thesis has been submitted with our approval as the University Supervisor.

Signature: **Date: 20th July 2024**

Dr. Micah Matang'i

Senior Lecturer and ODeL Director (ODeL),

Amref International University

Signature **Date: 20th July 2024**

Dr. Maureen Akola

Senior Lecturer

Aga Khan University

DEDICATION

I dedicate this work to my most immediate family – to my mother and spouse whose support has never wavered.

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The completion of this thesis would not have been possible without the support of various important people whom I would like to acknowledge. First, I wish to express my most sincere appreciation to my two supervisor's Dr Micah Matiang'i and Dr Maureen Akolo whose scientific critique and gentle guidance taught me what it means to conduct research and write a thesis like a scientist. Second, I wish to especially thank the Amref International University fraternity – all faculty and classmates – for their contributions throughout my journey at the university. Third, I direct special thanks to my workmates in Marsabit and the Community Health Volunteers who aided me in the data collection process. Finally, I wish to thank my family for their love and encouragement throughout this journey. Above all, I give glory to the Almighty God.

ABSTRACT

Background: Despite governmental efforts to expand access, reliance on unskilled birth attendants (UBAs) persists in the remote parts of North Horr Ward.

Objectives: To examine barriers to utilization of skilled birth attendance (SBA) among women in North Horr ward, Marsabit County. Specific aims were assessing potential demographic, economic, sociocultural, and health facility barriers that facilitate home deliveries.

Methods: A cross-sectional research design with a mixed methods approach. A study population entailed postnatal women aged 15 to 49 years living in North Horr. The ward population is 17,217 and the women of reproductive age 29 % (KNBS, 2019). A survey questionnaire captured quantitative data from 306 women, while 15 semi-structured interviews were conducted to support the quantitative findings. Quantitative data were analyzed through descriptive and inferential statistics using Stata version 15, while qualitative data were analyzed thematically using NVIVO and presented in tabular form.

Results: A total of 306 women participated (mean age=33 years). age group(p=.0001) , Costs of transport and poor infrastructures((p=.0001) and All health facility factors were significantly associated with the place of last delivery (p=.001) .92% (n=281) were married, 97% (n=297) had children, and unemployment 98% (n=300). 50% (n=153) delivered at health facilities, 47% (n=144) at home. Qualitative findings revealed financial constraints, sociocultural norms, and health infrastructure deficits.

Conclusions and Recommendations: Multiple barriers negatively affect the utilization of SBA among women in North Horr. Younger and much older women are less likely to seek skilled maternal care. Initiatives to improve SBA utilization must judiciously tackle poverty, remoteness, inconsistent quality care, and traditional mindsets. The county and national governments should implement policies that alleviate financial, and resource challenges and create health facilities in remote villages

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ABBREVIATIONS AND ACRONYMS

ANC	Antenatal Care
BP	Birth Plan
CHV	Community Health Volunteers
CL	Community Leaders
ESEA	East and South East Asia
FMH	Family Members and Husband
HD	Hospital Delivery
HE	Health Education
HL	Household Level
HW	Health Worker
HWC	Health Worker and Community
KDHS	Kenya Demographic Health Survey
KMET	Kisumu Medical and Education Trust
KNBS	Kenya National Bureau of Statistics
LP	Labor Pains
MDGs	Millennium Development Goals
MMR	Maternal Mortality Rate
MNH	Maternal and Newborn Health
MNHS	Maternal and Neonatal Health Service
MOPHS	Ministry of Public Health and Sanitation
NGOS	Non-Governmental Organization
NMR	Neonatal Mortality Rate

PM	Pregnant Mothers
SBA	Skilled Birth Attendant
SDGs	Sustainable Development Goals
SMI	Safe Motherhood Initiative
UBA	Unskilled Birth Attendant
UBD	Unskilled Birth Delivery
UEHL	Unfriendly Environment and Harsh Language
UNDP	United Nation Development Program
UNFPA	United Nation Population Fund
UNICEF	United Nation Children Fund
WHO	World Health Organization

OPERATIONAL DEFINITIONS OF TERMS

Skilled birth attendants (SBAs): A skilled birth attendant is an accredited health professional - such as a midwife, doctor or nurse - who has been educated and trained to proficiency in the skills needed to manage normal (i.e. uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of women and neonates for complications (WHO, 2024).

Unskilled birth attendants (UBAs) herein refer to any births outside the care setting under the watch of traditional or untrained attendants (WHO, 2024).

Health system-related factors are all issues that might bar access to skilled birth attendants, including healthcare worker attitudes, distance to the health facility, and poor services such as unclean rooms and lack of privacy.

Economic factors include affordability of care, costs involved in the movement to the health center, and the income level of the family.

Socio-cultural factors herein include one's religion, residence, community taboos and norms, ethnicity, and the acceptability of hospitals for deliveries.

CHAPTER 1: INTRODUCTION

1.1 Background of the Study

Unskilled birth attendance is, until now, an obstacle to public health systems worldwide; excellent medical institution delivery services have been suggested as a solution to avoidable maternal and infant deaths (Gitobu et al., 2019). Globally, 86% of birth attendances were assisted by skilled personnel; regions like Asia, Northern America, and Europe are nearly aching for universal coverage compared to sub-Saharan, which has only 64%skilled birth assistants (UNICEF, 2023). According to a study done in 2019, about 303,000 women lost their lives due to complications that arose during gestation and delivery, with 99 percent of this mortality happening in developing nations (Mumo et al., 2023).

Southern Asia and Africa accounted for approximately 86 percent (254 000) of the projected worldwide maternal mortality in 2019, with sub-Saharan Africa alone accounting for approximately 66 percent (196 000) deaths due to improper care during pregnancy, childbirth, and the post-partum period (Mumo et al., 2023). Sub-Saharan African women still have restricted access to skilled labor, particularly in rural regions, with more than 500,000 who lost their lives to pregnancy-related problems each year (Essendi, 2019).

The likelihood of survival from birth varies depending on the place of birth. In 2020, Sub-Saharan Africa had the highest infant death rate at 27 (25–32) deaths per 1000 live births, then central and southern Asia with 23 (21–25) deaths per 1000 live births. (WHO, 2021). According to UNICEF's flagship publication, maternal death is one of the most challenging development problems to solve because of the stark differences in risk associated with a

pregnancy between women in developed and developing nations (UNICEF, 2023) This is frequently referred to as the most significant health gap in the world.

There were 289,000 maternal fatalities worldwide in 2013, with Sub-Saharan Africa contributing 62 percent of these losses, yet the sustainable-developmental goals target calls for a 75 percent reduction in maternal mortality from 1990 to 2019. Kenya is among the countries that have made inadequate progress toward achieving this target as of 2019 and the maternal deaths in Kenya are approximately 488 per 100,000 births (Njuguna et al., 2019). To meet the sustainable developmental goals, Kenya must have a maternal death rate of 147 deaths per 100,000 live births. One critical technique for lowering maternal death rates is guaranteeing experienced and qualified health workers.

In Kenya, the maternal mortality ratio and the infant mortality rate were 362/100,000 and 22/1000 live births, respectively, with only 61.2 percent of childbirths conducted in health facilities (Gitobu et al., 2019). The Kenyan government and other partners have made a conscious effort to outfit healthcare facilities to offer maternal and neonatal health (MNH) services. Despite this, there is still a decline in women giving birth in medical facilities (Mumo et al., 2023). Only 46 percent of women gave birth under the supervision of a qualified delivery attendant, and 44 percent of deliveries occurred in health institutions, according to a maternity care survey that focused on females who had given birth during the previous five years.

Attendance at antenatal care clinics and hospital delivery is becoming the way in Kenya. The percentage of facility-based births in Kenya increased from 44 percent in 2008 to 61 percent in 2019 (Njuguna et al., 2019. This program allows pregnant females free maternity care at all public medical institutions. Health institutions offer these services and are

compensated by the Ministry of Health headquarters based on the sum of childbirths performed (Gitobu et al., 2019). The government's heavy investments have mainly promoted this trend in ensuring maternal and child health services are accessible to all women and children across the country.

The *Linda Mama* program which guarantees free access to maternity services at all public health facilities in Kenya has been pivotal in encouraging hospital deliveries and reducing births attended by TBAs (Orangi et al., 2021). Having been introduced as a government project, the *Linda Mama* program was shifted to the National Hospital Insurance Fund (NHIF) to expand its access across the country (Masaba & Mmusi-Phetoe, 2020). Despite there being some implementation challenges, the program has significantly reduced home deliveries (Orangi et al., 2021). Nalwelisie et al. (2021) detailed that clients' characteristics, NHIF scheme characteristics, health facility factors, and health workers' characteristics indicated a positive effect on the utilization of the *Linda Mama* program. Nonetheless, the challenges of lack of awareness and lack of enrollment in the NHIF scheme regularly hamper access to this free maternal healthcare (Masaba & Mmusi-Phetoe, 2020).

Investments in improving access to antenatal care have not been segregated. All counties, including those in marginalized areas around the coast and North Eastern, have also received an equal share of these facilities, except that sometimes the clinics are far apart than in the highly populated parts of central and western Kenya (Lang'at et al., 2019). Overall, the acceptance of prenatal care services (ANC) in Kenya has been outstanding, as reported in the studies cited herein (Moindi et al., 2019). However, it is still baffling that mothers prefer to give birth at home after completing the ANC and then have their newborns immunized in medical institutions (Moindi et al., 2019). Despite the

government's active interventions, it remains to be seen why moms would choose to deliver at home.

It is prevalent in current studies that health facility-related factors, in addition to cultural issues, are the key reasons behind the failure of many mothers in North Eastern to deliver in hospitals (Orangi et al., 2021). Bora (2019) discovered that health facilities in the North Horr sub-county needed to be increased, and the ones that did exist had a scarcity of medical professionals, medical equipment, and pharmaceuticals, hampered the utilization of medical care in the region. The following important conclusions emerged from the analysis: cultural variables such as the accessibility and availability of traditional medicine and medicine men impact the usage of modern medical care. However, 87.8 percent of the females in Marsabit County stated that having attended antenatal care during their last pregnancy, just 44.4 percent of the females in the county gave birth under the care of a skilled birth attendant at a medical facility (Ministry of Health, 2019). Unfortunately, in the North Horr ward, the rate of unskilled birth attendance is still high. The report from DHIS (District Health Information Software) for two consecutive years shows that 1197(2021) and 1113(2022) pregnant women were counseled on ANC services across the ward (Dutamo, 2019). However, only 300 (13%) women reported they delivered at the health facilities; the remaining were home deliveries. Giving birth at home exposes the woman and the baby to severe risks that could result in their deaths or life-altering illnesses and abnormalities.

In Kenya, the rate of skilled deliveries accounts for 62% and unskilled deliveries pose higher risk (Orangi et al., 2021)

According to the WHO assessment report of 2019, Kenya has achieved insufficient progress over the past ten years in enhancing maternal and newborn health. Remembering that 38% of all under-five children in Kenya die as newborns is vital. Only 43 percent of births in Kenya currently occur in medical institutions under the supervision of a trained birth attendant (KDHS, 2019). The most common reasons given by mothers for choosing to deliver at home with unskilled birth attendants include the difficulty expectant women have in accessing health facilities due to large distances, the short hours of service, and other socio-cultural difficulties. As a result, one in five Kenyan women risks losing a newborn child at some point in their lives.

Unskilled birth attendance has detrimental effects such as the mother's death, the loss of the family's income, and the impact on the child's survival, ultimately leading to household poverty and poverty over-dependence. It also has an impact on the development of the nation. According to previous studies, inadequate transportation and lack of information were the reasons for more unskilled home deliveries in Marsabit County (Dutamo, 2019). From the

DHIS 2019 data, most mothers could receive post-natal care and ANC services (Ministry of Health, 2019). This shows that the lack of information on the means of transport is not a concrete reason behind women's delivery at home with unskilled personnel. This study sought to determine factors that make mothers in North Horr ward use untrained birth attendants despite the Kenya government's implementation of various strategies to lower maternal morbidity and mortality.

Despite the policy alteration eradicating traditional birth attendants (TBAs) from performing childbirths in households and motivating females to give birth at the clinic

under skilled care, numerous females still give birth at home in Marsabit County (Arero et al., 2021). The fundamental causes of pregnant women's preference for TBAs are poorly comprehended due to little research. This study determined the main factors behind and assisted in educating health policymakers and stakeholders on the difficulty women face in decreasing the use of unskilled birth attendants, which may immediately contribute to achieving Vision 2030.

1.2 Statement of the Problem

Maternal mortality remains a pressing issue worldwide, with Sub-Saharan Africa bearing a disproportionate burden, contributing 69% of global maternal deaths in 2020) (WHO, 2023). Kenya is among the countries that have made inadequate progress toward achieving the Millennium Development Goal of reducing maternal mortality by 75% between 1990 and 2019 (Njuguna et al., 2019). The country's maternal mortality ratio stands at an alarming 488 deaths per 100,000 live births, far from the target of 147 deaths per 100,000 (Njuguna et al., 2019). One critical strategy to address this challenge is ensuring access to skilled birth attendants during childbirth (Kamau, 2019).

The North Horr ward in Marsabit County exemplifies the persistent barriers to accessing skilled birth attendance. Despite the government's efforts, such as the *Linda Mama* program, which guarantees free maternity services at public health facilities (Orangi et al., 2021), the rate of unskilled birth attendance remains high in this region. DHIS data reveals that while a substantial number of pregnant women received antenatal care counseling in 2021 (1197) and 2022 (1113) Dutamo (2019), only 13% of these women delivered at health facilities, with the majority opting for home deliveries attended by unskilled personnel

(Mutinda, 2019). This situation exposes mothers and newborns to severe risks, including maternal and infant mortality, disabilities, and long-term health consequences (Mutinda, 2019).

The overall problem addressed by this study is a lack of understanding on the barriers that hinder the utilization of skilled birth attendance in Marsabit and similar counties. Overcoming the barriers to skilled birth attendance in North Horr ward is crucial for improving maternal and child health outcomes and aligning with national and global efforts to reduce maternal mortality. However, the factors contributing to the underutilization of these services in the region remain poorly understood. Previous studies have suggested that inadequate transportation and lack of information may contribute to the high rates of unskilled home deliveries in Marsabit County (Dutamo, 2019). This study, therefore, aims to comprehensively investigate the demographic, economic, socio-cultural, and health facility-related factors that influence the utilization of skilled birth attendance services among women in North Horr ward, Marsabit County. Consequently, allowing informed decisions to overcome identified barriers enhances proper maternal care and improves child health.

1.3 Justification of the Study

The research is essential and sociologically relevant since it provides insights into factors that affect the uptake and utilization of skilled birth attendants. Despite increased financial support from the Kenyan government due to devolution since 2010 and additional support from other humanitarian organizations, the use of unskilled traditional birth attendants is still rampant because of the conservative culture, which hinders their access to health institutions to seek skilled birth attendants' services (Kamau, 2019; Orangi et al., 2021). In Marsabit County, the maternal death rate has been connected to the high use of unskilled and untrained birth attendants (Arero et al., 2021)

Seeking the North Horr ward woman's perspective and related factors affecting the utilization of skilled birth attendants is crucial since their opinions go a long way in elaborating reasons behind the use of unskilled birth delivery, which is one of the proven causes of unsafe delivery, leading to high maternal death. The result of the study is aimed at helping the government and humanitarian organizations develop specific methods to reduce UBA services among women in the North Horr ward. It is also essential to raise awareness that women who experience problems during delivery while being attended by an unskilled birth attendant are more likely to die due to birth complications. Thus, studying the barriers associated with the utilization of skilled birth attendants will help raise important recommendations for the improvement of care delivery.

1.4 Purpose of the Study

This research aims to determine barriers to the utilization of skilled birth attendant services among women in North Horr ward, Marsabit County.

1.5 Research Questions

i What demographic factors affect the utilization of skilled birth attendance services among post-natal women in North Horr ward, Marsabit County?

ii What economic factors affect the utilization of skilled birth attendance services among post-natal women in North Horr ward, Marsabit County?

iii What socio-cultural factors impact the utilization of skilled birth attendance services among post-natal women in North Horr ward, Marsabit County?

iv What health facility-related factors affect the utilization of skilled birth attendance services among post-natal women in North Horr ward, Marsabit County?

1.6 Study Objectives

1.6.1 Broad Objective

To determine barriers to the utilization of skilled birth attendant services among post-natal women in North Horr ward, Marsabit County.

1.6.2 Specific Objectives

i To determine the demographic factors that bar utilization of skilled birth attendance services among post-natal women in North Horr ward, Marsabit County.

ii To assess the economic factors that affect the utilization of skilled birth attendance services among post-natal women in North Horr ward, Marsabit County.

iii To determine the socio-cultural factors that bar utilization of skilled birth attendance services among post-natal women in North Horr ward, Marsabit County.

iv To determine the health facility-related factors that affect utilization of skilled birth attendance services among women in North Horr ward, Marsabit County.

1.7 Study Scope and Limitation of the Study

The research focused on factors that bar the use of skilled birth attendant services among females in North Horr ward, Marsabit County. The study involved women of reproductive age in the North Horr ward. Data on factors linked with the usage of skilled birth attendant services among females were collected within one month. The study may need more time for data collection, which might lead to recruiting research assistants to assist in data collection. There may be instances where respondents may decline to take part in the research, or some may even cease filling out the questionnaire after a few questions because they are unsure whether the research is being carried out for study purposes only. The researchers recruited members of the society to help create a good rapport.

1.8 Assumptions of the Study

This study operated under the premise that certain assumptions would form the foundation for its execution. It was assumed that each household visited had a woman of childbearing age. Moreover, it was anticipated that respondents would dedicate the necessary time to fully complete the questionnaire, ensuring the provision of accurate responses to all inquiries. Additionally, the research design was expected to facilitate the collection of ample and precise data from the study subjects.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The literature on studies that have been done on inept delivery is reviewed in this section. The first section focuses on significant theoretical viewpoints and how they connect to the background variables influencing the use of unskilled birth attendance. The second section examines the main socio-cultural, socio-economic, and health service determinants affecting the use of unskilled delivery attendant services in Kenya. The final portion describes conceptual and operational frameworks.

2.2 Literature Review

2.2.1 Unskilled Birth Attendants

An Unskilled birth attendant (UBA) is also a traditional birth attendant. They needed official training in these areas (Maximore et al., 2022). In many underdeveloped nations, unskilled birth attendants handle most of the primary maternity healthcare; in other wealthier nations, they may serve particular groups. Untrained women offer fundamental medical treatment, emotional support, and counsel before, during, and after pregnancy and childbirth. They generally rely on everyday experience and knowledge gained from the customs and practices of the communities where they were raised. They frequently work in isolated, rural, and other underserved regions of medicine (Manyiwa, 2023). There are no professional requirements, such as certification or license, and UBAs need formal education or training in health care delivery. One of the requirements for being approved as a UBA by clients in many areas is experience as a mother. They frequently learn their skill through apprenticeship or are self-taught. Women in Kenya historically gave birth in

their houses. Birth is a significant occasion for the lady, her extended family, and the entire neighborhood in this largely rural society.

Older ladies in the community offer support to pregnant women. She is attended to by an unskilled birth attendant, as they are now known (UBA). Although the benefits of UBAs have occasionally been questioned, most women in rural African communities still rely on them greatly when giving birth (Garces et al., 2019). Medical care is sometimes pricey or simply unavailable, which is another reason why many women in rural African communities turn to UBAs for support with labor and birth at home on a continent with 40% unemployment, a weak economy, and pervasive poverty. Nobody wants to give birth at home. The health system is failing women in labor who need someone to console them and listen to their concerns. Such a woman will not get attention from a midwife caring for ten ladies. This is just one of the many reasons why females are selecting to utilize unskilled birth attendants as their birth attendants (Gachathi et al., 2024).

2.2.2 Socio-cultural Factors barring Utilization of skilled Birth Attendance Services

According to WHO, cultural customs and beliefs around pregnancies, deliveries, and post-partum care for mothers and children have not been well studied (WHO, 2019). However, these practices may significantly impact mothers' and newborns' outcomes. Women must have their partners' permission to get care during pregnancy, childbirth, and post-partum duration. Pregnancy and labor are performed in a separate, frequently unclean setting that does not meet the sterility standards that would help minimize infection. Mothers and newborns are not taken outside the home, even for medical treatment, due to socio-cultural norms and a lack of awareness of the symptoms of serious illness (WHO, 2019). Most African countries' current health systems are limited, insufficient, or unevenly distributed

in their ability to meet the needs of expectant mothers and newborns; in some cases, this situation worsens (Kamau, 2019). In Sokoto State in Nigeria, almost 95% of deliveries were made either by an untrained attendant or by an individual alone, according to the report (Kamau, 2019). Mothers with high-risk factors were more likely to select risky/unskilled birth procedures than older, lower-parity women. The study demonstrated that expectant women were willing to receive care from a provider (Kamau, 2019). Should such an alternative be made available, they are highly likely to use an easily accessible, reasonably priced, and competent delivery, as evidenced by a higher proportion of deliveries with unskilled birth attendants.

In Sub-Saharan Africa, a multi-country analysis depicts that factors such as women empowerment, socio-economic state, and level of education are critical factors affecting the utilization of skilled birth attendants by women who are seeking childbirth services (Dutamo, 2019,). The study further stipulates that the level of education and socio-cultural practices directly affected the ability of women to participate in the decision-making process on the utilization of skilled birth attendants (Dutamo, 2019). In Tanzania, a study by Dutamo (2019) highlighted how socio-cultural factors influenced the utilization of skilled birth attendants. Factors like the level of education among affected women, antenatal care visits, and socio-economic state were very critical determinants in the adoption of services offered by skilled birth attendants (Dutamo, 2019). Besides, the study highlighted traditional beliefs and practices as key players in determining whether the family of a pregnant woman can utilize services offered by skilled birth attendants (Dutamo, 2019). A conceptual framework created in developing countries showed that they are immensely affected by cultural and socio-economic factors that delay seeking,

reaching, and receiving antenatal and delivery care for pregnant mothers and babies (Bora, 2019). Factors such as autonomy and poor perception of quality of care directly affect the decision-making process and the ability to access skilled birth attendants for delivery services (Bora, 2019).

The Kenya Reproductive Health Policy of 2017 recommended that UBAs change their roles from birth attendants to birth companions and referral specialists (Mutea et al., 2020). Despite the policy prohibiting them, UBAs have continued to deliver mothers at home. Although professional delivery facilities are infrequently used, and almost 3 out of 5 women give birth independently, ANC use is widespread in rural Western Kenya. This dangerous situation must be corrected immediately. It has been found that the types of services requested during delivery vary depending on the place and the country (Ali Ibrahim, 2019). Unskilled delivery rates may vary by area according to local cultural norms, healthcare service distribution, and accessibility (Ali Ibrahim, 2019). In healthcare facilities in rural Guatemala, employees may harbor prejudice toward particular ethnic groups. Home deliveries are more convenient in some nations when ethnicity is directly linked to socio-economic level and inferior transportation, healthcare infrastructure, and acceptability of the services.

2.2.3 Healthcare Factors barring the Utilization of skilled Birth Attendance Services

Dutamo (2019) found that the mother's assessments of the quality of health service are crucial because respectful, cultural, and emotional support is crucial throughout labor and delivery. The research was conducted in Nepal and examined females' perceptions of the quality of maternity services. The females rated quality according to their availability to

family members, hygienic surroundings, medical personnel, and essential supplies for their health.

Women thought that the availability of pharmaceuticals to hasten labor, as well as the presence and accessibility of experienced medical personnel and supplies in the form of medications, were crucial components for enhancing the utilization of maternity services (Agarwal et al., 2019). Evidence from several countries, most notably China, suggests that skilled/trained midwives working in/very close to their community can considerably lower maternal and infant mortality historically and today. This study sought to ascertain whether any negative sentiments existed among medical professionals promoting using untrained birth attendants in the region. Staff members' abuse, neglect, and mistreatment have long plagued Kenya's public health institutions. Personnel shortages make this problem worse.

According to a recent World Bank study on Kenyan health facilities, just 54.8% of public health practitioners could correctly diagnose at least four of the five most common disorders patients encounter. Only 44.6% were skilled at managing maternal/neonatal issues. Potential patients are fully aware of the institutions' subpar customer service, which presents a significant obstacle to utilizing public health institutions. North Eastern women identified poor service quality (17.3%) and inadequate female healthcare providers (9.0%) as some of the primary barriers preventing women from giving birth at health institutions more than the delivery cost (4.9%).

In interviews with the media, several Kenyan women have already voiced their worry that offering free maternity care would lead to an even more significant decline in quality and more contempt for their rights (Ansu-Mensah et al., 2021). Therefore, they have reaffirmed their commitment to hiring more understanding (but less skilled) unskilled birth attendants

and refraining from using public facilities, whether they are free or not (Duncan, 2019; Muruka et al., 2019).

In many countries, most deliveries occur at home, perhaps with the assistance of grandparents, mothers, unskilled delivery attendants, and other relatives. They frequently occur, lacking the aid of a skilled birth attendant. Unreliable or scarce supplies, poor quality care, malfunctioning referral systems, and lack of access to necessary care (such as in emergencies) have eroded public confidence in health services. They may be to blame for the low use of existing facilities (WHO, 2019). Only 10% of maternal mortality in SSA is related to infections or diseases, according to a study by Dutamo (2019). Most maternal deaths in SSA are attributed to complications related to birth brought on by insufficient competent healthcare during delivery.

Studies on the barriers to competent birth attendance frequently overlook barriers associated with perceived need and physical accessibility in favor of socio-cultural and economic barriers. In order to get trustworthy conclusions, any analysis of service delivery use must consider as many affecting factors as is practicable. A study conducted in Kajiado County, Kenya, found that the Maasai women continued to use untrained birth attendants' services due to their lack of understanding of and limited access to expert services the accessibility of untrained birth attendants (Nyongesa et al., 2019). The government has provided customers with free services in Kenya, refuting that certain services are unavailable (Dennis et al., 2019). Therefore, it is necessary to consider other grounds for using untrained delivery attendants.

2.2.4 Economic Factors Barring the Use of Skilled Birth Attendance Services

It is essential to consider socio-economic aspects, including the mother's financial situation, residence, and level of education. An education degree is a significant factor when deciding whether to seek trained or unskilled delivery service. Educated females are empowered to make choices in their best interests and those of their unborn children (Gachathi et al., 2024). Most African research has discovered that the mother's education favors skilled birth attendance. Women having no education are significantly predictive of a home birth/delivery (Dutamo, 2019).

A comparable study conducted in Ethiopia found that females with higher education levels are more likely to recognize the value of employing expert delivery care and are more than twice as likely to deliver under-trained care as women without education (Kasaye et al., 2019). Mothers with higher education levels may view medical issues differently and value their health highly. Like this, educated women feel self-assured when dealing with service providers and visiting medical facilities; they might even be motivated to seek out treatments outside the home (Ali Ibrahim, 2019).

Rural and urban locations' social and service delivery environments are significantly different. Undoubtedly, more people will use delivery services in the future. Families in rural Kenya are often smaller than those in urban areas, "exhibited a twofold increase in the adoption of unskilled delivery. It is also difficult for rural parents to find the money to cover the expense of transportation and use delivery services. Untrained labor and delivery care are positively associated with women from rural Yobe in northern Nigeria. This is due to the limited accessibility of health services in the urban areas of Yobe's rural districts

(Mumo et al., 2023). In rural Malawi, "women readily adhere to social norms and behaviors concerning their healthcare (Ali Ibrahim, 2019).

Rural women are highly likely to give birth in the presence of unskilled attendants, who are less expensive, due to the opportunity costs involved with giving birth in the presence of expert attendants. Costs associated with hospital transportation become crucial factors, mainly when the need for expert delivery care is less widely perceived (Moindi et al., 2019). Compared to wealthier women, poor women in Malawi are six times more likely to give birth at home or at the residences of UBAs (3.55 times) (Ali Ibrahim, 2019). However, in contrast to wealthy women, women in the middle-class category were 4.68 and were 3.1 times more likely to deliver accompanied by UBAs, respectively (Ali Ibrahim, 2019). In Kenya, mothering a young child may improve her prospects. There are specific health services in rural Kenya where moms believe home deliveries are less expensive.

A negative correlation between household wealth quintiles and the usage of unskilled labor was discovered in a different study conducted in Kenya. Payment plans, which can only sometimes be in cash because unskilled birth attendants are often thought to be more economical, can also be made in terms of time for repayment and payment method. Women were more likely to need assistance from an unskilled attendant if their spouses had low-status jobs. Because low-status employment is linked to poverty, it is more challenging for a family to pay for transportation and medical expenses. In Uganda, women whose husbands were farmers had assistance from unskilled delivery attendants (Turinawe et al., 2019). Using a non-skilled birth attendant during delivery is more likely if one comes from a low socio-economic class (Ali Ibrahim, 2019).

2.3 Literature Review of Existing Knowledge Gaps

Notwithstanding the extensive research focused on skilled birth attendants in Kenya, there are various gaps in establishing how socio-cultural factors affect SBA use in various regions. The available studies and statistics focus solely on the national level data and the overall socio-economic factors, but they ignore the nuanced socio-cultural aspects that vary from one location and village to another. Additionally, a comparative analysis with countries in similar state is limited thus reducing generalizability of the findings and application of interventional measures to other affected regions.

While various researchers have acknowledged the importance and role of traditional beliefs and related practices in preventing full utilization of SBAs in Kenya, there is limited in-depth regional analysis that is specific to the locations. For example, the existing literature does not highlight how the entrenched cultural practices of people in North Horr ward who prefer TBAs and UBAs over SBAs as compared to other regions in Kenya and other countries.

Existing literature has highlighted how socio-cultural barriers to the utilization of SBAs affect women in Tanzania. However, few studies have established a systematic comparison of such factors across different countries to identify trends and specific challenges. Establishing such a comparative approach would offer valuable insights into how effective strategies for enhancing SBA utilization can be enacted.

2.4 Theoretical Framework

The Health Belief Model is essential in this investigation. Because 'health-seeking' is a conditioned behavior, any attempt to urge people to seek treatment must first understand

their motive (Becker, 1919). Only through gaining a better grasp of the complex elements that influence behavioral practices can health promotion programs and interventions be successfully integrated into people's lives to effect changes in health behavior (Green et al., 2020). The HBM's basic tenets are founded on the assumption that behavior is a function of the subjective value of an outcome and the subjective likelihood or anticipation that a specific action will result in that outcome (Mekonnen et al., 2019).

Figure 1. Showing the Health Belief Model

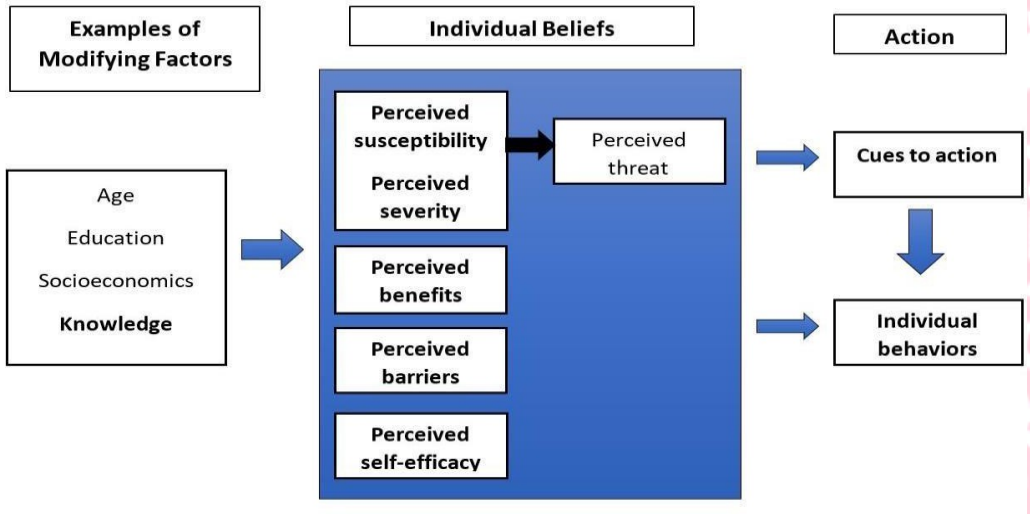

Figure 1: Health Belief Model

The framework is founded on the notion that individuals are more inclined to change their behavior and stick to treatments if they (i) believe they are at risk for getting the illness (perceived susceptibility), (ii) believe the disease may have an unfavorable outcome on their health and life (perceived severity), (iii) believe the proposed health behavior is both successful and feasible (perceived benefits), (iv) believe the obstacles to adopting the behavior are negligible (perceived barriers), (v) see themselves as being able to apply the behavior successfully (perceived self-efficacy), and (vi) have the necessary motivations to

encourage their action such as pain, past experiences or symptoms (cues to action) (Green et al., 2020). The HBM's health-specificity suited it for analyzing and explaining behavior concerning health outcomes - which may also explain its more outstanding application in public health. In this study, the HBM components are thought to be beneficial in measuring perceptions of skilled maternal healthcare services and in explaining individual decision-making processes for health-seeking behavior among pregnant mothers in North Horr Ward. Hamal et al. (2020), have shown a direct relationship between the social determinants of health and the components of the HBM in affecting pregnant mothers' health-seeking behavior.

2.5 Conceptual Framework

This conceptual research framework is founded on the dependent and independent variables, as shown in Figure 2.

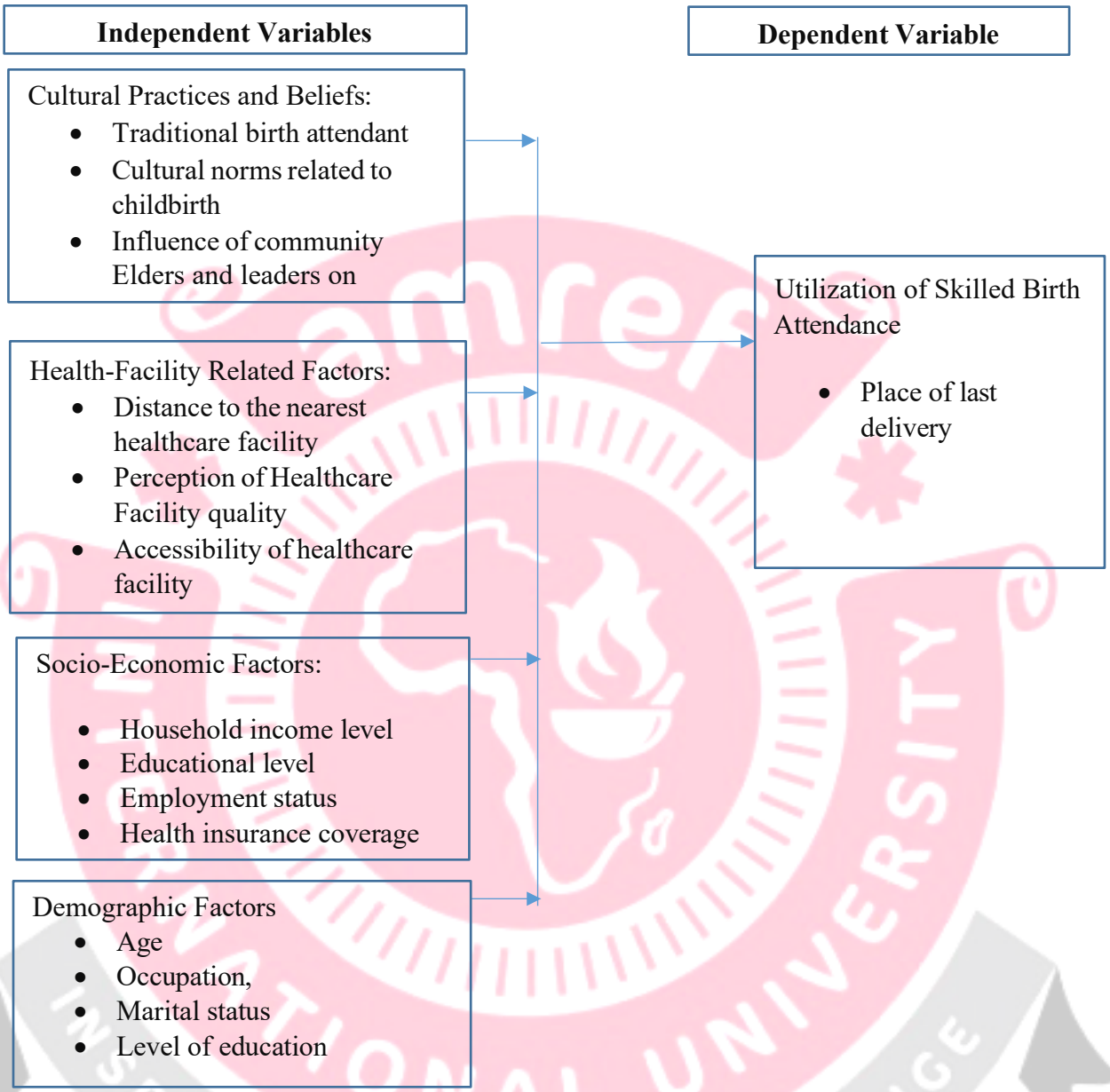

Figure 2: Conceptual framework

CHAPTER 3: METHODOLOGY

3.1 Introduction

In this chapter, a comprehensive exploration of the methodologies employed in the research was provided. The study delved into various aspects, including the study population, research design, sample size, data collection techniques, sampling techniques, and pilot testing. The discourse extended to encompass the study tools, ethical considerations, and data analysis procedures. The meticulous examination undertaken in this chapter aimed to offer a thorough understanding of the framework and procedures that guided the research.

3.2 Research Design

The research was implemented utilizing a cross-sectional research design, incorporating a mixed methods approach to comprehensively address the study objectives. Quantitative data were acquired through the deployment of structured questionnaires, specifically tailored to elicit information on skilled birth attendance within the study context. Simultaneously, qualitative insights were gleaned through key informant interviews involving community health volunteers, traditional birth attendants, and the area chief. This targeted approach focused on females aged between 15 and 49 years, ensuring a nuanced understanding of the factors influencing reproductive health practices.

The cross-sectional nature of the design allowed for the collection of data at a single point in time, providing a snapshot of the prevailing conditions within the study population. By employing mixed methods, the research sought to enrich the findings by integrating numerical data with the rich narratives obtained through qualitative means. The structured questionnaires served as a quantitative anchor, offering statistical insights, while the key

informant interviews added depth and context to the understanding of the community dynamics surrounding reproductive health.

Triangulation was a key strategy employed in this design, enabling the researcher to cross-verify and validate findings through the convergence of quantitative and qualitative data. This methodological approach facilitated a more comprehensive exploration of the research questions, offering a nuanced perspective on the experiences, perceptions, and practices related to skilled birth attendance in the targeted demographic. The study design, thus, served as a robust framework for systematically gathering and analyzing data to derive meaningful insights into the complex interplay of factors influencing reproductive health practices within the study population.

3.3 Study Site

North Horr was chosen because of the high cases of utilizing unskilled birth attendants and traditional birth attendants which are among the contributing factors for high mortality and morbidity rates of pregnant mothers and babies. North Horr is one of the sub-counties in Marsabit County. It is the largest sub-county in Marsabit County in terms of geographical size, with a total population of 71,447. North Horr sub-County borders the nation of Ethiopia to the North, Laisamis Sub County to the Southern Side, and Turkana County to the West, where it shares Lake Turkana. It also borders Moyale Sub County and Wajir County to the Eastern Side. The Sub County has 17 health facilities; administratively, it is divided into five Wards, including Illeret, Dukana, North Horr, Maikona, and Turbi wards. North Horr ward has five functional health facilities and five sub-locations (Gas, Qorqa, Elbeso, North Horr, and Malabot) with a total population of 17,271. The study area was selected based on the fact that Marsabit County records high rates of home deliveries which

are associated with a high prevalence of negative outcomes. A map fo the study area is included in the appendices.

3.4 Target Population

The target population was post-natal women of the age group 15–49 years. The total population of North Horr ward is 17,217, and females of reproductive age are 29% of the total populace; therefore, the target populace (29% of 17271) was approximately 5000 according to the 2019 census. Additionally, the study targeted key informants including elders in the community.

3.4.1 Inclusion Criteria

i. All females of reproductive age who had delivered in the last six months (this allows for a higher sample size for the study and an overall view).

ii. Residents and all mothers who gave birth in North Horr ward

iii. Consented to participate in the research.

3.4.2 Exclusion Criteria

i. All women within the reproductive age bracket who had delivered more than six months ago.

ii. Women who were not available on the day of data collection at their homesteads.

3.5 Sample Size Determination

The average number of women of reproductive age (15- 49 years) is 29%, according to county statistics for 2019. The total population is about 17,271 people and 3,000 households. The desired sample size was calculated using the Fisher et al. (1998) formula.

$$n = \frac{Z^2 P(1-P)}{d^2}$$

n=Z2 pp./d2

Where n= the desired sample size if the population is more significant than 10,000 Z= standard average deviation at the required confidence level, and p= the estimated proportion of the target population with the attribute being measured.

d = the statistical significance level is (0.05)

p=Prevalence of unskilled birth delivery will be taken at 28.95% Hence n= (Z2pq)/d2 z=1.96 p=29% according to county statistics of 2019

Therefore, n= (1.962*0.29 *0.71)/0.52

= 316

Because the study population was below 10,000, the working sample (n_o) is calculated as follows: n= n/(1+n/N)

316/ (1+316/5000)

=297

NOTE: To concern non-respondents the samples size is increase by 10%

297*10/100 =29.7

297+29.7 =327

This study, therefore targeted to include a total of 327 women in the data collection process after all adjustments. For the qualitative arm of this project, a sample size of 15 key informants was selected based on best practices proposed in the literature (Staller, 2021). Boddy (2019) proposes that a sample size of 12-15 is where saturation occurs for most qualitative research. Thus, a sample of 15 was fitting for the study.

3.6 Sampling Technique

The study, situated in the North Horr ward encompassing five sub-locations—Gas, Qorqa, Elbeso, North Horr, and Malabot—adopted a comprehensive approach to sampling. All sub-locations within North Horr were included to ensure a representative and unbiased examination of the entire ward. Given North Horr's classification as emblematic of the broader county, the study's outcomes were anticipated to offer insights reflective of the county's overall situation.

A cluster random sampling approach was used as detailed in Table 1. First, the sample size of 327 was divided across the five sub-locations proportionately. This clustering aimed to capture variations in density, preventing bias in the sampling process. Due to the impracticality of obtaining a list of mothers who delivered in the last six months for random sampling, a purposive sampling method was adopted post-clustering. Collaboration with community health volunteers (CHVs) facilitated targeted outreach to a predetermined maximum number of recently delivered women in each village.

Qualitative data collection involved key informant interviews with traditional birth attendants, chiefs, and CHVs, which were selected purposively. A total of 15 key informants were purposively selected and interviewed. The selection criteria for these interviews included at least one UBA, the area chief, and a CHV, ensuring a diverse and

comprehensive qualitative dataset. This nuanced sampling strategy aimed to capture a holistic perspective, combining quantitative rigor with qualitative depth in exploring the factors influencing maternal health practices in the North Horr ward.

Table 1: Sampling Frame

Sub-location	Deliveries in the last six months	Sample size	Village	Sample
Gas	893	893/3165 x 327=92	El-boru	92/4=23
			Barabate	92/4=23
			El-gufu	92/4=23
			Gas Centre	92/4=23
Qorqa	230	230/3165 x 327=24	Qorqa 1	24/2=12
			Qorqa 2	24/2=12
Elbeso	489	489/3165 x 327=50	Elbeso 1	50/2=25
			Elbeso 2	50/2=25
North Horr	1232	1232/3165 x 327=127	Durte	127/4=32
			El-sako	127/4=32
			Bura	127/4=32
			North Horr Centre	127/4=32
Malabot	321	321/3165 x 297=30	Qancharo	33/3=11
			Wormo	33/3=11
			Malobot Centre	33/3=11
TOTAL	3165			327

X: Multiplication

3.7 Data Collection Instruments

The data collection instruments employed in this study consisted of questionnaires administered by the researcher to collect information from the research subjects, and interviews with 15 key informants. These questionnaires encompassed a combination of closed and open-ended questions. The inclusion of structured questionnaires was instrumental in obtaining firsthand information, ensuring the reliability of the responses gathered. The structured format allowed for a systematic and standardized approach to data collection. To augment the quantitative insights, qualitative data was gathered through the utilization of critical informant interview guides. These guides were specifically designed to explore and understand the practices of Traditional Birth Attendants (TBAs). Key informants, including Community Health Volunteers (CHVs), area chiefs (5), and traditional birth attendants, were engaged in these interviews. The qualitative data collection aimed to provide a comprehensive and nuanced understanding of TBA practices, considering the perspectives and experiences of these key stakeholders. The combination of closed and open-ended questionnaires, along with critical informant interview guides, facilitated a multifaceted approach to data collection. This methodological diversity ensured a holistic exploration of the research objectives, allowing for both quantitative precision and qualitative depth in the investigation of factors influencing maternal health practices within the study context.

The key informant interviews were conducted with the help of community health volunteers, traditional birth attendants, unskilled birth attendants, and five chiefs representing the five sub-locations in the North Horr ward.

3.8 Data Collection Procedures

To streamline the data recording process, the data collection questionnaires underwent digitization, transforming them into Kobo-Collect sheets. Those involved in data collection received comprehensive training to proficiently utilize these forms on their mobile devices, as the questionnaires were interviewer-administered in most cases because many of the women were illiterate. In addition to the quantitative data collection, three key informants were interviewed in each sub-location. These key informants comprised one Community Health Volunteer (CHV), one Traditional Birth Attendant, and the area chief. This qualitative dimension of the study aimed to provide a deeper understanding of the practices and perspectives related to maternal health, enriching the overall data collection process and contributing to a more comprehensive analysis of the factors influencing reproductive health practices in the targeted communities.

3.9 Data Management

3.9.1 Data Processing, Coding, Analysis, and Presentation

After the data gathering, data were sorted and coded according to the study's objectives. Since most of the inputs were binary, an input of "Yes" was coded as "1" while a "No" was coded as "0". The data was exported from the Kobo Toolbox to an Excel Spreadsheet. After cleaning the data set, removing missing inputs, and formatting as appropriate, analysis was done using Stata Version 15.

A regression analysis model was to determine the association between the dependent and the independent variables. Regression analysis was selected since the independent variables studied herein were considered predictors of unskilled birth attendant utilization. Binary

logistic regression was employed to analyze the data, particularly in handling binary outcomes where responses were coded as 1 for "yes" and 2 for "no." This statistical method models the relationship between the binary outcome and predictor variables, estimating coefficients that represent the change in the logistic odds of the dependent variable based on changes in the predictor variables. The logit transformation is applied to map probabilities onto a scale ranging from negative to positive infinity. In this study, the logistic regression facilitated the examination of factors influencing the likelihood of a positive response, offering insights into the significance and direction of these influences. The odds ratios derived from the model provided a means to interpret the impact of predictor variables, aiding in the understanding of the relationships between coded responses and the factors under investigation. The utilization of binary logistic regression thus enabled a comprehensive analysis of the binary data, enhancing the study's capacity to discern patterns and associations within the dataset.

The qualitative data was systematically described, summarized, and interpreted for each key informant. Rigorous grammar checks were conducted following the interview guide. Subsequently, analogous responses were coded, and data sharing similar information was aggregated under thematic categories. The compiled data underwent a thorough cleaning process before being subjected to interpretative analysis. Descriptive reports were then generated, considering the challenges and concerns articulated by the majority of informants and capturing any distinctive experiences expressed. This analytical process was facilitated using NVIVO software.

Strict access controls were implemented to limit data availability exclusively to study staff, comprising the researcher and supervisors. To uphold data security, storage involved

password-protected folders, and any cloud backups were executed through zipped folders with additional password protection. Adhering to established research practices and recognized standards, the researcher committed to retaining the raw data files for a duration of up to 10 years, after which they would be securely deleted.

3.9.2 Pilot Testing of Research Instrument

Pilot testing was conducted to discover design and research tool defects and give proxy data for the probability sample selection. The questionnaire was used to conduct the five-person pilot test. As a rule of thumb, the pilot test should have 10 percent of the total sample size. The pilot testing aimed to determine the study tools' validity and reliability. Based on the pilot testing of the questionnaire, no major issues were noted with the developed data collection tool. Thus, after editing the digitized questionnaire for grammar and typological errors, data collection was commenced.

3.9.3 Research Instruments Validity

The researcher ensured that the questionnaires were carefully tested for validity and importance of the questions and content of the analysis to confirm the validity of the research instruments used to collect data. According to expert advice, the formal questionnaire validity was provided by sufficient coverage of the subject under investigation. The construct validity was determined by specifying the variables to be evaluated. The test-retest method of assessing data reliability is administering the same research instruments to the same study subjects twice. This was used to verify the questionnaire was reliable.

3.9.4 Research Instruments Reliability

The research instruments' reliability was determined by a test-retest performed in the same ward with respondents who were not part of the study sample but were North Horr ward residents but were essential to the research study. Expert opinion was used to verify the content and format of an instrument to determine its reliability. Calculation of Cronbach alpha was used to gauge the reliability of the questionnaire as in the table below. With the numerical alpha value of 0.828, the questionnaire met the threshold of 0.7 (Taber, 2019).

Table 2: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.828	.715	22

3.10 Ethical Considerations

The Amref Health Africa Ethics and Scientific Review Committee (ESRC) was contacted to seek scientific review and ethical approval to conduct the study. Further ethical approval was sought from NACOSTI for the issuance of the research study (Check Appendices). Later permission to collect data/information was obtained from Marsabit County, the North Horr ward administrator, and the chief in charge.

A written informed consent form was used to seek the consent of participants before inclusion in the study. The consent form was available in both English and Swahili to cater to the different reading levels of the potential participants. In cases where participants could not read and write, the study staff explained the study to them and assisted them to append either a signature or a thumbprint before participation. However, the participants with 19 years who are already married were considered mature enough to give their own consent

without the need for their parents or guardians. The consent forms were available in both Swahili and English.

Participation was purely voluntary with no coercion or compulsion. To attain this, the study consent and assent forms specified that every participant was participating in the study voluntarily and was compelled to continue in case they felt uncomfortable or violated. Further to this, participants also had the freedom to avoid answering any questions that made them uncomfortable. If a participant chose to withdraw from the study, they were assured that they would not need to give any explanations or follow any withdrawal procedures. One would withdraw from the study at any time by simply not answering the questionnaire or submitting it back.

Finally, the study also adhered to the principle of privacy and confidentiality. First, participants were guaranteed that the data/information they offered was only to be utilized for study purposes and would not fall into the wrong hands or be used for other purposes. To achieve privacy and confidentiality, the study tools were coded with random identifiers and not participant names or locations that might directly refer to them. For the young mothers who may be shy, the researcher attempted to ensure privacy by first reassuring them that their data is not disclosed to anyone. Secondly, using CHVs to assist in data collection also helped give them the confidence to speak up. The identified and anonymized data was stored in password-protected folders and Google Drive to which only authorized study staff had access. Following completion of the study and final analysis, only the analyzed findings were shared with relevant authorities or published, but not the raw data.

3.11 Community Engagement Plan

Following all approvals of the study, the researcher and study assistants planned to embark on sensitizing the community about the study. This was done mainly through community health volunteers who alert members of the community during their regular meetings. The role of these CHVs was only to alert the community about the study and its benefits, but much of the details were conveyed by study staff during a feedback session after the analysis. The focus was to educate community members to use hospitals more than UBAs.

3.12 Dissemination of Study Findings

The findings of this study shall be conveyed to the public health authorities in the region as a presentation during the county health management team meetings. Further, the researcher shall also share the findings with members of the community directly in the form of a health talk on the need to use skilled birth attendants instead of unskilled birth attendants in the villages. Finally, the researcher shall publish the data in the form of a paper in a scholarly journal and present it at relevant conferences.

3.13 Management of the Study

The responsibility of conducting the study was squarely on the principal investigator who pooled a team of research assistants in the community to assist with data collection. All other steps including data analysis were performed by the principal investigator who consulted with the supervisors at every step to ensure excellent output. The study budget and work plan are attached in the appendices.

CHAPTER 4: RESULTS

4.1 Chapter Overview

Chapter 4 presents a comprehensive synthesis of both quantitative and qualitative findings, elucidating barriers to the utilization of skilled birth attendance. Through rigorous analysis, the chapter unveils a nuanced understanding of the intricate dynamics that shape maternal decision-making. Quantitative data sheds light on statistical patterns and correlations, offering a quantitative foundation for the study. Meanwhile, qualitative insights enrich the narrative by capturing the depth and context of individual experiences. The interplay between these two methodologies converges to provide a holistic perspective on the multifaceted determinants impacting maternal choices. This chapter serves as a pivotal bridge between numerical evidence and real-world narratives, enhancing the robustness of the study's conclusions and contributing valuable insights to the discourse on maternal healthcare preferences.

The qualitative analysis employed a hybrid approach, combining elements of both inductive and deductive thematic analysis. Initially, open coding was conducted to identify key concepts and categories within the interview transcripts. This process involved a close reading of the data to discern recurring patterns and shared meanings across participants' responses. The coding process progressed through multiple iterations, refining and consolidating codes into broader categories. These categories were then synthesized into overarching themes that captured the essence of participants' experiences and perspectives regarding skilled birth attendance utilization. The analysis was guided by the research objectives, ensuring that the emerging themes aligned with the study's core questions. For each research objective, several main themes were identified, supported by verbatim quotes

from participants to ground the analysis in the data. The themes for demographic factors included Individual Characteristics, Geographic Location, and Socioeconomic Status. Economic factors yielded themes of Economic Insecurity, Healthcare Financing, and Socioeconomic Status. Socio-cultural factors were categorized into Cultural Norms, Social Influence, and Belief Systems. Lastly, health facility-related factors produced themes of Infrastructure, Service Quality, and Resource Management. This thematic structure provided a comprehensive framework for understanding the multifaceted influences on skilled birth attendance utilization among post-natal women in North Horr ward, Marsabit County.

4.2 Demographic Factors that Bar the Utilization of Skilled Birth Attendance

Quantitative Findings

The age data represents values for 306 individuals. The mean age is 33 years old, with a standard deviation of 8.7 years. This indicates there is a fair amount of variation in ages, but most individuals are centered around 33 years old. The minimum age was 19, and the maximum was 49. Looking at marital status, the majority of individuals are married (92% [n=281]), 6% (n=18) were widowed, 2% (n=5) were divorced, and only 1% (n=2) were single. As for children per family, 97% (n=297) reported having children, while only 3% (n=9) had no children. For those with children, the mean number of children was 3.5, indicating that families tended to be large in size. Most participants were unemployed (98% [n=301]), while the majority were Muslim (54% [n=164]). It was also striking that a 97% (n=298) had no education at all. Table 3 summarizes the demographic data about the participants.

Table 3: *Demographic Data Summary*

Variable Name		N	Mean	Std. Dev.	Min	Max
Age		306	33	8.7	19	49
Marital status		306				
	Divorced	5	2%			
	Married	281	92%			
	Single	2	1%			
	Widowed	18	6%			
Do you have children?		306				
	No	9	3%			
	Yes	297	97%			
Number of Children		297	3.5	2.1	1	23
Occupational status		306				
	Salaried employed	1	0%			
	Self-employed	4	1%			
	Unemployed	301	98%			
Religion		306				
	Catholic	120	39%			
	Muslim	164	54%			
	Others (specify)	11	4%			
	Protestant	11	4%			
Education level		306				
	College	1	0%			
	None	298	97%			
	Primary	4	1%			
	Secondary	2	1%			
	University	1	0%			

The Chi-Square Test of Independence provided an analysis of the association between the 'Place of Last Delivery' and the demographic variables. The 'Age Group' variable showed a Chi-square statistic of 23.63 with a p=.002, suggesting a highly significant association with the place of delivery. This implies that the age group of the individuals was likely to be related to whether they delivered at home or in a hospital. In contrast, 'Employment Status' and 'Education Level' had Chi-square statistics of 3.25 and 4.05, with p=.071 and p=.256, respectively, which are not statistically significant at the conventional 0.05 threshold. This may guide health policymakers to consider age-related strategies when designing interventions to influence delivery location decisions. Table 4 Shows the Chi-

square test for independence showing the relationship between demographic variables and place of last delivery

Table 4: *Chi-square test for the relationship between demographic variables and place of last delivery*

		Place of Last Delivery				
Employment		0	1	Total	Chi2	P
	Employed	0	5	5	5.0831	.079
	Unemployed	153	148	301		
	Total	153	153	306		
Age Group	15-24	46	24	70	23.6321	.001
	25-34	52	51	103		
	35-44	34	67	101		
	45-44	17	11	27		
	44+	4	0	5		
	Total	153	153	306		
Education Level	None	151	147	298	4.0537	.399
	Primary	2	2	4		
	Secondary	0	2	2		
	Tertiary	0	2	2		
	Total	153	153	306		

Qualitative Findings

The qualitative analysis of demographic factors influencing the utilization of skilled birth attendance services among post-natal women in North Horr ward, Marsabit County, employed a rigorous thematic analysis process and revealed three primary themes: Individual Characteristics, Geographic Location, and Socioeconomic Status (*see appendix 7*). These themes emerged from the thematic analysis of interview transcripts, providing deeper insights into how demographic factors interplay with women's decisions regarding skilled birth attendance. This process began with open coding of the interview transcripts, progressed through categorization, and culminated in the identification of overarching themes.

Initially, the researchers conducted line-by-line open coding of the transcripts (*see appendix 7*). This process yielded numerous codes related to demographic characteristics. For example, codes such as "young age," "unmarried status," and "lack of education" emerged from statements like: *"As a young, unmarried mother with only primary education, I lacked the knowledge and confidence to seek skilled birth attendance." (P1).* Similarly, codes like "older age," "multiple children," and "no formal education" were derived from quotes such as:

> *"As an older, married woman with multiple children and no formal education, I felt more comfortable relying on my own experiences and the traditional knowledge passed down through generations of women in my family." (P2)*

As the coding progressed, patterns began to emerge, allowing for the grouping of related codes into broader categories. For instance, codes related to age, marital status, education level, and parity were grouped under the category "Personal Demographics." This categorization process was informed by statements like:

> *"Being an unmarried, teenage mother with no formal education, I faced significant stigma and discrimination from my community. I was too ashamed and afraid to seek skilled birth attendance." (P7)*

Codes related to residence, such as "rural area," "remote village," and "urban residence," were categorized under "Residential Factors." This category was supported by quotes like: *"Living in a remote, impoverished village with limited access to healthcare, I had no choice but to rely on the traditional birth attendants in my community." (P11).* Economic-related codes like "subsistence farmer," "no regular income," and "working professional" were

grouped under the category "Economic Factors." This categorization was based on statements such as: *"As a working professional in an urban area, I had access to a range of healthcare options and the financial means to afford quality care." (P10)*

Through further analysis and abstraction of these categories, three overarching themes emerged: Individual Characteristics, Geographic Location, and Socioeconomic Status. The theme of Individual Characteristics, which was most dominant, encompassed personal demographic factors that influenced women's decisions and abilities to seek skilled birth attendance. This theme is exemplified by the quote:

> *"As an educated, professional woman in my mid-thirties with two previous hospital deliveries, I had a strong conviction in the importance of skilled birth attendance." (P13)*

Geographic Location emerged as a theme reflecting the significant impact of residential factors on access to skilled birth attendance. This theme is illustrated by the statement:

> *"Living in a conservative, religious community with deeply-rooted cultural beliefs about childbirth, I faced immense social pressure to conform to traditional practices." (P12)*

The theme of Socioeconomic Status captured the influence of economic factors on women's ability to access skilled birth attendance. This theme is supported by quotes like:

> *"As a student living in a peri-urban area, I had limited financial resources and relied on public transportation to access healthcare." (P14)*

These qualitative findings complement the quantitative data by providing context and depth to the demographic factors influencing skilled birth attendance utilization. They highlight the complex interplay between individual, geographic, and socioeconomic factors in shaping women's decisions and abilities to access skilled care during childbirth. The narratives reveal how age, education, marital status, and parity intersect with place of residence and economic circumstances to create unique challenges and opportunities for different women in accessing skilled birth attendance services.

4.3 Economic Factors Affecting Utilization of Skilled Birth Attendance

Quantitative Data

The data showed that most women (86%, n=263) did not earn their own money, instead depending financially on their husbands (87% [n=263]) or other sources like parents, relatives, or siblings. Of the 14% (n=43) who did earn money, incomes were generally low, with 74% (n=32) earning less than 10,000 Ksh per month. Though most women were married (87% [n=266]) and could depend on their husbands for support, the data indicates that they did not have personal funds and that barriers like transportation limit access to facilities. Whereas the majority (71% [n=219]) lived in a manyatta, most used walking (30% [n=92]) and motorbike (45% [n=138]) as their modes of transport. Overall, the narrative shows a reliance on others for financial support and highlights how economic constraints such as income, transport, and infrastructure are impacting maternal access and choice related to delivery. Table 5 shows economic factors summary

Table 5: *Economic Factors Summary*

Variable		N	Percentage
Do you earn your own money		306	
	No	263	86%
	Yes	43	14%
If you do earn money, what is your monthly income?		43	
	<10000 Ksh	32	74%
	11000-20140 Ksh	9	21%
	21000-40000 Ksh	1	2%
	41000 Ksh & above	1	2%
Mode of transport to hospital	Walking	92	30%
	Motorbike	138	45%
	Vehicle	76	25%
Type of house you live in	Manyatta	219	71%
	Semi/Permanent	87	29%
Are you dependent on your family or husband for monetary support?			
	Yes	265	86.3%
	No	41	13.4%
Sources of Money for Hospital Visits		263	
	Others(specify)	16	6%
	Parents	6	2%
	Relative	13	5%
	Siblings	1	0%
	Spouse	227	86%

*N=is the number of respondents registered and included in the study. It changes with variables since different people are affected by different factors. For instance, out of 306, 92 walk, 138 use motorbikes, and 76 use vehicles.

The study respondents also cited several factors that influence their ability to access skilled birth attendants in hospitals. Key factors hindering the use of health facilities for maternity services were insufficient funds (77%), high transport costs (38%), poor transportation (34%), and infrastructure issues like roads (33%). The table below is a summary of the

challenges reported, highlighting the frequencies of women reporting them and their percentages. Table 6 shows factors hindering health facility deliveries.

Table 6: *Factors Hindering Health Facility Deliveries*

Factor	Freq.	%
High transport costs to the facility	117	38%
Poor means of transport	104	34%
Poor roads or infrastructures	101	33%
Insufficient money to pay for services	236	77%
Lack of insurance	271	88.5%

The table 7 below assesses the effect of economic factors (EF1 to EF6) on the place of delivery, distinguishing between skilled or hospital delivery (Place of Delivery=1) and home delivery (Place of Delivery=0). The chi-square analysis reveals significant associations between economic factors and delivery locations. High transport fare (EF1), poor means of transport (EF2), poor roads/infrastructures (EF3), insufficient money (EF4), insecurity (EF5), and other economic factors (EF6) all exhibit significant association with hospital deliveries ($p<0.001$). These findings underscore the influence of economic challenges on healthcare choices, emphasizing the need for targeted interventions to improve the accessibility and affordability of skilled delivery services in the community. Table 7 shows chi-squares analysis for economic factors

Table 7: *Chi-squares Analysis for Economic Factors*

Variable	Label	Place of Delivery=1	Place of Delivery=0	Chi2	p-value
EF1	High transport fare	9	144	132.9003	0.000
	Poor means of transport	7	146	117.4414	0.000
EF3	Poor roads/infrastructures	8	145	106.25	0.000
EF4	Insufficient money	105	48	11.57688	0.001
EF5	Insecurity	17	136	15.94464	0.000
EF6	Other economic factors	49	104	39.10062	0.000

Qualitative Findings

The thematic analysis of economic factors influencing the utilization of skilled birth attendance services among post-natal women in North Horr ward, Marsabit County, revealed three primary themes: Economic Insecurity, Healthcare Financing, and Socioeconomic Status (*see appendix 8*). Economic Insecurity emerged as the most dominant theme, followed closely by Healthcare Financing, while Socioeconomic Status, though significant, was less frequently cited by participants. The thematic analysis process began with open coding of the interview transcripts, progressed through categorization, and culminated in the identification of overarching themes. This rigorous process ensured that the final themes were firmly grounded in the participants' experiences and perspectives. The initial open coding phase yielded numerous codes related to economic factors. For instance, codes such as "low income," "inability to save," and "financial constraints" emerged from statements like:

"My job as a casual laborer doesn't provide enough income for hospital fees. It's hard to save for delivery costs." (P1)

Similarly, codes like "high transport costs" and "competing priorities" were derived from quotes such as:

"The cost of transport to the health facility is too high. I'd rather use that money for food." (P1)

As the coding progressed, patterns began to emerge, allowing for the grouping of related codes into broader categories. Codes related to financial difficulties, such as "low income," "financial struggle," and "income instability" were grouped under the category "Financial Challenges." This categorization process was informed by statements like:

"I work on a farm, and we barely make ends meet. Extra medical expenses are a luxury." (P4)

Codes related to healthcare costs, such as "high medical costs," "hidden medical expenses," and "cost-effective alternatives" were categorized under "Healthcare Costs." This category was supported by quotes like:

"The health facility charges for everything - tests, medicines. It adds up quickly." (P4)

Employment-related codes like "lack of maternity benefits," "self-employment challenges," and "employment instability" were grouped under the category "Employment Issues." This categorization was based on statements such as:

"My job doesn't offer maternity leave. I can't afford to take unpaid time off for antenatal visits." (P5)

Through further analysis and abstraction of these categories, three overarching themes emerged: Economic Insecurity, Healthcare Financing, and Socioeconomic Status. Economic Insecurity emerged as the most dominant theme, encompassing the financial challenges and instability faced by many women. This theme is exemplified by the quote:

"We're already in debt from previous medical bills. Another hospital delivery seems impossible." (P7)

Healthcare Financing emerged as the second most prominent theme, reflecting the various costs associated with skilled birth attendance and how women navigate these expenses. This theme is illustrated by the statement:

"The traditional birth attendant allows payment in kind, which suits our financial situation better." (P13)

Socioeconomic Status, while less frequently mentioned, emerged as a theme capturing the broader economic context of women's lives. This theme is supported by quotes like:

"As a small business owner, every day away from my shop means lost income." (P6)

These qualitative findings provide depth and context to the quantitative data on economic factors affecting skilled birth attendance utilization. While the quantitative data showed that 86% of women did not earn their own money and 87% depended financially on their husbands, the qualitative findings reveal the complex ways in which this economic dependence impacts decision-making around childbirth. The qualitative data also offers insights into how women prioritize expenses when faced with limited resources, often choosing between healthcare and other essential needs. Furthermore, these findings highlight the hidden costs associated with facility-based deliveries, such as transportation and accommodation, which may not be fully captured in quantitative surveys. The

emergence of themes like Economic Insecurity and Healthcare Financing aligns with and expands upon the quantitative findings that 77% of women cited insufficient funds as a barrier to using health facilities for maternity services. Overall, the qualitative findings provide a nuanced understanding of the economic barriers to skilled birth attendance, complementing and enriching the quantitative data.

4.4 Socio-cultural Factors that Bar the Utilization of Skilled Birth Attendance

Quantitative Data

A key decision factor for place of delivery is who determines where the woman gives birth. Although most women (71% [n=218]) reported they make the decision themselves, 28% (n=85) said their husbands decide. This indicates male partners play a sizable role in the choice to deliver at a facility or at home. As for the actual place of last delivery, the split was nearly even between health facilities (50% [n=162]) and home births (47% [n=144]). For those opting for home delivery, the most common reason (80% [n=123]) was the availability of a traditional birth attendant (TBA). Still, tradition appears to be leading many women, especially in rural areas, to depend on TBAs over formal medical care. The data also highlighted the influence family can have over maternal decisions and behaviors. Most women (91% [n=277]) reported getting advice from family members, showing they value input on delivery options. While culture itself may not deter facility use for most, the norm of utilizing TBAs embedded in communities steers many women towards home birth. Table 8 provides a summary of socio-cultural factors.

Table 8: *Summary of Socio-Cultural Factors*

Variable Name		N	Percentage
Who decides on where to deliver?		305	
	Husband	85	28%
	Mother-in-law	1	0%
	Others Specify	1	0%
	Self	218	71%
Where did you deliver your last pregnancy?		306	
	Health Facility	162	50%
	Home	144	47%
Why did you choose home delivery?		144	
	Other reasons	2	1%
	It is Our Culture	7	5%
	Religion	1	1%
	Sudden labor	20	13%
	TBA availability	123	80%
Does advice from family members influence your decision on where to deliver?		306	
	No	29	9%
	Yes	277	91%

The data shows that certain traditional practices are contributing to the high rates of unskilled birth attendance during delivery. The predominant traditional practice, stated by 65% of respondents, was specific delivery methods. Additionally, 21% of women cited the use of herbal or traditional medicines as impacting access to skilled attendants. Other cited factors include duties like nutrition management and household chores during pregnancy/postpartum (0.33%), other unspecified traditions (12%), and postnatal/infant care practices (0.33%). Only one of the respondents reported female genital mutilation as a contributor in this sample. Together, the reliance on conventional delivery procedures, herbal remedies treatments, and duties carried out in the home environment construct long-standing traditions around unassisted births as the norm women adhere to in their

communities. With over 65% linking traditional delivery approaches alone to unskilled attendance outcomes, the data further solidifies birth attendant behaviors as the primary socio-cultural influence steering women away from skilled facilities and caregivers during the birthing process.

Table 9: *Traditional Practices that Contribute to UBA*

	Freq.	**Percent**
Delivery practices (explain)	199	65.25
FGM	1	0.33
Herbal/traditional medicines	66	21.64
Herbal/traditional medicines	1	0.33
Nutrition/chores in pregnancy and after birth	1	0.33
Others (specify)	36	11.80
Postnatal and baby care	1	0.33
Total	305	100.00

FGM- Female Genital Mutilation

A Likert scale question was also used to assess women's cultural aspects and perspectives that influenced their choices to use skilled or unskilled birth attendants. The items assessed included safety of home deliveries, accompaniment by male partners, belief that TBAs were more skilled, belief that only first-time women should go to the hospital, and belief that herbal drugs were equally safe to use in pregnancy. The table 12 below summarizes responses to these factors. Table 10 shows the likert scale responses for socio-cultural factors.

Table 10: *Likert Scale Responses for Socio-Cultural Factors*

S/NO	Statement	Frequency (%)				
		1	**2**	**3**	**4**	**5**
1.	Home deliveries are safe.	20.5	20.8	16.9	16.3	23.1
2.	Male partners accompany female spouses to the hospital	22.1	19.5	16.6	21.8	17.6
3.	TBAs are more skilled than facility midwives	14.0	19.5	21.2	21.2	21.8
4.	Only women delivering for the first time should deliver in a hospital	17.6	23.1	19.5	17.9	19.5
5.	Herbal drugs are safe to use during pregnancy	17.6	19.2	20.8	23.1	16.9
6.	FGM does not affect women during delivery	19.5	20.2	17.6	21.2	19.2

FGM-Female Genital Mutilation

TBAs-Traditional Birth Attendants

Table 11 below focuses on socio-cultural factors (SC1 to SC6) and their association with the place of delivery, distinguishing between skilled or hospital delivery (Place of Delivery=1) and home delivery (Place of Delivery=0). Results indicate significant associations between socio-cultural factors and delivery locations. Notably, delivery practices (SC4) and the use of herbal/traditional medicines (SC2) exhibited a statistically significant relationship with hospital deliveries ($p<0.001$). Conversely, nutrition/chores in

pregnancy and after birth (SC1), postnatal and baby care (SC3), FGM (SC5), and other socio-cultural factors (SC6) show no significant relationship with the place of delivery. These findings emphasize the nuanced influence of socio-cultural factors on healthcare choices in the community**.** Table 11 shows chi-squares for sociocultural factors.

Table 11: Chi-squares for Sociocultural Factors

Variable	Label	Place of Delivery=1	Place of Delivery=0	Chi2	p-value
SC1	Nutrition/chores in pregnancy and after birth	1	152	0	1.0000
SC2	Herbal/traditional medicines	67	86	76.64502	0.0000
SC3	Postnatal and baby care	0	153	0	1.0000
SC4	Delivery practices	51	102	139.2478	0.0000
SC5	FGM	1	152	0	1.0000
SC6	Other sociocultural factors	36	117	35.54064	0.0000

SC- Sociocultural

Qualitative Findings

The thematic analysis of socio-cultural factors influencing the utilization of skilled birth attendance services among post-natal women in North Horr ward, Marsabit County, revealed three primary themes: Cultural Norms, Social Influence, and Belief Systems. Cultural Norms emerged as the most dominant theme, followed closely by Social Influence, while Belief Systems, though significant, was less frequently cited by participants. The thematic analysis process involved a rigorous examination of interview

transcripts, progressing from open coding to categorization, and finally to the identification of overarching themes. This process ensured that the final themes were firmly grounded in the participants' experiences and perspectives.

The initial open coding phase yielded numerous codes related to socio-cultural factors. For instance, codes such as "cultural perceptions of strength," "traditional gender roles," and "modesty concerns" emerged from statements like:

> *"In our culture, childbirth is seen as a test of womanhood. Going to the hospital is viewed as weakness." (P1)*

Similarly, codes like "family traditions," "intergenerational influence," and "family approval" were derived from quotes such as:

> *"My mother-in-law insists that all women in our family should give birth at home, as it's our tradition." (P1)*

As the coding progressed, patterns began to emerge, allowing for the grouping of related codes into broader categories. Codes related to cultural practices and beliefs, such as "birth rituals," "traditional medicine," and "cultural stigma" were grouped under the category "Cultural Practices and Beliefs." This categorization process was informed by statements like:

> *"We have rituals that must be performed during childbirth, which hospitals don't allow." (P4)*

Codes related to social pressures and influences, such as "family pressure," "community leadership influence," and "peer influence" were categorized under "Social Pressures." This category was supported by quotes like:

"Our community elders advise against hospital births, saying it brings bad luck to the baby." (P2)

Codes related to religious and spiritual beliefs, such as "religious beliefs," "spiritual assistance in childbirth," and "astrological beliefs" were grouped under the category "Religious and Spiritual Beliefs." This categorization was based on statements such as:

"My pastor says that faith in God is enough for a safe delivery, not medical interventions." (P5)

Through further analysis and abstraction of these categories, three overarching themes emerged: Cultural Norms, Social Influence, and Belief Systems. Cultural Norms emerged as the most dominant theme, encompassing the cultural practices, traditions, and expectations that shape women's childbirth choices. This theme is exemplified by the quote:

"We believe that the placenta must be buried in our ancestral land, which is not possible with hospital births." (P7)

Social Influence emerged as the second most prominent theme, reflecting the significant impact of family, community, and peer pressure on women's decisions. This theme is illustrated by the statement:

"The women's group in our village encourages home births as a way to preserve our cultural identity." (P4)

Belief Systems, while less frequently mentioned, emerged as a theme capturing the religious and spiritual beliefs that influence childbirth practices. This theme is supported by quotes like:

"We believe that complications during birth are a result of curses, which only traditional healers can address." (P11)

These qualitative findings provide depth and context to the quantitative data on socio-cultural factors affecting skilled birth attendance utilization. While the quantitative data showed that 71% of women reported making the decision about where to give birth themselves, the qualitative findings reveal the complex socio-cultural pressures that influence this decision-making process. The emergence of Cultural Norms as the dominant theme aligns with and expands upon the quantitative finding that 80% of women choosing home delivery cited the availability of a traditional birth attendant as the primary reason. The qualitative data also offers insights into the role of Social Influence, which may explain why 91% of women reported getting advice from family members about delivery options. Furthermore, these findings highlight the importance of Belief Systems, which may not be fully captured in quantitative surveys but play a crucial role in shaping women's childbirth preferences. Overall, the qualitative findings provide a nuanced understanding of the socio-cultural factors impacting skilled birth attendance utilization, complementing and enriching the quantitative data by revealing the deep-rooted cultural norms, social pressures, and belief systems that influence women's choices in this context.

4.5 Health Facility-Related Factors that Affect the Utilization of Skilled Birth Attendance

Quantitative Findings

When examining factors related to health facilities that enable or deter access to delivery services, the data first indicated most women (82% [n=251]) have a facility in their area providing maternity care. Proximity also did not appear to be a universal barrier, as over

half (56% [n=170]) of respondents have a facility within 5 km. However, closer analysis showed distant facilities still impact a substantial minority, with 34% (n=104) living 11-15 km away and some up to 24 km away. The hours of operations also constrain access, with centers not open 24 hours (78%[n=238]), limiting when women can present for delivery. As for the care experience itself at existing facilities, women provided mixed feedback. The majority described services as very good (49% [n=151]), followed by good at 33% (n=100). Commendably, 73% (n=224) of the participants stated that they received health education at the facility.

Table 12: Summary of Health Facility Results

Variable Name		Frequency	Percentage
Health facility maternity service Available		305	
	No	54	18%
	Yes	251	82%
Distance to nearest Health Facility		306	
	<5 Kilometer	170	56%
	11-15 Kilometer	104	34%
	16-24 Kilometer	2	1%
	6-10 Kilometer	30	10%
The nearest public health facility operates 24 24-hour		306	
	No	238	78%
	Yes	68	22%
Rate hospital delivery service		306	
	Excellent	54	18%
	Very good	151	49%
	Good	100	33%
	Poor	1	0%
	Very poor	0	0%
Health education at the facility			
	Yes	224	73%
	No	82	27%

The data highlights several key factors related to health facilities that deter women from seeking skilled delivery services. Distance was one major issue, with 42.5% of women stating hospitals were too far away. Poor conditions also dissuaded use, including unsanitary maternity environments (37.6%) and inadequate medical equipment/drugs (16.7%). Negative healthcare worker conduct posed barriers as well, whether via poor attitude (53.9%), insufficient emotional support (33.7%), or annoying language (33.7%). And 6.2% reported a perception of unskilled workers at facilities. Combined, these access issues (distance), infrastructural limitations (unsanitary, underequipped centers), and unwelcoming caregiver behavior (rude staff lacking compassion and skills) constructed an atmosphere at formal medical establishments that drove one-fifth to nearly one-half of this sample to avoid facility-based delivery—instead seeking more convenient and receptive community birth options.

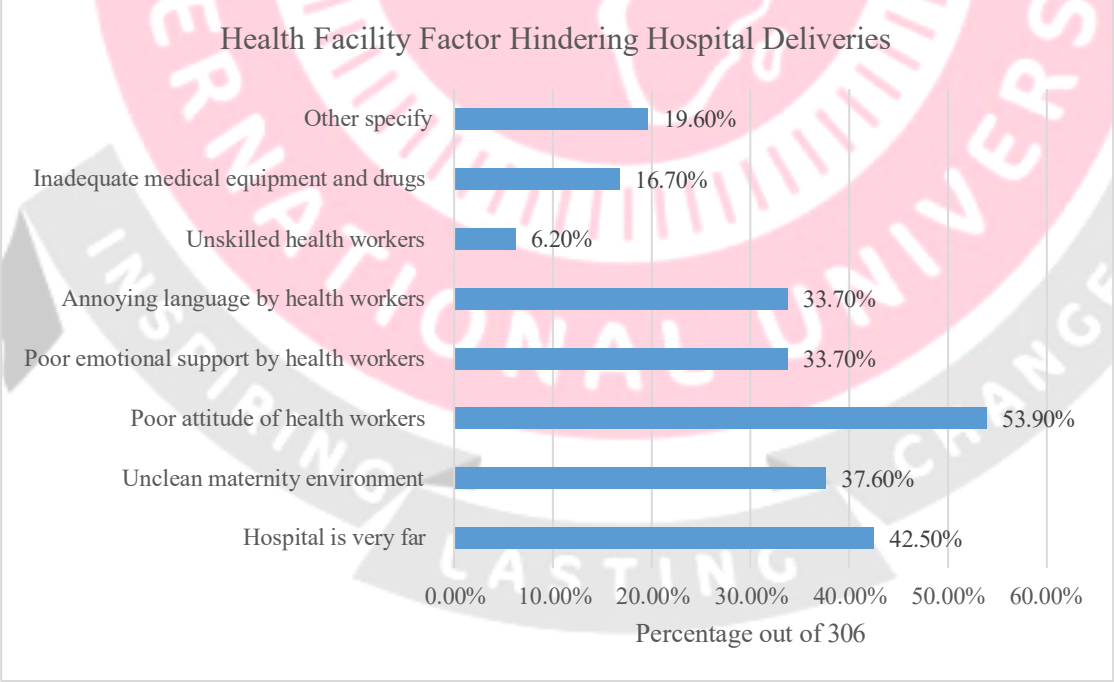

Figure 3: Health Facility Factors Hindering Hospital Deliveries

Table 13 explores health facility factors (HF1 to HF8) and their correlation with the place of delivery, distinguishing between skilled or hospital delivery (Place of Delivery=1) and home delivery (Place of Delivery=0). The results underscore significant associations between health facility factors and delivery locations ($p<0.001$). Notably, the operation of public health facilities 24 hours (HF1), the proximity of hospitals (HF2), cleanliness of maternity environments (HF3), health worker attitudes (HF4), emotional support (HF5), language used by health workers (HF6), skill levels of health workers (HF7), and availability of medical equipment and drugs (HF8) all exhibited significant relationships with the place of delivery selected by women ($p<0.001$). These findings emphasize the pivotal role of health facility factors in influencing maternal healthcare choices.

Table 13: Chi-squares Analysis for Health Facility Factors

Variable	Label	Place of Delivery=1	Place of Delivery=0	Chi2	p-value
HF1	Does the public health facility operate 24 hours?	8	145	170.7742	0.001
HF2	The hospital is very far	29	124	10.84701	0.0010
HF3	Unclean maternity environment	92	61	64.41812	0.0000
HF4	Poor attitude of health workers	96	57	8.891296	0.0029
HF5	Poor emotional support by health workers	94	59	103.2635	0.0000
HF6	Annoying language by health workers	0	153	18.18155	0.0001
HF7	Unskilled health workers	5	148	37.64706	0.0001
HF8	Inadequate medical equipment and drugs	50	103	31.53293	0.0001

HF-Health Facility Factor

Qualitative Findings

The thematic analysis of health facility-related factors influencing the utilization of skilled birth attendance services among post-natal women in North Horr ward, Marsabit County, revealed three primary themes: Service Quality, Infrastructure, and Resource Management (*see appendix 10*). Service Quality emerged as the most dominant theme, followed by Infrastructure, while Resource Management, though significant, was less frequently cited by participants. The thematic analysis process involved a systematic examination of interview transcripts, progressing from open coding to categorization, and finally to the identification of overarching themes. This rigorous process ensured that the final themes were firmly grounded in the participants' experiences and perspectives.

The initial open coding phase yielded numerous codes related to health facility factors. For instance, codes such as "staff shortage," "long waiting times," and "staff attitude" emerged from statements like:

"There's only one doctor for the whole facility. We have to wait for hours." (P3)

Similarly, codes like "distance to facility," "transportation challenges," and "seasonal accessibility" were derived from quotes such as:

"The health facility is too far from our village. It takes hours to reach there." (P1)

As the coding progressed, patterns began to emerge, allowing for the grouping of related codes into broader categories. Codes related to staff behavior and competence, such as "staff attitude," "perceived lack of skills," and "poor communication" were grouped under the category "Staff-Patient Interaction." This categorization process was informed by statements like:

"The health workers are often rude and shout at women during labor." (P4

Codes related to physical aspects of the facility, such as "overcrowding," "lack of privacy," and "poor hygiene" were categorized under "Facility Conditions." This category was supported by quotes like:

"The sanitation at the facility is poor. The toilets are always dirty." (P6)

Codes related to availability of services and supplies, such as "drug stockouts," "lack of critical services," and "inadequate medical equipment" were grouped under the category "Resource Availability." This categorization was based on statements such as:

"The facility lacks basic equipment. Last time, they didn't even have gloves." (P2)

Through further analysis and abstraction of these categories, three overarching themes emerged: Service Quality, Infrastructure, and Resource Management. Service Quality emerged as the most dominant theme, encompassing aspects of staff-patient interaction, competence of healthcare providers, and the overall patient experience. This theme is exemplified by the quote:

"The staff don't explain procedures or ask for consent before doing things." (P12)

Infrastructure emerged as the second most prominent theme, reflecting the physical aspects of the health facilities and their accessibility. This theme is illustrated by the statement:

"There's no proper road to the facility. It's nearly impossible during rainy season." (P9)

Resource Management, while less frequently mentioned, emerged as a theme capturing the availability and management of medical supplies, equipment, and services. This theme is supported by quotes like:

"The facility often runs out of essential medicines. We have to buy from outside." (P7)

These qualitative findings provide depth and context to the quantitative data on health facility-related factors affecting skilled birth attendance utilization. While the quantitative data showed that 82% of women reported having a facility in their area providing maternity care, the qualitative findings reveal the complex challenges that women face even when facilities are present. The emergence of Service Quality as the dominant theme aligns with and expands upon the quantitative finding that 49% of women described services as very good, highlighting both positive experiences and areas for improvement. The Infrastructure theme provides context to the quantitative data showing that 56% of women have a facility within 5 km, revealing that proximity alone does not guarantee accessibility. Furthermore, these findings highlight Resource Management issues, which may explain why some women opt for home births despite the availability of facilities. The qualitative data also offers insights into operational issues, such as limited operating hours (78% of facilities not open 24 hours), which significantly impact women's choices. Overall, the qualitative findings provide a nuanced understanding of the health facility-related factors affecting skilled birth attendance utilization, complementing and enriching the quantitative data by revealing the complex interplay of service quality, infrastructure, and resource management that influence women's experiences and decisions in seeking skilled birth attendance.

4.6. Combined Effect of Independent Variables on Place of Last Delivery

In the conducted logistic regression analysis, the primary objective was to examine the influence of various factors—grouped into economic (EF), socio-cultural (SC) and health facility (HF) categories—on the choice of place for the last delivery categorized as either hospital (coded as 1) or home delivery (coded as 0). The analysis, which was performed

on a dataset comprising 268 observations after deleting any with missing entries, revealed substantial insights into the determinants of delivery location preferences. The model's efficacy was underscored by a Likelihood Ratio chi-square of 284.52, which was highly significant (Prob > chi2 = 0.0000), indicating that the model with predictors provided a significantly better fit to the data compared to a null model. Additionally, the high Pseudo R2 value of 0.7658 denoted that a considerable proportion of the variance in the dependent variable was explained by the model, affirming its explanatory power.

Upon examining the model coefficients, several intriguing patterns emerged, although they were nuanced by concerns of potential data issues or model overfitting. The odds ratios for the variables presented a wide range, with some extremely high (e.g., EF1 at 3.31e+09) or low (e.g., SC4 at 6.29e-10) values, suggesting a dramatically high alteration in the odds of hospital delivery with a unit change in these predictors. However, the interpretation of these odds ratios was complicated by the exceedingly large standard errors associated with many of the coefficients, such as EF1 (1.88e+13) and EF6 (4.59e+33). This casts doubt on the reliability of these estimates. This was further corroborated by the insignificant z-scores and the accompanying p-values for most variables, with only a few exceptions like HF8, which showed a significant negative association (p-value = 0.038) with hospital delivery at the p=0.05 level. The odds ratios observed also did not show any major effect on the choice of place of delivery.

The broad confidence intervals for many predictors also reflected the uncertainty in these estimates. Additionally, the model's results were qualified by the note that certain combinations of predictors perfectly predicted certain outcomes, indicating potential issues of perfect separation, which could have led to overfitting or multicollinearity in the model.

Moreover, several variables were omitted from the model, likely due to multicollinearity or because they served as reference categories. This necessitated careful consideration in the interpretation of the remaining variables. In conclusion, while the logistic regression model offered valuable insights into the factors influencing delivery location choices, the results should be interpreted with caution due to potential data and modeling issues. Further investigation and possibly model refinement would ensure more robust and reliable interpretations of these findings.

Table 14: Binary Logistic Regression Output Showing the Effect of all Factors on Place Of Last Delivery

Logistic regression — Number of obs = 268; LR chi2(14) = 284.52; Prob > chi2 = 0.0000; Log likelihood = -43.494943; Pseudo R2 = 0.7658

PlaceofLastDelivery	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf.	Interval]
EF1	3.31e+09	1.88e+13	0.00	0.997	0	.
EF2	2.41e-09	.0000123	-0.00	0.997	0	.
EF3	323005.7	6.22e+08	0.01	0.995	0	.
EF4	6.40e+13	3.42e+17	0.01	0.995	0	.
EF5	1	(omitted)				
EF6	7.90e+29	4.59e+33	0.01	0.991	0	.
SC1	1	(omitted)				
SC2	1085370	.	.	.	.	.
SC3	1	(omitted)				
SC4	6.29e-10	1.43e-06	-0.01	0.993	0	.
SC5	1	(omitted)				
SC6	1384042	2104990	9.30	0.000	70235.4	2.73e+07
HF1	666565.9	1.16e+09	0.01	0.994	0	.
HF2	1.502341	1.787652	0.34	0.732	.1458528	15.4747
HF3	2.592852	2.347825	1.05	0.293	.4395574	15.29466
HF4	.6209621	.5932086	-0.50	0.618	.0954789	4.038524
HF5	.6959979	1.102398	-0.23	0.819	.0312163	15.51795
HF6	1	(omitted)				
HF7	.8525669	.8411623	-0.16	0.872	.1232859	5.895813
HF8	.0194311	.0368114	-2.08	0.038	.0004742	.7962728
_cons	9.12e-19	4.88e-15	-0.01	0.994	0	.

Note: _cons estimates baseline odds.
Note: 13 failures and 6 successes completely determined.

CHAPTER 5: DISCUSSION OF FINDINGS

5.1 Chapter Overview

Chapter 5 unfolds a layered and systematic discussion of the findings, mirroring the structure of the findings chapter. Commencing with a meticulous exploration of quantitative results, the discussion delves into statistical patterns and relationships governing maternal preferences for traditional birth assistants over skilled birth attendants in hospital settings. The rich narratives and contextual nuances in qualitative data are interwoven to illuminate the intricacies of individual decision-making processes. Subsequently, the chapter strategically navigates towards a comprehensive triangulation of both quantitative and qualitative findings. This synthesis not only validates the robustness of the study but also fosters comprehension of the factors steering maternal choices.

5.2 Demographic Characteristics on Utilization of Skilled Birth Attendance

The study sample of 306 women showed a mean age of 33 years old, indicating a fair spread but with most individuals centered in their early to mid-30s. This aligns with Kenya's national maternal health statistics, which state that women commonly begin bearing children in their late teens through their 30s (MoH, 2019). Generally, Kenyan women's average child-bearing age is much lower and lies around the late 20s to early 30s. In terms of marital status, the vast majority were married. This skewed married distribution matches trends seen countrywide. Often, rural wards exhibit higher ratios, given cultural norms, as explained by Muheirwe and Nuhu (2019). Concerning parity, most of the participants had children already versus a few who did not. Education levels remained remarkably low, with most having no formal education—a recognized barrier to accessing skilled delivery services when women cannot actively seek care or interact with health

facilities (Kasaye et al., 2019). The data also reflected not only dominant religious affiliations in the region but also constrained economic opportunities often linked to lower care utilization rates in similarly marginalized communities (Ali Ibrahim, 2019).

A range of demographic factors influence the utilization of skilled birth attendance in developing countries. In South Asia, education and wealth are key determinants, with higher-educated women being more likely to use skilled birth attendants (Temam & Banbeta, 2019). In Ethiopia, rural residence, household wealth, education, antenatal care, employment, and media engagement are significant predictors of unskilled birth attendant utilization (Mekonnen et al., 2021). Similarly, in Sidama Zone, Southeast Ethiopia, age, education, antenatal care, birth order, and maternal knowledge are found to be independent predictors of skilled birth attendance (Rodamo, 2019). Urban residence, age, education, antenatal care, decision-making, and knowledge of danger signs are also significant determinants in Raya Alamata District, North East Ethiopia (Ahmed Ali, 2019). These findings underscore the importance of addressing these factors to improve the utilization of skilled birth attendance in developing countries.

Overall, while the sample showed expected demographic patterns regarding maternal age, marital status, religion, and parity in rural Kenya, two trends warrant particular discussion concerning unskilled birth attendant utilization. First, the stark lack of education among nearly all women demonstrates the embedded informational and social disadvantages obstructing vulnerable subgroups from navigating complex health systems or questioning traditional norms favoring home births (Gachathi et al., 2024). Second, widespread unemployment, even among married women, implies severe household financial constraints that policy interventions like maternity coverage must crucially tackle to enable

care access for those fully dependent on others' incomes (Arero et al., 2021). Sociodemographic influences clearly interplay, as women facing educational gaps, economic hardships, gender inequities, and cultural pressures remain most at risk for substandard maternal health outcomes—a situation reflected among respondents where facility-based skilled delivery is not yet the prevailing norm.

5.3 Economic Factors on Utilization of Skilled Birth Attendance

The analysis revealed important economic barriers to the utilization of skilled birth attendants in North Horr Ward. Financial dependence on spouses was a key issue, with most women relying on husbands and a higher percentage not earning any income themselves. This aligns with prior studies showing that limited financial autonomy constraints maternal healthcare access. The problem is especially significant when only the male partners control resources, as explained by Muheirwe and Nuhu (2019). Beyond dependence, the data highlighted that for working women, incomes remained worryingly low at under Ksh 10,000 monthly for most women. This mirrors Kenya's national rates whereby vulnerable populations often engage in subsistence work or informal sector trades that only generate little cash flow. Low income is a factor affecting decisions on the place of delivery since finances are needed for transport and hospital charges ((Ali Ibrahim, 2019).

The wider body of literature also shows that a range of economic factors have been found to influence the utilization of skilled birth attendance in Kenya and Africa. Simel et al. (2019) investigated the economic factors affecting the choice to use skilled birth attendance in Kajiado County and observed that income and education played a significant role in determining the decision of place of delivery. Higher levels of both are associated with

increased utilization of skilled attendants in hospitals. Nyongesa et al. (2019) analyzed maternal health data from a subset of the 2010 Kenya Demographic Health Survey using logistic regression models to explore the association between the choice of skilled attendance and predictor variables. The study reported that women with enough money were 4.34 times more likely to seek skilled attendance. It is vital to note that in this study, deficient funds were a factor stated by 77% of participants. In another study, significant factors that were identified to cause delays in accessing skilled birth attendance were maternal education, financial status, ignorance, and delay in decision-making by family, preference for Traditional Birth Attendants (TBA), travel cost, means of transport, distance, and impassable roads (Mutuku & Githae, 2019),. Finally, Manyiwa (2023) suggests that organized public forums can play a role in addressing these barriers, particularly in influencing support for skilled birth attendance. These findings underscore the need for interventions that address economic factors and promote education and financial preparation for delivery.

The prevailing discussion points to the fact that the economic status of a family remains vital in determining the choice to use skilled birth attendants in a hospital. Research elsewhere in Africa has consistently outlined cost considerations as the predominant barrier, especially in rural locales, preventing women from incurring hospital fees or transport expenses (Kasaye et al., 2019). It is vital to highlight that many women pointed to high transit costs and poor infrastructure as factors inhibiting travel to health facilities. Many times, the journey would be long and expensive; hence, they preferred to choose the locally available TBAs. These two interlinked barriers highlight financial and logistical access issues surrounding geographical proximity to appropriately equipped health centers.

As facilities get located farther away, not only do transportation prices rise, but journey durations pose safety risks during labor if roads are not robust. This trend continues to be reported across marginalized sub-Saharan communities, as reported by Moindi et al. (2019).

Overall, the analysis here demonstrated comparable economic limitations to prior maternal health evaluations in analogous remote areas. The core challenge remains women's dependence on precarious household incomes controlled largely by men, paired with fiscal deficiencies preventing payment of services or transit once labor begins (Arero et al., 2021; MoH, 2019). Overcoming transport and infrastructural challenges would require governmental investments in roads, ambulances, or transit vouchers. While income considerations exert outsized influence over women's choice of birthplace, as extensively outlined in the background and literature review (Muheirwe & Nuhu, 2019; Ali Ibrahim, 2019), the model results did not find a statistically robust association specifically for this factor. This was possibly explained by collinear relationships with other variables.

The quantitative patterns observed aligned excellently with the qualitative data on the central role finances play in driving reliance on TBAs. Skilled birth attendance services appear to remain unaffordable for impoverished women lacking personal earnings and facing prohibitive out-of-pocket expenditures exceeding meager family budgets (Kasaye et al., 2019). Tackling these economic access barriers ultimately requires data-informed investments in social protections through initiatives similar to *Linda Mama* that subsidize not just hospital fees but crucially also transit costs incurred while seeking treatment (Orangi et al., 2021). The prohibitive economic barriers encapsulating prevalent poverty constraints limiting capacity to overcome maternal care access impediments, alongside

formal and informal financial costs of facility-based services, are consistent with past evidence (Ali Ibrahim, 2019; MoH, 2019). Congruently, Njuguna et al. (2019) found income strongly predicted skilled delivery use across socioeconomic status strata, reflecting cost considerations.

Potential economic remediation approaches warrant careful appraisal given low governmental health financing levels. Ali Ibrahim (2019) found a positive, skilled delivery association with the free maternity policy in Kenya nationally. However, this is always contingent on consistent reimbursements from the scheme (Maximore et al., 2022). However, lack of reimbursement transparency and delays as facilities absorb uncompensated costs strain the policy's sustainability and undermine quality, necessitating governance reforms (Dennis et al., 2019). Alternative health insurance subsidy programs also revealed increased skilled attendance use in Ghana and Rwanda (Gachathi et al., 2024; Njuguna et al., 2019). Although these disadvantaged poorer groups lack premiums, the place of insurance cannot be understated. Incremental subsidies must be used to prevent exacerbating inequities in society (Gachathi et al., 2024; Njuguna et al., 2019). Hence, while reducing economic barriers is indispensable for uplifting preventable UBA usage, interventions must reconcile policy and practical solutions grounded in the community setting.

5.4 Socio-cultural Factors on Utilization of Skilled Birth Attendance

The data revealed that while most women stated they choose delivery location themselves, over a quarter reported husbands deciding birthplace. Assessments across rural Africa similarly observed the influential role of husbands and the extended family in steering maternal decisions towards home-based traditional options aligned with community norms

rather than formal care (Garces et al., 2019). The data showed that preference for easily accessible traditional birth attendants (TBAs) remained evident. This entrenched community allegiance to unskilled but conveniently located attendants reflects that cultural familiarity and acquiescence to norms continue positioning TBAs as default caregivers even where hospitals are reachable (Arero et al., 2021). Such communal perspectives passed through generations serve to perpetuate localized preferences for informal delivery methods steeped in tradition over formal medical care (Mutea et al., 2020). This reveals the need for sensitization approaches reshaping perceptions of the protective benefits of skilled attendance and overcoming skepticism by demonstrating positive outcomes through initial patients.

The logistic regression analysis demonstrated statistical significance for socio-cultural elements influencing delivery site preference. The odds ratio suggests women are nearly three times more likely to bypass facilities to deliver at home when community norms promote traditional options. This empirically validates allegiance to familial customs, husband expectations, and dependence on local unskilled attendants as vital factors sustaining reliance on home births (Mutea et al., 2020; Mumo et al., 2023). The modeling insights, when compared with other studies, show that even significant awareness campaigns may only slowly dent - not drastically transform - deep-seated generational practices favoring TBAs. This has been explained extensively by Arero et al. (2021). The strong socio-cultural preference for easily accessible UBA maternal health services is a sign of deeply embedded cultural norms favoring community-based support. As noted by Arero et al. (2021), home births allow the preservation of localized customs around birthing processes, postpartum care, and social support networks.

Generally, UBAs fill trusted advice, transport, delivery attendance, and nurturing roles that have also been reflected in studies from other rural localities in Africa (Gachathi et al., 2024; Mumo et al., 2023). The capacity to liaise with UBAs using familiar vernacular compared to official languages in clinics further enables open communication about private matters as women feel respected within their cultural paradigms (Muindi et al., 2019; Turinawe et al., 2019). Hence, socio-cultural comfort signifies a pivotal factor underlying UBA preference.

The UBA convenience and accessibility narrative, when juxtaposed against the remoteness and scarce availability of hospital facilities, proves that preference for UBAs seems to be well substantiated. Mumo et al. (2023) and Kasaye et al. (2019) both found distance and transport barriers undermine public skilled birth attendance among rural women despite antenatal care uptake demonstrating willingness. Similarly, Muheirwe and Nuhu (2019) noted that the failure of referral systems to enable emergency access compounded difficulties in reaching distant facilities when labor began in rural villages. Hence, opting for proximate UBA delivery support becomes a worthy option in such scenarios (Kasaye et al., 2019; Dutamo, 2019). Initiatives seeking to outrightly ban UBAs from offering services have consistently failed since they tend to disregard the socio-cultural alignment and accessibility issues (Gachathi et al., 2024; Muindi et al., 2019).

Therefore, as Turinawe et al. (2019) noted through Ugandan TBA integration success, interventions must actively engage UBAs in their ongoing roles via training, clear delineation of responsibilities based on complexity, formalized linkages with facilities for referrals when complications emerge, and continued postpartum support. Such collaborative approaches harnessing UBA accessibility and trust to encourage timely

emergency access have demonstrated efficacy in better outcomes (Kasaye et al., 2019; WHO, 2019).

Past evidence substantiates the breadth of informational, physical, and emotional assistance traditional community health workers provide in line with long-standing cultural roles, contrasting the isolated clinically-focused services at formal facilities (Kasaye et al., 2019; Turinawe et al., 2019). As Muheirwe and Nuhu (2019) noted, seasoned UBAs share wisdom on optimal nutrition during pregnancy and danger signs needing referral based on empirical knowledge while monitoring progress. UBAs further leverage extensive community connections to arrange prompt transport when labor commences and remain actively engaged through delivery (Bora, 2019; Mumo et al., 2023). This is evidence that integrating these TBAs into the formal system may be a worthy solution. Njuguna et al. (2019) described the abrupt shift to self-management post-discharge, even after complicated births without systems enabling continuity. Consequently, cultural reliance on easily available UBAs for guidance on breastfeeding, infection prevention, and newborn progress monitoring as mothers regain strength persists (Turinawe et al., 2019; Muheirwe & Nuhu, 2019). Therefore, the qualitative evidence builds on multi-dimensional UBA maternal health roles, underscoring postpartum support facets that explain sustained preferences despite governmental skilled attendance promotion efforts. In this approach, the risks from unregulated UBA services also warrant consideration for optimal integration.

The quantitative results related to socio-cultural influences align with many qualitative understandings of how entrenched generational customs sustain TBA reliance—even when accessible options for hospital-based delivery care exist. The socio-cultural barriers themes

in the qualitative data focused on deeply ingrained cultural traditions favoring home births. The community seemed to trust UBAs more than clinical environments. These align strongly with past qualitative evidence. The studies by Garces et al. (2019) and Moshi et al. (2020) emphasize that delivery is a socio-cultural event where female relatives and TBAs provide the requisite support. This being so, there appears to be a contrast between community-based care, which promotes their desired health beliefs, versus clinical paradigms, which tend to disregard traditions, as explained by Turinawe et al. (2019). As Muindi et al. (2019) described in Kenyan contexts, older members of the society enforce the status quo of resistance to formal facility usage.

The mentions of language barriers and unfriendly healthcare worker attitudes at facilities also resonate with studies by Mutea et al. (2020) and Arero et al. (2021). These studies explain that language barriers make communication difficult, which may be further complicated if the healthcare workers have difficult attitudes. Young mothers indicated shame and fear of harsh criticism if they diverged from community beliefs. Strategies highlighted as impactful involve continuous respectful dialogues between village elders, TBAs, and providers to reconcile divergent perspectives. Kasaye et al. (2019) noted that traditional structures like chieftains and village health committees can be leveraged to positively influence attitudes through education. Collaborative solutions allowing some traditions while preventing risky practices also arise from engaging communities to align interventions with cultural needs, as Gachathi et al. (2024) and Muindi et al. (2019) demonstrated. Thus, the mix of qualitative and quantitative data shows that there is a need to combine perspectives to achieve a state of community members favoring skilled birth attendance.

5.5 Health Facility Factors on Utilization of Skilled Birth Attendance

The results revealed that a number of health facility-related barriers deter women from seeking skilled delivery care. Many women reported distance as a key obstacle, citing facilities being too far away. This mirrors other research in rural Kenya and Ethiopia, showing that distance and limited transportation access hinder utilization (Kasaye et al., 2019; Moindi et al., 2019). However, upon arrival at the facilities, additional challenges became apparent. Despite a significant portion of facilities offering maternity services, access to overnight labor cases was limited, with only a fraction operating around the clock. Women's assessments of service quality indicated a modest perception of effectiveness. However, critical deficiencies in infrastructure and resources further exacerbated the situation, thus compromising the capacity for safe deliveries. A similar picture has been reported already by Moindi et al. (2019). Rural hospitals are often critically limited in terms of supplies, which makes them ineffective for complicated deliveries. Besides, instances of poor health worker attitudes, emotionally unsupportive staff, and the use of inappropriate language during care were reported. The prevalence of disrespectful and abusive treatment during maternity care, which not only undermines the quality of care but also dissuades future service utilization, was reported as a challenge by Mutea et al. (2020).

Prior evidence suggests that aspects of quality, capacity, accessibility, and care experiences within facilities shape decisions regarding hospital delivery. Whereas distance alone may not fully explain the low usage of health facilities in similar communities, qualitative evidence presented by Kasaye et al. (2019) reveals that some women still perceive facilities as too far, which further amplifies transport limitations. In addition to distance, other factors such as costs, roads and infrastructure, and means of transport pose greater indirect

barriers than pure mileage (Moindi et al., 2019). The fact that some facilities are not open at night further constrains timely access for urgent overnight delivery cases (Lang'at et al., 2019). This gap could discourage use despite hospitals being cheap and accessible.

The health facility factors deterring women from seeking skilled birth attendants are a complex web. Away from access issues, resource limitations in existing facilities may contribute to variable quality perceptions deterring some women from skilled delivery (Bora, 2019). For those reaching facilities, disrespectful care experiences like harsh language have previously discouraged subsequent utilization (Mutea et al., 2020). While none of the measured health facility factors significantly predicted skilled attendance in this study, the qualitative insights signaled room for quality and capacity improvements to enable a care experience more aligned with women's maternity expectations. If the experiences of women in the hospital are positive, they are likely to convince others to use the hospital. County health infrastructure coverage indicators reveal only 23% of recommended maternal health facilities and 36% of midwife density vis-à-vis requirements, both ranking among Kenya's bottom nationally (Ministry of Health, 2019). This aligns with the described shortage themes, considering North Horr Ward constitutes the vast majority of the county's geography. Meanwhile, Arero et al. (2021) found similar health system constraints around few dedicated maternal establishments and personnel undermined skilled birth attendance intentions county-wide, even after controlling for socio-cultural factors.

The immense distances from remote villages to usable facilities with capacity also emerged as major impediments, which was consistent with evidence tying facility inaccessibility to home births in LMICs according to several studies (Kasaye et al., 2019; Mekonnen et al.,

2019). Besides, Njuguna et al. (2019) and Timaado (2019) both underscored how terrain and financial barriers discourage the adoption of intended skilled attendance by pastoralist groups in rural Kenya. The remoteness and infrastructure deficit themes revealed in the qualitative data align with these geographical access impediments. Additionally, Muheirwe and Nuhu (2019) noted unreliable facility transport and referral systems compounded distance difficulties in Uganda. In the present study, the lack of formal and safer means of transport made it a struggle for most women to travel to far facilities. Therefore, the results substantiate immense infrastructural and distance barriers. This necessitates dedicated interventions to achieve skilled attendance in Marsabit's dispersed, hard-to-reach communities.

5.6 Overall Implications

The qualitative interviews highlighted pronounced economic obstacles related to poverty and high costs of skilled birth attendance. These challenges, working in the context of other factors, drove persistent unskilled birth attendant reliance, which was echoed by Moshi et al. (2020) as a major problem in similar low-resource settings. These financial limitations work in synergy with transportation hurdles that obstruct facility access. Quantitatively, insufficient earnings constrained women's purchasing capacity, with most depending on volatile household incomes controlled by husbands. This trend has been reported by Muheirwe and Nuhu (2019) as a major factor challenging SBA usage. The convergence between qualitative and quantitative data shows low personal incomes, dependence on precarious spousal support, and distance-associated costs create insurmountable economic barriers to accessible quality care. They ultimately compel women to resort to conveniently available—but less safe—community delivery options done by TBAs. Tackling these

entwined financial and geographical access limitations remains imperative for impactful policy targeting marginalized subgroups. Stakeholders need to consider coordinated transportation provisions and socioeconomic safety nets protecting vulnerable mothers. Programs aimed at making maternal services cheap, such as *Linda Mama*, may be very important in such settings (Orangi et al., 2021). The discontinuation of such programs under the new healthcare financing policies may reverse gains made in these settings.

Deeply-rooted community traditions center home deliveries with unskilled but trusted birth attendants as the primary resort since it alights with cultural expectations. According to observations by Garces et al. (2019), long-standing customs in rural locales are an essential determinant of the place where mothers deliver their children. While explicit cultural barriers were denied by most of the women, family guidance shaped preferences for conventional community-based support given by TBAs. Together, the results spotlight how entrenched allegiance to informal UBAs during delivery is rooted in tradition. This continues superseding formal health system reliance—even when geographically reachable clinics exist. The triangulation of quantitative and qualitative findings underscored that this ingrained socio-cultural phenomenon must be tackled through sensitization approaches targeting elderly matriarchs, husbands, and attendants themselves to slowly transform outdated beliefs while concurrently ensuring consistent quality care alternatives are available.

Finally, multifaceted facility constraints spanning insufficient staffing, stock-outs of basic provisions, and uncaring workers exhibiting language barriers alongside abrasive conduct that alienated patients are key factors barring the utilization of SBAs. The results of this study demonstrate alignment around care experience barriers centered on unwelcoming

health worker conduct exacerbated by inconsistent technical capacities like medical equipment shortfalls. This triangulation reveals multi-layered obstacles embedded in poor interpersonal handling, variable staff presence, and infrastructure deficits that undermine community trust in facilities' ability to competently manage deliveries. Overcoming negative perceptions through compassion training, systematizing around-the-clock staff rotations, securing essential consumable inventories, and upgrading obsolete instruments can help portray health centers as enabling places for dignified, supportive, skilled birth attendance (Kasaye et al., 2019; Mekonnen et al., 2019). Absent holistic health systems that strengthen attention to clients' physical and emotional needs, existing barriers may persist despite geographic proximity.

CHAPTER 6:SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 Chapter Overview

This conclusions and recommendations chapter will summarize key study findings on barriers driving sustained reliance on unskilled birth attendants over skilled alternatives for home childbirths in the remote North Horr Ward. It will overview complex obstacles spanning financial limitations, entrenched preference for traditional attendants, poor accessibility, and infrastructure quality deficiencies requiring multifaceted redress. The chapter will then discuss potential initiatives focused on integrated approaches tackling identified economic, socio-cultural, and health systems challenges concurrently. This encompasses policy, government coordination, NGOs, community engagement, and consistency elements needed to build acceptance and access focused on skilled birth attendance. Additionally, the chapter will examine how to judiciously incorporate unskilled attendants into formal health systems through training, certification, and supervision moving forward while still addressing obstacles currently sustaining deep reliance, like poverty. Finally, the chapter will emphasize that no single solution can resolve this alone - sustainable gains necessitate coordinated, long-term strategies addressing access, infrastructure, care, financing, and norms collectively over time through strategic integration.

6.2 Summary of Key Findings per Objective

6.2.1 Demographic Factors

In analyzing the impact of demographic factors on the utilization of skilled birth attendance services, notable findings emerged. The employment section, represented by the

'Employed' and 'Unemployed' categories, showed a Chi-Square statistic of 5.0831 with a p-value of 0.079, suggesting a marginal impact on delivery location. Age Group, categorized from '15-24' to '65+', demonstrated a significant association with a Chi-Square statistic of 23.6321 and a p-value of 0.000, indicating a strong correlation between age and delivery choice. Education Level, ranging from 'None' to 'Tertiary,' yielded a Chi-Square statistic of 4.0537 and a p-value of 0.399, showing no significant association with delivery location. These findings highlight that among demographic factors, age group significantly influences delivery location choices, while employment and education level have less impact.

6.3.2 Economic Factors

Most women (86%) did not earn their own money, instead depending financially on their husbands (87%). Of the 14% who did earn money, incomes were generally low, with 74% earning less than 10,000 Ksh per month. Key factors hindering the use of health facilities for maternity services were insufficient funds (77% of women), high transport costs (38%), poor transportation (34%), and infrastructure issues like roads (33%). However, on the regression model, none of the indicators of economic states showed a significant effect on the decision for a place of delivery. The qualitative data revealed widespread poverty, unemployment, and inability to afford the formal and informal costs associated with facility-based deliveries. Participants described the compounding financial barriers of transport, hospital fees, and ancillary expenses like food during extended stays.

6.2.3 Sociocultural Factors

Although most women (71%) reported that they made the decision themselves, 28% said that their husbands decided. This indicates male partners play a sizable role in the choice

to deliver at a facility or home. As for the actual place of last delivery, the split was nearly even between health facilities (50%) and home births (47%). For those opting for home delivery, the most common reason (80%) was the availability of a traditional birth attendant (TBA). Cultural reasons were also cited by some women (5%), though the vast majority (88%) did not feel culture hinders facility delivery. Still, tradition appears to be leading many women, especially in rural areas, to depend on TBAs over formal medical care. Most women (91%) reported getting advice from family members, showing they value input on delivery options. While culture itself may not deter facility use for most, the norm of utilizing TBAs embedded in communities steers many women towards home birth. When examining the reasons behind why nearly half of the women (47%) opted for home delivery, the data highlights some clear explanations. The most predominant factor influencing the choice of home birth is the availability of a traditional birth attendant (TBA), which accounted for a full 80% of responses. Traditions and culture were not reported by many women as a factor, although preference for the delivery practices of UBAs appeared to be a key promoter of UBAs. Similarly, the regression also failed to show any significant socio-cultural predictors of home deliveries. Participant accounts highlighted deeply entrenched cultural beliefs favoring home births with traditional birth attendants over unfamiliar hospital settings. Social pressures from family members and fear of judgment for deviating from traditional norms also discouraged skilled birth attendance.

6.2.4 Health Facility Factors

The data first indicates most women (82%) have a facility in their area providing maternity care. Proximity also does not appear to be a universal barrier, as over half (56%) of

respondents have a facility within 5 km. However, closer analysis shows distant facilities still impact a substantial minority, with 34% living 11-15 km away and some up to 24 km away. As for the care experience itself at existing facilities, women provided mixed feedback. The majority described services as fairly effective (82%) rather than ineffective (0%) or highly effective (18%). Distance was one major issue, with 42.5% of women stating hospitals were too far away. Poor conditions also dissuaded use, including unsanitary maternity environments (37.6%) and inadequate medical equipment/drugs (16.7%). Negative healthcare worker conduct posed barriers as well, whether via poor attitude (53.9%), insufficient emotional support (33.7%), or annoying language (33.7%). Similar to other predictors examined, the regression proved that the distance from the facility was p=0.0001 and health workers' attitudes were p=0.0029, which was statistically significant. The qualitative findings underscored the limited availability and lack of access to health facilities, exacerbated by distance, poor road infrastructure, and workforce shortages. Accounts also described substandard conditions, lack of supplies, and negative experiences with unsupportive staff attitudes deterring the use of facilities.

6.3 Study Limitations

This cross-sectional mixed methods study has certain inherent limitations. Firstly, the quantitative questionnaire relies on self-reported data from mothers, which can introduce recall and social desirability biases affecting result validity regarding barriers to skilled birth attendance. Participants may selectively remember or misremember relevant details on economic, socio-cultural, or health systems obstacles. Additionally, the closed-ended questionnaire structure may fail to capture nuances within responses. However, the mixed

methods design aimed to mitigate these limitations through supplementary qualitative interviews, allowing open-ended probing for deeper perspectives.

Secondly, the qualitative sample size of 15 key informants, including community health volunteers, traditional birth attendants, and village leaders, may insufficiently represent all relevant viewpoints across North Horr County. These data are intended to provide additional contextual clarity to quantitative findings rather than stand-alone results generalizable to the entire population. Regardless, a larger sample could have furnished more exhaustive thematic details on entrenched challenges requiring resolution. Future investigations should incorporate expanded participant quotas with deliberate inclusion of marginalized groups to obtain added socio-cultural insights that other studies may potentially overlook.

Finally, as a cross-sectional analysis, this study offers a snapshot of barriers at a single time point. It cannot demonstrate causality through participants' stated obstacles like income, infrastructure deficiencies, or traditional norms actively preventing facility usage. Additionally, rapidly evolving external factors around accessibility, quality improvements, or programming of maternal and child health (MCH) services may quickly alter community perceptions not captured here. Longitudinal analytic approaches tracking mothers and birth outcomes prospectively could better elucidate these temporal impacts relative to stated barriers. Regardless, these findings provide value in developing integrated recommendations responsive to currently described complex challenges.

Overall limitations reflect common constraints around self-reported data, qualitative sampling, and cross-sectional assessments. However, the mixed-methods design aimed to offset restrictions through data and method triangulation. Results sufficiently highlight

target areas to guide multifaceted initiatives addressing obstacles from several vantage points concurrently to drive positive improvements in skilled birth attendance through strategic integration moving forward.

6.4 Conclusions

6.4.1 Effect of Demographic Factors on the Utilization of Skilled Birth Attendance

The findings revealed a significant impact of age on the utilization of skilled birth attendance services. Younger women and older women were less inclined to seek skilled care during childbirth compared to those in the middle age groups. This trend suggests that targeted interventions tailored to the specific needs and concerns of these age demographics may be necessary to increase their uptake of skilled delivery services. Meanwhile, factors such as employment and education level did not substantially influence skilled birth attendance utilization, indicating that efforts to improve access should be inclusive across socioeconomic strata.

6.4.2 Effect of Economic Factors on the Utilization of Skilled Birth Attendance

Economic constraints emerged as formidable barriers preventing women from accessing skilled birth attendance. The study highlighted the pervasive nature of poverty, with a staggering 77% of women citing insufficient funds as a hindrance to facility-based deliveries. Furthermore, the high costs associated with transportation and the limited availability of reliable transport options posed additional obstacles, particularly in remote areas. These economic challenges created a perfect storm, making it exceedingly difficult for many women to overcome the logistical and financial hurdles involved in reaching health facilities for skilled care during childbirth. This underscores the critical role of

economic considerations in determining the utilization of skilled birth services. Ultimately, multifaceted initiatives simultaneously improving economic outcomes, remote access, consistent infrastructure, and socio-cultural acceptance are imperative.

6.4.3 Effect of Socio-cultural Factors on the Utilization of Skilled Birth Attendance

The study underscored the profound influence of socio-cultural factors on women's choices regarding skilled birth attendance. While the majority of women reported making their own decisions about delivery locations, a significant proportion acknowledged the influential role of husbands and family members in these matters. Deeply entrenched cultural practices and norms surrounding childbirth, particularly the widespread acceptance and reliance on traditional birth attendants, emerged as powerful deterrents to seeking skilled care at health facilities. These findings highlight the need for culturally sensitive interventions that respectfully address and gradually shift long-standing beliefs and traditions toward embracing skilled birth attendance. This highlights the entrenched nature of these cultural practices and the need for targeted interventions to shift these deep-seated perceptions toward skilled birth attendance.

6.4.4 Effect of Health Facility Factors on the Utilization of Skilled Birth Attendance.

Although health facility factors did not emerge as statistically significant predictors in the model, the study identified several critical barriers that deter women from utilizing skilled birth attendance services. Distance to health facilities, coupled with poor transportation infrastructure and challenging terrain, rendered access to skilled care a daunting task for many women, particularly in remote regions. Furthermore, perceived issues such as inadequate resources, substandard quality of care, and disrespectful treatment from health workers contributed to a reluctance among women to seek skilled delivery services at

health facilities. Addressing these infrastructural, resource, and quality-of-care concerns is crucial to fostering an environment that encourages and facilitates the utilization of skilled birth attendance.

6.5 Recommendations

6.5.1 Recommendations to the County and National Governments

Integrated policy and economic development programming are imperative in addressing financial, remote access, and infrastructure obstacles cited by over 75% of women. This requires coordinated legislative action, governmental planning, and partnerships with dedicated NGOs to sustainably tackle poverty through income generation, upgrade transport links through roads/ambulances, improve facility infrastructure via investments, and confront inconsistent quality via care standardization. Additionally, integration of cultural practices with formal healthcare through intense community participation, localized leadership, and consistent engagement focused on positive, non-judgmental messaging grounded in understanding home birth norms will improve the utilization of SBAs.

Unskilled attendants must be judiciously incorporated into health systems moving forward through expansive training, certification, and coordination frameworks focused on the appropriateness of care, referrals, and transparency. This allows for the positive redirection of already trusted guidance roles when complications arise. However, unchecked utilization enabling ongoing barriers like poverty and social norms favoring home births must still be addressed through the creation of employment. All efforts should reinforce access to consistent quality care, which is a basic human right for mothers in even the most remote regions - but this requires confronting the complex web of obstacles in unison

through strategic integration. Barriers around poverty, infrastructure, and persistent social norms result in insufficient enrollment for skilled birth attendance services presently. Program ambassadors embedded in remote communities could assist in promoting acceptance and utilization focused on understanding obstetric risks during unattended home births. Overall, integrated policy solutions must match the scope of recognized complex obstacles through flexibility and resource commitment.

6.5.2 Recommendations to Health Facilities

Improving access and infrastructure is crucial for increasing the utilization of skilled birth attendance services. Establishing more health facilities in remote areas can significantly reduce the distance barriers faced by women. Additionally, collaborating with local authorities to improve transportation infrastructure and road networks will facilitate easier access to health facilities, especially for those living in distant or difficult-to-reach areas. Enhancing resource availability and maintaining high standards of quality care are equally important. Health facilities should ensure an adequate supply of essential medical equipment, drugs, and resources specifically for maternal and child health services. Implementing quality improvement initiatives is vital to maintain cleanliness, sanitary conditions, and high standards of care in maternity environments, fostering a positive experience for women seeking skilled birth attendance.

Furthermore, strengthening health worker training and support can play a pivotal role in addressing concerns related to disrespectful treatment and inadequate emotional support during childbirth. Providing training programs for health workers to improve their attitudes, communication skills, and ability to provide emotional support to women can significantly enhance the overall care experience. Establishing supportive supervision and

feedback mechanisms can help address any issues of disrespectful or inadequate care, ensuring that women receive respectful and high-quality services.

6.5.3 Recommendations to Community Volunteers

Leveraging the role of community health volunteers (CHVs) and traditional birth attendants (TBAs) can be a powerful strategy to promote the utilization of skilled birth attendance services. Engaging and training these community-based volunteers to serve as bridges between communities and health facilities is crucial. They can promote the importance of skilled birth attendance, recognize high-risk pregnancies, and encourage timely referrals to health facilities. Promoting community education and awareness is another critical aspect. Collaborating with CHVs and TBAs to conduct community outreach and education campaigns can help address cultural beliefs and misconceptions and highlight the benefits of skilled birth attendance. Involving community leaders, elders, and husbands in these efforts is essential to create a supportive environment for women to seek skilled care.

Establishing community-based support systems, such as support groups or networks facilitated by CHVs and TBAs, can provide emotional and practical assistance to pregnant women and new mothers. These groups can encourage and facilitate access to skilled birth attendance services while respecting cultural traditions. Finally, strengthening linkages between communities and health facilities is crucial. Fostering closer collaboration and referral pathways between CHVs, TBAs, and health facilities can ensure a seamless transition for women seeking skilled care. Regular communication and feedback mechanisms can help address any concerns or barriers faced by community members, enabling timely interventions and improvements.

6.6 Future Research Directions

This mixed-methods investigation effectively highlights complex barriers requiring multifaceted initiatives promoting transitions from unskilled birth attendance to consistent, skilled utilization for home births in remote North Horr Ward. However, longitudinal observational analyses are imperative in evaluating actual linkage impacts between stated obstacles around finances, infrastructure, cultural norms, and subsequent facility usage behaviors over time after implementing integrated recommendations. Quantitative surveys should reassess economic, accessibility, and societal perception shifts while measuring quantifiable skilled attendance rate increases after intervening across these areas concurrently. Qualitatively, ethnographic approaches could elicit deeper revelations around cultural transformations, evolving community perspectives, and on-the-ground challenges/successes that raise acceptance through localized engagement. Comparing future quantitative utilization metrics with richer qualitative details would provide invaluable context illuminating sustained change effectiveness.

Additionally, future work should incorporate expanded geographical diversity and larger sample sizes, building upon these foundational findings. The present study sufficiently indicated intervention need; larger scale appraisals are necessary for evaluating specific integrated initiative models and actualized outcomes over the years across remote rural regions county-wide. Randomized controlled trials comparing targeted vs non-targeted locations could demonstrate causality around interventions' roles in enhancing skilled birth attendance. Standardized data collection instruments would enable comparative meta-analyses investigating variances across remote wards with tailored troubleshooting. Overall, this cross-sectional mixed-methods study supplies critical formative insight into

obstruction complexity necessitating coordinated redress. Subsequent process and impact evaluations must track long-term, widespread execution grounded in generating practice-ready evidence supporting policies, programs, and health systems integration for consistent, skilled birth attendance and uncomplicated deliveries. Eliminating preventable maternal-child mortality requires confronting multifaceted human barriers – but a committed, compassionate understanding of these realities combined with resources and flexibility offers hope.

6.7 Summary of Study Contributions

This study delineates previously under-investigated challenges around poverty, socio-cultural norms, and poor infrastructure driving sustained unskilled birth attendance. It supplies critical formative insight into interaction complexity necessitating coordinated redress while balancing deeply embedded community reliance. These tangible barriers and data represent key contributions guiding the next phase of integrated interventions, process evaluations, and the ultimate establishment of sustainable skilled birth access/attendance. The table below is a summary of key study contributions.

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APPENDICES

Appendix 1: Consent Form

Ethics & Scientific Review Committee

Informed Consent Form

Only for participants above 18 years

Study Title	BARRIERS TO UTILIZATION OF SKILLED BIRTH ATTENDANCE AMONG WOMEN IN NORTH HORR WARD, MARSARBIT COUNTY
Investigator(s)	KAME WATO KOFO Master of Public Health Student Amref International University P.O BOX152,Marsabit, Kenya (+254)719718242 kamewato@gmail.com Dr Maureen Akolo Senior Lecturer Aga Khan University maureenakolo@gmail.com (+254)721677442 Dr Micah Matiang'i Dean school of medical sciences and ODeL Director (ODeL), Amref International University P.O. Box 2233 -00202 Nairobi, Kenya (+254)723727325 Micah.matiangi@amref.ac.ke
Study Sponsor(s)	N/A
Collaborators	N/A

This Informed Consent Form has two parts:

- **Information Sheet (to share information about the study with you)**
- **Certificate of Consent (for signatures if you choose to participate)**

You will be given a copy of the full Informed Consent Form

Part I: Information Sheet

Safe motherhoods are a crucial element of newborn and maternal health survival. However, only 64% of deliveries in Marsabit County happen in hospitals. Unskilled birth attendants are often unskilled, prone to infections, and without access to emergency or referral care, they attend the bulk of birth. The proposed study investigates the barriers to the utilization of skilled birth attendant services among the women in North Horr ward, Marsabit County.

The research is essential and sociologically relevant since it provides insights into the causes of persistence practice for unskilled birth assistants and its health impact on both mother and child. Seeking the North Horr ward woman's perspective is crucial since their opinions will go a long way in elaborating reasons behind the use of unskilled birth delivery, which is one of the proven causes of unsafe motherhood, leading to high maternal death. The result of the study will help the government and humanitarian's organizations develop specific methods to reduce UBA services among women in the North Horr ward. It is also essential to raise awareness that women who experience problems during delivery while being attended by an unskilled birth attendant are more likely to die due to birth complications.

You are invited to participate in this study as a woman since your participation is essential in guiding future healthcare improvements. Your participation in the study is voluntary and without compulsion or coercion. Your choice to participate or not participate will be respected.

Who can participate?

All females of reproductive age who have delivered in the last six months or are pregnant in the North Horr ward and will consent to partake in the research will be included.

Voluntary participation

Your participation is voluntary and there are no consequences for refusal to participate. You are free to discontinue participation at any time without penalty or any explanations. Also, you may freely decline to answer questions that make you uncomfortable.

What is involved in this project?

The study will involve only a one-time data collection encounter.

1. Study staff will administer the information sheet and consent form and guide you to read and understand and proceed to make a decision to participate or not.
2. A study questionnaire will be administered to eligible participants who consent. They shall fill with the assistance of study staff if necessary and hand back.

   Note: A guided interview will be used for the key informants in the study - with traditional birth attendants, chiefs, and CHVs
3. A later meeting to discuss the findings and implications of the study.

How long will the project last?

The study is expected to only last three months from the date of commencement.

What are the risks?

There are no foreseeable risks of participating in the study.

What are the benefits?

There are no direct individual benefits for participating in the study. However, the community stands to benefit wholesomely since after identification of the barriers; discussions will be made with the health authorities to address the problem based on the data collected.

How will we protect your information and maintain confidentiality?

Participant names and specific identifiers will not be collected in the data and data will be maintained protected with access only for study staff.

What will happen with the results?

The findings of this study shall be conveyed to the public health authorities in the region as a presentation during the county health management team meetings. Further, the researcher shall also share the findings with community members directly in the form of a health talk on the need to use skilled birth attendants instead of unskilled birth attendants in the villages.

Can I refuse to participate or withdraw from the study?

Yes, you are free to refuse to participate in the study at any time without any explanations or procedures. Refusal is as simple as just not answering the questionnaire or not returning it to the study staff.

Compensation

There will be no remuneration of study participants in this study since no expenses are expected.

Who can I contact?

If you have any questions, you can ask anyone from our team now or later. If you have questions later, you may contact Kame Wato Kofo via phone (+254)719718242 or email kamewato@gmail.com. If you have questions about your rights as a study subject, you may contact:

The Research Officer

Amref Health Africa in Kenya

Wilson Airport, Lang'ata Road

Office Tel: +254 20 6994000

Mobile No: 0795746777

Fax: +254 20 606340

P.O Box 30125-00100

Nairobi, Kenya

Do you have any questions at this time?

Part II: Certificate of Consent

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

Print name of Subject	[at least forename and surname]
Signature of Subject	
DD/MM/YYYY	

If visually impaired, physically impaired, mentally impaired or illiterate

I have witnessed the accurate reading of the Consent Form to the potential study subject, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print Name of Subject	[at least forename and surname]
Thumb/Foot print of Subject	
Signature of Witness	[A literate witness must sign and should be selected by the study subject and MUST have no connection to the research team.
DD/MM/YYYY	

Statement by the researcher/person taking consent

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

A copy of this Informed Consent Form has been provided to the study subject.

Print Name of researcher/person taking the consent	[at least forename and surname]
Signature of researcher/person taking the consent	
DD/MM/YYYY	

Appendix 2: Study Questionnaire

Section A: Sociodemographic Data

1. What is your age? …….
2. What is your Marital status?
   a. Single ()
   b. Married ()
   c. Widowed ()
   d. Divorced ( )
3. Do you have children?
   a. Yes ( )
   b. No ( )
4. If yes, how many children do you have? ……
5. What is your education level?
   a) University ( )
   b) College ( )
   c) Secondary ( )
   d) Primary ( )
   e) None ( )
6. What is your Employment status
   a. Unemployed ( )
   b. Salaried employed( )
   c. Self-employed ( )
7. What is your religion?

a. Muslim ( )

b. Catholic ( )

c. Protestant ( )

d. Others (specify)…….....

Section B: Economic Factors Influencing Utilization of UBA Services

8. Are you earning your own money?

a. Yes ( )

b. No ( )

9. If Yes, what is your Monthly income

a. <10000 Ksh ( )

b. 11000-20140 Ksh ( )

c. 21000-40000 Ksh ( )

d. 41000 Ksh & above ( )

10. If No, who supports you with money to seek health facility maternity services?

a. spouse ( )

b. relative ( )

c. siblings ( )

d. parents ( )

e. Others. (specify) ----

11. Are you dependent on your husband for family money support?

a. Yes ( )

b. No ( )

12. What is the main mode of transport you use to go to hospital?

a. Walking ( )

b. Motorbike ( )

c. Vehicle ( )

13. What type of house do you live in?

a. Manyatta ( )

b. Semi/Permanent ( )

14. Which of the following factors hinders you from seeking health facility maternity services? (Tick all that apply)

a. High transport fare ( )

b. Poor means of transport ( )

c. Poor roads/infrastructures ( )

d. Insufficient money ( )

e. Insecurity ( )

f. Others Specify…

……

Section C: Sociocultural Factors Influencing Utilization of UBA Services

15. Who decides where to deliver your child?

a. Self ( )

b. Husband ( )

c. Mother in-law ( )

d. My Mother ( )

 Others Specify…….

15. Where did you deliver last?

a. Home ( )

b. Health Facility ( )

If you give birth at home, what were the reason behind delivering at home? (Tick all that apply)

a. Sudden labor ( )

b. It's our culture ( )

c. Religion ( )

d. TBA availability( )

e. Others Specify……

16. Did you get advices from the family members to deliver at a health facility?

a. Yes ( )

b. No ( )

17. Does your culture hinder you from delivering at health facility?

a. Yes ( )

b. No ( )

18. Do you have a positive perception towards medical facility workers?

a. Strongly agree ( )

b. Agree ( )

c. Neutral ( )

d. Disagree ( )

e. Strongly disagree ( )

19. How do you view public health facility services?

a. Serves all patients equally ( )

b. Offer discriminative services ( )

c. They're for the rich not poor ( )

d. Others

Specify……

20. Which traditions practices contribute to unskilled birth attendance?

a. Nutrition/chores in pregnancy and after birth (explain)

b. Herbal/traditional medicines (state when they are used)

c. Postnatal and baby care (explain)

d. Delivery practices (explain)

e. FGM

f. Others (specify)

21. State to what extent you agree with the following (1-Strongly disagree, 5 for strongly agree)

S/NO	Statement	1	2	3	4	5
1	Home deliveries are safe.					
2	Male partners accompany female spouses to the hospital					
3	TBAs are more skilled than facility midwives					
4	Only women delivering for the first time should deliver in a hospital					
5	Herbal drugs are safe to use during pregnancy					
6	FGM does not affect women during delivery					

Section D: Healthcare System Factors Influencing Utilization of UBA Services

22. Are health facility maternity services available?

a. Yes ( )

b. No ( )

23. How far is close public health facility distance from your home?

a. < Kilometer ( )

b. 6-10 Kilometer ( )

c. 11-15 Kilometer ( )

d. 16-24 Kilometer ( )

e. ≥25 Kilometer ( )

24. Does the public health facility operate 24 hours?

a. Yes ( )

b. No ( )

25. How do you rate the hospital delivery service?

a. Excellent ( )

b. Very good ( )

c. Good ( )

d. Poor ( )

e. Very poor ( )

25. Did you receive health education at the facility?

a. Yes ( )

b. No ( )

26. What health facility factor hinder you from delivering at the hospital?

a. Hospital is very far ( )

a. Unclean maternity environment ( )

b. Poor attitude of health workers ( )

c. Poor emotional support by health workers ( )

d. Annoying language by health workers ( )

e. Unskilled health workers ( )

f. Inadequate medical equipment and drugs ( )

g. Other

specify……

.

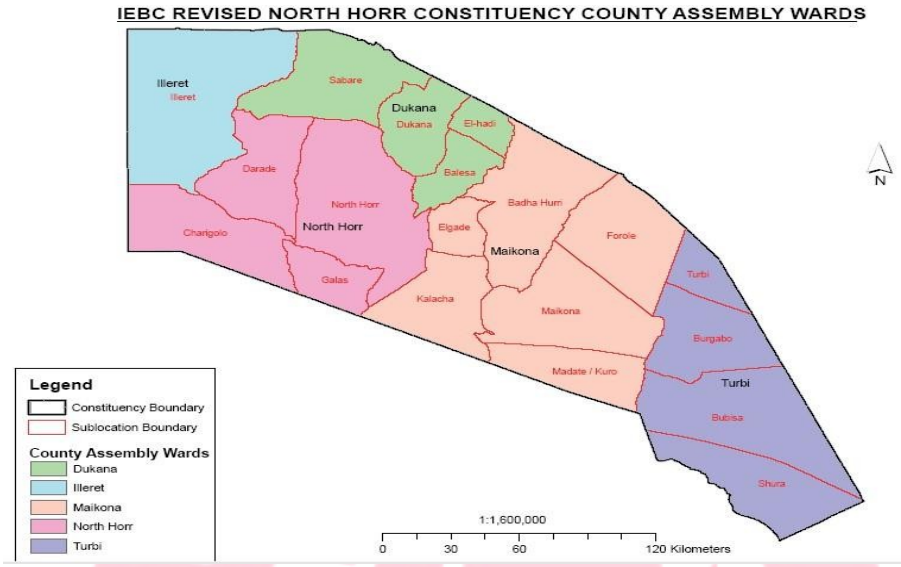
Appendix 3: Key Informant Interview Guide

1. **Demographic factors:**
    a) Can you describe how various aspects of your personal background, such as your age, education level, marital status, and number of children, influenced your decision to use or not use skilled birth attendance services?
    b) In what ways do you think your place of residence, religion, or occupation played a role in your choice regarding skilled birth attendance?
2. **Economic factors:**
    a) How do your financial circumstances, including income, employment status, and access to health insurance, affect your ability to utilize skilled birth attendance services?
    b) Can you explain how various costs associated with childbirth, such as transportation, medical fees, and potential loss of work time, impact your decision to use skilled birth attendance?
3. **Socio-cultural factors:**
    a) How do cultural beliefs, traditions, and practices in your community shape your views and decisions about childbirth and the use of skilled birth attendance services?
    b) Can you describe the influence of family members, community leaders, or social networks on your choice to use or not use skilled birth attendance services?
4. **Health facility-related factors:**

a) What aspects of local health facilities, such as distance, availability of services, quality of care, and staff attitudes, affect your decision to use skilled birth attendance services?

b) How do your past experiences or perceptions of the health care system influence your current choices regarding skilled birth attendance?

Appendix 4: Map of the Study Area



Source: IEBC

Appendix 5: Ethical Approval

amref
heatth afrita

REF: AMREF - ESRC P1442f2023 **July 18, 2023**

Kame Wato Kofo
Amref International University
P.O. Box 27691-0506
Nairobi, Kenya
Tel: +254719718242
Email: jkoyir clu edu

Dear Kame Kofo,

RESEARCH P TOTOCOL: BARRIERS TO UTILIZATION OF SKILLED BIRTH ATTENDANCE AMONG WOMEN IN NORTH HORR WAnD, MARSARBIT COUNTY

Thank you for submitting your protocol to the Amref Ethics and Scientific Review Committee (ESRC).

This is to inform you that the ESRC has reviewed and approved your protocol. Your application approval number is ESRC P1442/2023. The approval period is from July 18, 2023, to July 17, 2024, and is subject to compliance with the following requirements:

a) Only approved documents (including informed consents, study instrtlmenis, advertising materials, material transfer agreements, etc.) wil] be used.
b) All changes including (amendmenis, devjations, violatlons, etc.) are submitted for review and approval by Amref ESRC before implementation.
c) Death and life-threatoning problems and serious adverse events (SAEs) or unexpected adverse events whether related or unrelated to the study must be repnrted to the Amref ESRC within 72 hours of notification.
d) Any changes, anticipated or otherwise thai may increase the risks or affect safety or welfare of study participants and others or affect the integrity of the research must be reported to Amref ESRC within 72 hours.
e) Clearance for export of biological specimen must be obtained from the relevant govemment authorities for each batch of shipment/export.
f) Submission of a requesl for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
g) In case of late renewal, the Amref ESRC shall not be held responsible for any serions adverse events (SAEs) that may occur as a result of research acÛvities that were carried out after the expiry of approval.
h) Submission of an executive summary repos within 90 days upon completion of the study to the Amref ESRC.
i) All government regulañons for prevention and control of the spread of COVID-19 including social distancing, provision of personal protective equipment for participants and research assistants shouid be adhered to during data collection. All research assistants should be monitored for COVID 19 symptoms and referred for testing in case they present with symploms.

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://research-portal.nacosti.go.ke and also obtain other clearances needed.

Please do not hesitate to contact the ESRC Secretariat (esrc.kenvWarnref.orgyfor atay clarification or query.

Yours sincerely,

AMREF - ESRC
P.O. Box 30125 - 00100 NAIROBI

Prof. Mohamed Karanja
Chair, Amref ESRC

CC: Samuel Muhula, Senior Manager, Learning and Impact Amref Health Africa.

Appendix 6: NACOSTI Research License

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **569381**

Date of Issue: **27/July/2023**

RESEARCH LICENSE

This is to Certify that Miss.. Kame Wato Kofo of Amref International University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Marsabit on the topic: BARRIERS TO UTILIZATION OF SKILLED BIRTH ATTENDANCE AMONG WOMEN IN NORTH HORR WARD, MARSARBIT COUNTY for the period ending : 27/July/2024.

License No: **NACOSTI/P/23/28074**

569381

Applicant Identification Number

Director General
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See overleaf for conditions

Appendix 7: Thematic Analysis for Demographic Factors Affecting Utilization of Skilled Birth Attendance

Participant	Verbatim Quote	Open Codes	Categories	Themes
P1	a) "As a young, unmarried mother with only primary education, I lacked the knowledge and confidence to seek skilled birth attendance. I relied heavily on the advice and traditions passed down by my family and community."	Young age, low education, and unmarried status leading to lack of knowledge and confidence to seek skilled care	Age, Education level, Marital status	Individual characteristics
	b) "Living in a remote, rural area with strong religious beliefs that favor traditional practices, I felt pressured to adhere to cultural norms and give birth at home with the assistance of a traditional birth attendant."	Place of residence and religious beliefs promoting adherence to traditional birth practices	Place of residence	Geographic location
P2	a) "As an older, married woman with multiple children and no formal education, I felt more comfortable relying on my own experiences and the traditional knowledge passed down through generations of women in my family. I didn't see the need for skilled birth attendance."	Older age, multiple children, and lack of formal education leading to reliance on traditional knowledge and practices	Age, Parity, Education level	Individual characteristics
	b) "Living in a rural area with limited access to health facilities and a strong cultural tradition of home births, it was more convenient and socially acceptable for me to give birth at home with the help of a traditional birth attendant."	Rural residence and cultural traditions promoting home births	Place of residence	Geographic location
P3	a) "As a young, first-time mother with a secondary education, I was more aware of the potential risks and complications associated with childbirth. I wanted to ensure the safety of myself and my baby, so I chose to give	Young age, first pregnancy, and secondary education increasing awareness of childbirth risks and desire for skilled care	Age, Parity, Education level	Individual characteristics

	birth in a hospital with skilled care."			
	b) "Despite living in a rural area, my education and exposure to information about the benefits of skilled birth attendance influenced my decision to seek care at a health facility. My occupation as a teacher also provided me with a steady income, making it easier to afford transportation and hospital fees."	Education, occupation, and income facilitating access to skilled care despite rural residence	Education level, Occupation	Socioeconomic status
P4	a) "As an unmarried, teenage mother with no formal education, I was afraid and unprepared for the challenges of childbirth. I didn't have the knowledge or resources to seek skilled care and relied on the support of my family and the traditional birth attendant in my village."	Teenage pregnancy, unmarried status, and lack of education leading to fear, unpreparedness, and reliance on traditional support	Age, Marital status, Education level	Individual characteristics
	b) "In my rural community, there is a strong belief in the power of traditional medicine and spiritual practices surrounding childbirth. As a devout believer, I followed the guidance of my religious leaders and gave birth at home with the blessings of a traditional healer."	Rural community, religious beliefs, and traditional practices influencing home birth with spiritual guidance	Place of residence	Geographic location
P5	a) "As a married woman in my late twenties with a primary education and two previous children, I had some knowledge about the importance of skilled birth attendance. However, financial constraints and the long distance to the nearest health facility made it difficult for me to access care."	Married status, previous childbirth experience, and primary education providing some knowledge but financial and distance barriers limiting access	Marital status, Parity, Education level	Individual characteristics
	b) "Living in a remote, pastoral community with a nomadic lifestyle, it was challenging to plan for and access skilled birth	Remote, nomadic lifestyle and traditional beliefs favoring home birth in familiar environment	Place of residence	Geographic location

	attendance. Our traditional beliefs and practices, such as giving birth in a familiar environment surrounded by family, also influenced my decision to have a home birth."			
P6	a) "As an older, widowed mother with multiple children and no formal education, I have always relied on the traditional wisdom and skills of the birth attendants in my community. I trust their experience and believe that they provide the best care for mothers and babies."	Older age, multiple children, and lack of formal education leading to trust in traditional birth attendants' skills and experience	Age, Parity, Education level	Individual characteristics
	b) "In my rural village, there is a strong sense of community support and reliance on traditional healers for all aspects of health and well-being. As a subsistence farmer, I also lacked the financial means and transportation to seek skilled care at a distant health facility."	Rural village, community support, and reliance on traditional healers for health and well-being; subsistence farming occupation and financial constraints limiting access to distant health facilities	Place of residence, Occupation	Geographic location
P7	a) "Being an unmarried, teenage mother with no formal education, I faced significant stigma and discrimination from my community. I was too ashamed and afraid to seek skilled birth attendance and instead chose to give birth at home with the help of a trusted female relative."	Teenage pregnancy, unmarried status, and lack of education leading to stigma, discrimination, and fear of seeking skilled care; reliance on trusted female relative	Age, Marital status, Education level	Individual characteristics
	b) "In my highly religious, conservative community, there is a strong belief that childbirth is a natural process that should occur at home under the guidance of traditional birth attendants. As a woman, my role was to follow these cultural expectations and not question the norms."	Highly religious, conservative community with strong cultural expectations for home birth under traditional guidance; gender roles and norms	Place of residence	Geographic location
P8	a) "Despite being a married woman in my early thirties with a	Married status, age, and secondary education; deep trust in traditional	Marital status, Age,	Individual characteristics

	secondary education, I still chose to give birth at home with a traditional birth attendant. I had a deep trust in the skills and experience of these women, who have been assisting births in my community for generations."	birth attendants' skills and experience passed down through generations	Education level	
	b) "As a small business owner in a semi-urban area, I had the means to access skilled birth attendance but still preferred the comfort and familiarity of a home birth. The social pressure to conform to traditional practices and the fear of being seen as 'modern' or 'westernized' also influenced my decision."	Semi-urban residence and financial means to access skilled care; social pressure to conform to traditional practices and fear of being perceived as 'modern' or 'westernized'	Place of residence	Geographic location
P9	a) "As a married woman in my late twenties with a primary education and one previous child, I had a basic understanding of the importance of skilled birth attendance. However, my husband and mother-in-law insisted on a traditional home birth, as they believed it was the best way to ensure a healthy baby and an easy delivery."	Married status, age, primary education, and previous childbirth experience; basic understanding of skilled care importance; family influence on traditional home birth decision	Marital status, Age, Education level, Parity	Individual characteristics
	b) "Living in a peri-urban area with a mix of traditional and modern practices, I faced conflicting advice from healthcare workers and elder women in my community. As a housewife, I also lacked the autonomy and financial independence to make my own decision about where to give birth."	Peri-urban residence with conflicting advice from healthcare workers and elder women; lack of autonomy and financial independence as a housewife	Place of residence, Occupation	Geographic location
P10	a) "Being a young, first-time mother with a secondary education, I was determined to have a safe and healthy birth experience. I actively sought information about	Young age, first pregnancy, and secondary education; determination for a safe and healthy birth experience; active information-seeking and	Age, Parity, Education level	Individual characteristics

	the benefits of skilled birth attendance and made the decision to deliver at a hospital, despite the objections of some family members."	decision-making despite family objections		
	b) "As a working professional in an urban area, I had access to a range of healthcare options and the financial means to afford quality care. My exposure to media campaigns promoting skilled birth attendance also influenced my decision to give birth in a hospital."	Urban residence, working professional occupation, financial means to afford quality care, and exposure to media campaigns promoting skilled birth attendance	Place of residence, Occupation	Socioeconomic status
P11	a) "As an unmarried, adolescent mother with only primary education, I was completely unprepared for the challenges of pregnancy and childbirth. I had little knowledge about the importance of skilled birth attendance and lacked the confidence to navigate the healthcare system on my own."	Adolescent pregnancy, unmarried status, and primary education; lack of knowledge and confidence to navigate healthcare system	Age, Marital status, Education level	Individual characteristics
	b) "Growing up in a remote, impoverished village with limited access to healthcare, I had no choice but to rely on the traditional birth attendants in my community. The nearest health facility was several hours away, and my family could not afford the transportation costs or hospital fees."	Remote, impoverished village with limited healthcare access; reliance on traditional birth attendants; distance and financial barriers to nearest health facility	Place of residence	Geographic location
P12	a) "Being a married, multiparous woman in my early forties with no formal education, I had a strong preference for traditional home births. I trusted the wisdom and experience of the elder women in my community and believed that childbirth was a natural process that did not require medical intervention."	Married status, multiple previous births, older age, and lack of formal education; strong preference for traditional home births; trust in elder women's wisdom and experience	Marital status, Parity, Age, Education level	Individual characteristics

	b) "Living in a conservative, religious community with deeply-rooted cultural beliefs about childbirth, I faced immense social pressure to conform to traditional practices. As a homemaker, I also lacked the autonomy and decision-making power to challenge these norms and seek skilled birth attendance."	Conservative, religious community with deeply-rooted cultural beliefs about childbirth; social pressure to conform to traditional practices; lack of autonomy and decision-making power as a homemaker	Place of residence	Geographic location
P13	a) "As an educated, professional woman in my mid-thirties with two previous hospital deliveries, I had a strong conviction in the importance of skilled birth attendance. I actively sought out the best possible care for myself and my baby, even if it meant going against the wishes of my extended family."	Educated, professional status, age, and previous hospital delivery experiences; strong conviction in skilled birth attendance importance; active care-seeking despite family opposition	Education level, Occupation, Age, Parity	Socioeconomic status
	b) "Living in a major city with a wide range of healthcare options, I had the privilege of choosing the best hospital and doctor for my delivery. As a working mother, I also had the financial means and employer support to take adequate time off for prenatal care and postpartum recovery."	Urban residence with wide range of healthcare options; privilege of choosing best hospital and doctor; financial means and employer support for prenatal care and postpartum recovery as a working mother	Place of residence, Occupation	Socioeconomic status
P14	a) "Being a young, single mother with a secondary education, I was torn between the traditional practices of my community and the advice of healthcare professionals. I ultimately chose to give birth at a health center with the support of a skilled midwife, but it was a difficult decision that went against the wishes of my family."	Young age, single motherhood, and secondary education; conflict between traditional practices and healthcare advice; difficult decision to give birth at health center against family wishes	Age, Marital status, Education level	Individual characteristics

	b) "As a student living in a peri-urban area, I had limited financial resources and relied on public transportation to access healthcare. The cost of prenatal care and the inconsistent availability of skilled providers at the local health center were significant barriers to receiving quality care."	Peri-urban residence, student status, and limited financial resources; reliance on public transportation; cost of prenatal care and inconsistent availability of skilled providers as barriers to quality care	Place of residence, Occupation	Socioeconomic status
P15	a) "As an older, widowed mother with multiple children and only primary education, I had a fatalistic view of childbirth. I believed that the outcome was predetermined by a higher power and that medical intervention was unnecessary. I chose to give birth at home with the assistance of a traditional birth attendant, as I had done with all my previous deliveries."	Older age, multiple children, primary education, and widowed status; fatalistic view of childbirth and belief in predetermined outcomes; preference for home birth with traditional birth attendant based on previous experiences	Age, Parity, Education level, Marital status	Individual characteristics
	b) "Living in a remote, mountainous region with no accessible roads or transportation, the nearest health facility was simply out of reach. As a subsistence farmer with no regular income, I also could not afford the cost of traveling to the city or paying for hospital fees. Home birth was my only viable option, and I accepted it as my fate.	Remote, mountainous region with no accessible roads or transportation; Nearest health facility out of reach; Subsistence farmer with no regular income; Unable to afford cost of traveling to the city or paying hospital fees ; Home birth as the only viable option ; Acceptance of home birth as fate	Place of residence, Occupation	Geographic location

Number of Occurrences for the Themes for Objective 1

Theme	Number of Occurrences
Individual characteristics	13
Geographic location	11
Socioeconomic status	6
Total	**30**

Appendix 8. Thematic Analysis for Economic Factors Affecting Utilization of Skilled Birth Attendance

Participant	Verbatim Quote	Open Codes	Categories	Themes
P1	"My job as a casual laborer doesn't provide enough income for hospital fees. It's hard to save for delivery costs."	Low income, Inability to save	Financial constraints	Economic Insecurity
P1	"The cost of transport to the health facility is too high. I'd rather use that money for food."	High transport costs, Competing priorities	Cost barriers	Economic Insecurity
P2	"I don't have health insurance. Without it, the hospital bills are too expensive for me."	Lack of health insurance, High medical costs	Insurance coverage	Healthcare Financing
P2	"If I go to the hospital, I lose days of work. That means less money for my family."	Loss of work time, Income reduction	Opportunity costs	Economic Insecurity
P3	"As a housewife, I depend on my husband's income. Sometimes he can't afford the delivery fees."	Dependency on spouse, Insufficient family income	Financial dependency	Economic Insecurity
P3	"The traditional birth attendant is cheaper and doesn't require transport costs."	Lower costs of traditional care, Proximity	Cost-effective alternatives	Healthcare Financing
P4	"I work on a farm, and we barely make ends meet. Extra medical expenses are a luxury."	Low agricultural income, Financial struggle	Economic hardship	Economic Insecurity
P4	"The health facility charges for everything - tests, medicines. It adds up quickly."	Multiple medical charges, Cumulative costs	Hidden medical expenses	Healthcare Financing
P5	"My job doesn't offer maternity leave. I can't afford to take unpaid time off for antenatal visits."	Lack of maternity benefits, Unpaid leave	Employment policies	Socioeconomic Status
P5	"We had to sell some livestock to pay for my last delivery at the hospital."	Asset liquidation, High delivery costs	Financial coping strategies	Economic Insecurity
P6	"As a small business owner, every day away from my shop means lost income."	Income loss, Self-employment challenges	Business disruption	Socioeconomic Status
P6	"The cost of staying at a facility near the hospital before delivery is too high for us."	High accommodation costs, Pre-delivery expenses	Ancillary expenses	Healthcare Financing

P7	"We're already in debt from previous medical bills. Another hospital delivery seems impossible."	Existing medical debt, Financial burden	Debt accumulation	Economic Insecurity
P7	"The cost of special foods and supplements recommended during pregnancy is beyond our means."	High cost of prenatal care, Nutritional expenses	Prenatal care costs	Healthcare Financing
P8	"My husband's seasonal job makes it hard to plan for delivery expenses."	Irregular income, Financial planning difficulties	Income instability	Economic Insecurity
P8	"We need to save money for the baby's needs after birth, so we opt for home delivery."	Prioritizing postnatal expenses, Cost trade-offs	Financial prioritization	Economic Insecurity
P9	"The facility is far, and we can't afford the ambulance fees in case of emergency."	High emergency transport costs, Geographical barriers	Emergency preparedness costs	Healthcare Financing
P9	"Hospital delivery means buying new clothes and items, which is an extra expense."	Incidental expenses, Social expectations	Hidden social costs	Socioeconomic Status
P10	"As a single mother, I struggle to save enough for skilled birth attendance."	Single income household, Savings challenges	Limited financial capacity	Economic Insecurity
P10	"The cost of childcare for my other children during hospital stays is prohibitive."	Childcare expenses, Additional family costs	Indirect childbirth costs	Healthcare Financing
P11	"Our family income is just enough for daily needs. Hospital delivery feels like a luxury."	Subsistence living, Perceived luxury of healthcare	Poverty impact	Economic Insecurity
P11	"The repayment plan offered by the hospital for delivery costs is still too high for us."	Unaffordable payment plans, Long-term financial burden	Healthcare financing	Healthcare Financing
P12	"I lost my job during pregnancy, making it impossible to afford facility-based delivery."	Unemployment, Loss of financial security	Employment instability	Socioeconomic Status
P12	"The cost of follow-up visits after delivery discourages us from initial hospital birth."	High postnatal care costs, Continuum of care expenses	Comprehensive care affordability	Healthcare Financing
P13	"We don't have a stable income, so we can't commit to the hospital's upfront payment."	Income volatility, Upfront payment requirements	Financial flexibility	Economic Insecurity

P13	"The traditional birth attendant allows payment in kind, which suits our financial situation better."	Alternative payment methods, Non-monetary transactions	Flexible payment options	Healthcare Financing
P14	"The money we'd spend on hospital delivery could be invested in our children's education."	Competing financial priorities, Long-term investment choices	Resource allocation decisions	Economic Insecurity
P14	"We can't afford the recommended prenatal tests, so we feel unprepared for hospital delivery."	High cost of prenatal screening, Preparedness concerns	Comprehensive care barriers	Healthcare Financing
P15	"Our community saving scheme doesn't cover enough for a full hospital delivery package."	Inadequate community resources, Limitations of local financial support	Community financial support	Socioeconomic Status
P15	"The hidden costs of hospital delivery, like buying supplies, make it financially risky for us."	Unexpected expenses, Financial risk perception	Financial uncertainty	Economic Insecurity

Number of Occurrences for Each of the Themes for Objective 2

Theme	Number of Occurrences
Economic Insecurity	14
Healthcare Financing	12
Socioeconomic Status	5
Total	30

Appendix 9: Thematic Analysis for Socio-cultural Factors Affecting the Utilization of Skilled Birth Attendance

Participant	Verbatim Quote	Open Codes	Categories	Themes
P1	"In our culture, childbirth is seen as a test of womanhood. Going to the hospital is viewed as weakness."	Cultural perceptions of strength, Traditional gender roles	Cultural beliefs about childbirth	Cultural Norms
P1	"My mother-in-law insists that all women in our family should give birth at home, as it's our tradition."	Family traditions, Intergenerational influence	Family pressure	Social Influence
P2	"We believe that the position of the moon affects labor, so we prefer to deliver with traditional birth attendants who understand this."	Astrological beliefs, Trust in traditional knowledge	Traditional practices	Cultural Norms
P2	"Our community elders advise against hospital births, saying it brings bad luck to the baby."	Elder's influence, Superstitions	Community leadership influence	Social Influence
P3	"Exposing one's body to male doctors is considered shameful in our culture."	Modesty concerns, Gender segregation	Cultural modesty	Cultural Norms
P3	"My husband's family would disapprove if I chose to deliver in a hospital without their consent."	Family approval, Patriarchal decision-making	Family dynamics	Social Influence
P4	"We have rituals that must be performed during childbirth, which hospitals don't allow."	Birth rituals, Conflict with medical practices	Cultural rituals	Cultural Norms
P4	"The women's group in our village encourages home births as a way to preserve our cultural identity."	Peer influence, Cultural preservation	Social network influence	Social Influence
P5	"Our traditional birth attendants use herbs that we believe protect the baby, which hospitals don't provide."	Traditional medicine, Belief in herbal protection	Traditional healthcare beliefs	Cultural Norms
P5	"My pastor says that faith in God is enough for a safe delivery, not medical interventions."	Religious beliefs, Spiritual over medical	Religious influence	Belief Systems
P6	"In our community, a woman who has a C-section is considered not fully a mother."	Stigma around medical interventions, Cultural definitions of motherhood	Cultural stigma	Cultural Norms
P6	"The stories shared by other women about disrespect in hospitals make me prefer home birth."	Peer experiences, Fear of disrespect	Social learning	Social Influence
P7	"We believe that the placenta must be buried in our ancestral land, which is not possible with hospital births."	Placenta rituals, Connection to ancestral land	Cultural practices	Cultural Norms

P7	"Our local chief promotes traditional birth attendants as guardians of our culture."	Local leadership, Cultural guardianship	Community leadership	Social Influence
P8	"Giving birth alone is seen as a sign of strength in our tribe. Seeking help is frowned upon."	Cultural value of resilience, Stigma around seeking help	Cultural strength perceptions	Cultural Norms
P8	"My sisters all had home births, and I feel pressured to do the same to maintain family harmony."	Sibling influence, Family harmony	Family expectations	Social Influence
P9	"We believe that the first cry of the baby should be heard at home for good fortune."	Birth superstitions, Home birth preference	Traditional beliefs	Belief Systems
P9	"The women elders in our community are respected more than doctors for their birthing knowledge."	Respect for traditional knowledge, Distrust in modern medicine	Traditional authority	Cultural Norms
P10	"Our culture values privacy during childbirth, which is not possible in a hospital setting."	Cultural privacy norms, Discomfort with medical settings	Cultural privacy	Cultural Norms
P10	"My husband's friends mock men whose wives go to the hospital for delivery, calling them weak."	Peer pressure on husbands, Masculine pride	Social pressure	Social Influence
P11	"We believe that complications during birth are a result of curses, which only traditional healers can address."	Belief in curses, Trust in traditional healers	Supernatural beliefs	Belief Systems
P11	"Our community radio promotes traditional birth practices as part of our cultural heritage."	Media influence, Cultural heritage promotion	Media and cultural promotion	Social Influence
P12	"In our culture, seeking pain relief during childbirth is seen as unnatural and harmful to the baby."	Natural birth values, Misconceptions about pain relief	Cultural perceptions of pain	Cultural Norms
P12	"The success stories of home births shared in our women's gatherings influence my decision."	Peer success stories, Community gatherings influence	Social reinforcement	Social Influence
P13	"We believe that the mother should be in a specific position during birth, which hospitals don't allow."	Traditional birthing positions, Conflict with medical protocols	Traditional birthing methods	Cultural Norms
P13	"Our family ancestors are believed to assist in childbirth, but they can't enter hospitals."	Ancestral beliefs, Spiritual assistance in childbirth	Spiritual beliefs	Belief Systems
P14	"In our culture, the husband's absence during delivery is seen as abandonment, which happens in hospitals."	Cultural expectations of husband's role, Fear of abandonment	Cultural expectations of support	Cultural Norms

P14	"The traditional birth attendant is a respected figure in our community, choosing otherwise would be disrespectful."	Respect for traditional roles, Community status quo	Community respect for tradition	Social Influence
P15	"We believe that eating certain foods during labor ensures a safe delivery, which isn't allowed in hospitals."	Dietary beliefs during labor, Conflict with hospital policies	Traditional dietary practices	Cultural Norms
P15	"Our local songs and stories glorify women who give birth at home, influencing our choices."	Cultural narratives, Glorification of home births	Cultural narratives	Cultural Norms

Number of Occurrences for Objective 3

Theme	Number of Occurrences
Cultural Norms	16
Social Influence	11
Belief Systems	4
Total	30

Appendix 10: Thematic Analysis for Health Facility-Related Factors Affecting Utilization of Skilled Birth Attendance

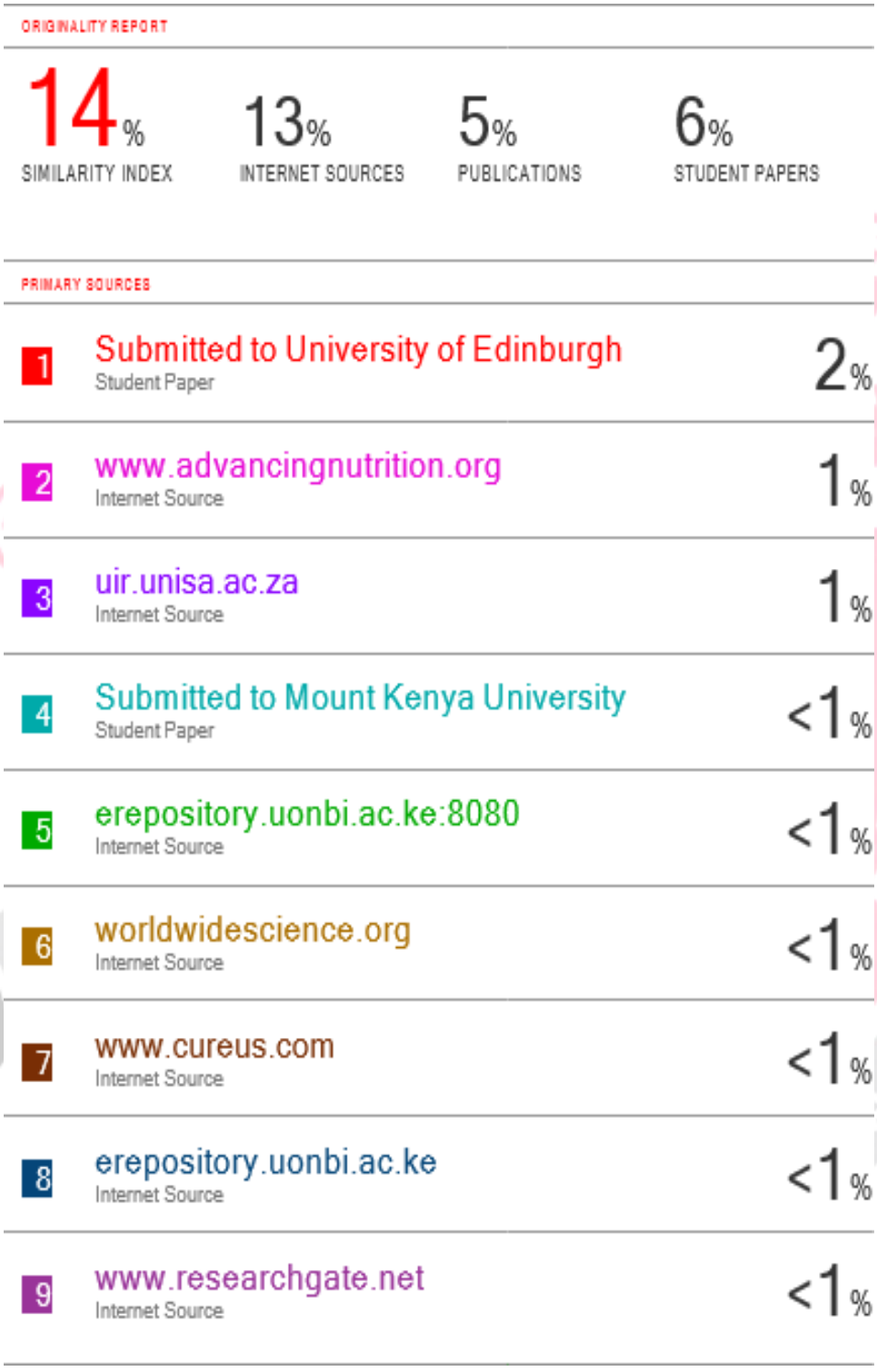
Participant	Verbatim Quote	Open Codes	Categories	Themes
P1	"The health facility is too far from our village. It takes hours to reach there."	Distance to facility, Transportation challenges	Accessibility	Infrastructure
P1	"There aren't enough beds in the maternity ward. Sometimes women have to share beds."	Overcrowding, Limited infrastructure	Facility Infrastructure	Infrastructure
P2	"The nurses at the facility don't speak our local language. It's hard to communicate."	Language barrier, Communication challenges	Staff-Patient Interaction	Service Quality
P2	"The facility lacks basic equipment. Last time, they didn't even have gloves."	Lack of basic supplies, Resource constraints	Resource Availability	Resource Management
P3	"There's only one doctor for the whole facility. We have to wait for hours."	Staff shortage, Long waiting times	Staffing Issues	Service Quality
P3	"The facility doesn't have electricity at night. It's scary to deliver in the dark."	Unreliable utilities, Safety concerns	Facility Infrastructure	Infrastructure
P4	"The health workers are often rude and shout at women during labor."	Staff attitude, Disrespect	Staff-Patient Interaction	Service Quality
P4	"There's no privacy in the delivery room. Anyone can walk in anytime."	Lack of privacy, Facility design issues	Facility Infrastructure	Infrastructure
P5	"The facility charges for everything, even gloves and syringes."	Hidden costs, Financial burden	Cost of Services	Resource Management
P5	"There's no ambulance service. If complications arise, we're stuck."	Lack of emergency services, Referral issues	Emergency Preparedness	Service Quality
P6	"The facility doesn't allow traditional birth practices or family to be present."	Restrictive policies, Cultural insensitivity	Facility Policies	Service Quality
P6	"The sanitation at the facility is poor. The toilets are always dirty."	Poor hygiene, Infection risk	Facility Cleanliness	Infrastructure
P7	"There are no female doctors at the facility. It's uncomfortable with male staff."	Gender of healthcare providers, Cultural sensitivity	Staffing Issues	Service Quality
P7	"The facility often runs out of essential medicines. We have to buy from outside."	Drug stockouts, Additional expenses	Resource Availability	Resource Management
P8	"The operating hours are limited. The facility is closed at night and weekends."	Limited operating hours, Inaccessibility	Operational Issues	Service Quality

P8	"There's no waiting area for family members. They have to stay outside."	Lack of family accommodation, Facility design	Facility Infrastructure	Infrastructure
P9	"The staff seem undertrained. They struggle with complicated cases."	Perceived lack of skills, Quality of care concerns	Staff Competence	Service Quality
P9	"There's no proper road to the facility. It's nearly impossible during rainy season."	Poor road infrastructure, Seasonal accessibility	Accessibility	Infrastructure
P10	"The facility doesn't provide food for patients. We have to arrange our own meals."	Lack of patient services, Additional burden	Patient Support Services	Service Quality
P10	"There's no follow-up care after delivery. We're sent home immediately."	Lack of postnatal care, Continuity of care issues	Comprehensive Care	Service Quality
P11	"The facility doesn't respect our cultural practices around childbirth."	Cultural insensitivity, Clash with traditional practices	Cultural Competence	Service Quality
P11	"There's no clear information about what services are available at the facility."	Lack of information, Unclear service provision	Communication	Service Quality
P12	"The facility doesn't have a blood bank. It's risky for emergency situations."	Lack of critical services, Emergency unpreparedness	Resource Availability	Resource Management
P12	"The staff don't explain procedures or ask for consent before doing things."	Lack of informed consent, Poor communication	Staff-Patient Interaction	Service Quality
P13	"The facility is always crowded. There's no peace or rest after delivery."	Overcrowding, Lack of postpartum care	Facility Capacity	Infrastructure
P13	"There's no childcare support. It's difficult to manage other children while admitted."	Lack of family support services, Additional stress	Patient Support Services	Service Quality
P14	"The facility charges upfront. They won't admit you without payment."	Payment policies, Financial barriers	Cost of Services	Resource Management
P14	"There's no proper handover between shifts. Each new nurse asks the same questions."	Poor coordination, Continuity of care issues	Operational Issues	Service Quality
P15	"The facility doesn't have a neonatal unit. Sick babies are referred far away."	Lack of specialized care, Referral challenges	Comprehensive Care	Service Quality
P15	"The staff don't respect our privacy. They discuss our cases openly."	Breach of confidentiality, Lack of professionalism	Staff-Patient Interaction	Service Quality

Number of Occurrences for the Themes for Objective 4

Theme	Number of Occurrences
Infrastructure	7
Service Quality	18
Resource Management	5

Appendix 11: Plagiarism Report



ORIGINALITY REPORT

14%	13%	5%	6%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

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4	Submitted to Mount Kenya University Student Paper	<1%
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