FACTORS INFLUENCING UTILIZATION OF FREE MATERNITY CARE SERVICES AMONG PASTORALIST WOMEN IN ISIOLO COUNTY, KENYA

BY

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A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE IN MASTER OF PUBLIC HEALTH (HEALTH PROMOTION)

SCHOOL OF PUBLIC HEALTH AND COMMUNITY DEVELOPMENT

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DECLARATION

I hereby declare that this thesis is my original work. To the best of my knowledge, it has not been presented for any award at any university.

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ACKNOWLEDGEMENT

I give thanks to God whose compassion and grace has been enough for me as I partook in this exceptionally tasking, but interesting academic endeavor. Achieving a task of this level requires support and co-operation of many. I am extremely grateful to my supervisors; Drs. Peter Omemo and Eunice Toko of Maseno University, School of Public Health, and Community Development who have always offered guidance, support, and morale, which facilitated me through this work. I extend my gratitude to Research Assistants who facilitated collection of data on the study variables.

DEDICATION

I dedicate this work to Almighty Lord

ABSTRACT

Maternity care service (MCS) supports women during pregnancy, delivery, and postpartum. While 86% of global pregnant women access maternity care, only 44% of Kenyan women do. In Isiolo County, maternity care use has varied, not meeting the 80% target: 61% in 2016, dropping to 52% in 2017, then 69% in 2018, down to 53% in 2019, and 64% in 2020 which is attributed to the free maternity healthcare services that were expanded after the introduction of the Linda mama initiative in 2017. This study aimed to pinpoint factors affecting pastoralist women's use of free maternity services in Isiolo, focusing on cultural impact, education, and healthcare infrastructure. Grounded in the theory of planned behavior, a descriptive cross-sectional design was used. A descriptive research design was used to conduct the study. A sample of 380 pastoralist women was obtained from a target population of 73,877 women aged 19-49 years. The study used a census sampling to sample the three sub-counties in Isiolo County, purposive sampling to sample the birth attendants and simple random stratified sampling to sample the pastoralist women. Data was collected from three sub counties names Merti, Isiolo and Garba Tula in Isiolo County. Both quantitative and qualitative data was collected using questionnaire and key informant interviews. Data was analyzed using descriptive and content analysis. The relationship between the independent variables (culture, knowledge of pastoralist women and healthcare infrastructure) and dependent variable (utilization of free maternity healthcare) was analyzed using a multiple regression analysis. The findings were presented in table format and narration format. The study found that 80.1% of participants said their culture promotes home births, reducing the use of free maternity care. Only 38% were aware of free maternity services, with most maternal decisions in Isiolo County made by men as indicated by 87.4% of respondents. Infrastructure for maternity care was found lacking (63.9%), with only one theater facility for multiple sub-counties. Based on the interviews conducted, it was established that Isiolo County has one theater facility in the Isiolo sub-county, a challenge that greatly affects the pastoralist women from the Merti and Garba Tula sub-counties. The multiple regression revealed that culture negatively affects the utilization of free maternity care while knowledge and healthcare infrastructure positively influence the uptake of free maternity healthcare services. The study is significant to the County government of Isiolo, which can use the results to establish mobile medical facilities to promote the uptake of free maternity care services. The study recommended that policy makers should integrate the pastoralist culture into the healthcare services provided. Moreover, the study recommended that policy makers should create policies that ensure the healthcare facilities take up the responsibility of educating the pastoralist women and their husbands on the importance of seeking free maternity healthcare services.

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LIST OF ABBREVIATIONS AND ACRONYMS

FGM	**:**	Female Genital Mutilation
MDG	**:**	Millennium Development Goals
SBA	**:**	Skilled Birth Attendants
SDGs	**:**	Sustainable Development Goals
TBA	**:**	Traditional Birth Attendants
UNFPA	**:**	United Nations Fund for Population Activities
USA	**:**	United States of America
WHO	**:**	World Health Organization

OPERATIONAL DEFINITIONS OF TERMS

Antenatal Care	It is care offered by professionals of health care to expectant women to ensure good health during pregnancy for both the mother and child.
Culture	This is the shared beliefs and customs within a community.
Delivery	The process of giving birth.
Healthcare infrastructure	These are the systems, facilities, manpower and equipment necessary to provide healthcare services to particular population.
Knowledge	This is a person's understanding of a particular issue or phenomenon.
Maternity care Services	Medical care is accorded to women during the period of pregnancy, delivery, and 42 days after childbirth. i.e. Antenatal Care, Delivery, and Postnatal Care.
Maternity Health	This is the women's health while expectant, during delivery, and after childbirth.
Pastoralist	A person who moves from one geographical area to another looking for water and grazing land for their livestock
Postnatal Care	This is medical care offered to mothers and newborns after childbirth and lasting up to 42 days after delivery.

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CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

Maternity care service is of universal concern with each country striving to reduce the maternity mortality rate (WHO, 2020). The global maternal mortality ratio (MMR) in 2020 increased to 152 deaths per 100,000 live births (Bill & Melinda Gates Foundation, 2021), compared to the MMR of 151 fatalities per 100,000 live births recorded in 2019. According to WHO (2016) MMR, infant mortality rate and child mortality rate can be prevented through effective and affordable healthcare services. Despite a global decline in MMR from 339 deaths per 100,000 live births in 2000 to 223 in 2020, progress remains uneven; stagnation was observed in 133 countries during the period from 2016 to 2020 (UNICEF, 2023). Globally, the use of maternity care services has increased over the years. According to Yaya and Ghose (2019) 78% of expectant women received antenatal care (ANC) from skilled professionals while 88% of the expectant women undergo skilled deliveries worldwide. In Sub-Saharan Africa, Adedokun and Yaya (2020) revealed that 49-53% of women received the minimum recommended number of ANC visits, 35% made atleast one ANC visit while 13% of the women did not seek any maternity care services. Yaya and Ghose (2019) found that the lowest rate of ANC and skilled deliveries were reported in Somalia with 6.3% and 9.4% of the expectant women seeking these services respectively.

In Kenya, free maternity care was introduced on 1st June 2012, under the Free Maternity Service (FMS) policy with the aim of removing user fees associated with maternity services in public health care facilities. The free maternity care services included free antenatal care, skilled delivery services, postnatal care and emergency referral for complications during pregnancy. This program was expanded in 2017 with the introduction of the Linda Mama initiative that expanded the package to include outpatient clinical services, immunizations for infants, and laboratory tests, thereby enhancing access to maternal and child healthcare across both public and private facilities. Orangi *et al.,* (2021) observed an increase in the use of ANC in Kenya from 56% in 2013 to 94% in 2019 and an increase in skilled deliveries from32% in 2013 to 62% in 2019. While the uptake of maternity care services is still low from the global rate, an improvement has been witnessed over the years. This is attributed to the increase in number of hospitals and improved infrastructure within the country (Orangi, *et al.,* 2021)

Ajzen's (1991) theory of planned behavior explains that a person's intention to take part in specific behavior facilitates the practice of the behavior. From the theory, it assumes that people are more inclined to adopt health behavior such as using maternity healthcare if their attitude towards the behavior is positive and social norms favor the adoption of such behaviors (Moshi, Kibusi & Fabian, 2020). Additionally, a combination of such factors is stronger in developing a specific practice. Based on the Theory of Planned Behaviour (TPB) it is suggested that women are more inclined to uptake maternity healthcare if they have a positive attitude. Therefore, the theory will be used to identify the factors that facilitate the utilization of maternity healthcare by pastoralist women in Isiolo County.

The uptake of maternity care services is impacted by different factors. Across the world, pastoralist communities are described as marginalized and vulnerable communities with limited access to essential services such as maternity care services as a result of their nomadic lifestyle. As such, these pastoralist communities use traditional methods of contraception and home deliveries with the help of traditional birth attendants as was observed by Creanga (2018). The use of modern maternity healthcare services among pastoralist women is influenced by factors such as culture, healthcare infrastructure and the women's understanding of the available healthcare services (Ibrahim *et al.*, 2018). The nomadic lifestyle and the patriarchal system of decision making among pastoral communities raise questions on whether the pastoralist women have access to free maternity care since its introduction in 2013. Moreover, this lifestyle also raises concerns over the level of understanding of the pastoral women on the available free maternity healthcare services. Therefore, this study sought to determine the factors affecting the utilization of free maternity care services among pastoralist women in Isiolo County, Kenya.

1.2 Statement of the Problem

Isiolo County is located in the semi-arid areas of Northern Kenya. Due to the geographical location 70% of the individuals in the county practice pastoralist and often move from one location to the other in search of pasture and water for their animals. The communities in Isiolo County have maintained their culture or pastoralism. However, while these culture is still being practiced it impedes the uptake of free maternity healthcare services that was introduced in 2013 with the aim of ensuring both mother and child receive modern treatment. While the utilization of antenatal care has increased over the years from 52% in 2017 to 64% in 2020, the uptake rate still falls below the national target of 80%. This low uptake of free maternity care in the northern

parts of Kenya has been attributed to different factors, including; culture, the knowledge of pastoralist women and availability of healthcare infrastructure. Therefore, this study sought to determine the factors influencing the utilization of free maternity care services in Isiolo County.

1.3 General Objective

To investigate factors influencing the utilization of free maternity care services among pastoralist women in Isiolo County, Kenya.

1.3.1 Specific Objectives

i. To determine the influence of culture on the utilization of free maternity care services among pastoralist women in Isiolo County, Kenya.
ii. To establish the influence of knowledge of free maternity care services on this service utilization among pastoralist women in Isiolo County, Kenya.
iii. To identify the influence of healthcare infrastructure on the utilization of free maternity care services among pastoralist women in Isiolo County, Kenya.

1.4 Research Questions

i How does culture influence the utilization of free maternity care services among pastoralist women in Isiolo County, Kenya?
ii How does knowledge influence the utilization of free maternity care services among pastoralist women in Isiolo County, Kenya?
iii How does healthcare infrastructure influence the utilization of free maternity care services among pastoralist women in Isiolo County, Kenya?

1.5 Study Significance

The findings are of significance to Isiolo County government. The county government of Isiolo may gain insights into the specific barriers faced by pastoralist women, enabling the formulation of targeted policies to improve free maternity care uptake.

The study is also significant to the pastoralist community members in Isiolo County. This is because, the study raises awareness on the importance of free maternity healthcare services. Using this study, the pastoralist communities may be more open to embracing the free maternity services offered in the region and ensure that women take an active role in decision making in the uptake of maternity services.

Future researchers can leverage the methodologies, findings, and recommendations of this study as a blueprint when examining related issues in other pastoralist settings. Additionally, by highlighting areas that still need research, the study is a catalyst, encouraging more in-depth research into specific socio-cultural and logistical barriers, thus pushing the boundaries of knowledge in this crucial field of public health.

1.6 Limitations and Delimitations of the Study

This study encountered some limitations and delimitations while conducting the research. One of the limitations faced by the researcher was that some of the pastoralist women sampled for the research were skeptical about participating in the research. The researcher addressed this limitation by educating the pastoralist women on the importance of the study in shedding light of the available free maternity care services. Another limitation faced while conducting the research was the challenge of convincing the husbands of the targeted pastoralist women to allow their wives to answer the research questions. Given the patriarchal nature among the pastoralist communities, it was difficult engaging with the husbands to allow the pastoralist women to freely express their views. In addressing this limitations, the researcher often timed the data collection during midday when most of the men are out of the house. Moreover, similar to educating the pastoralist women, the researcher and the research assistants educated the husbands of the pastoralist women on the importance of allowing their wives to visit the hospitals to access free maternity healthcare services.

The study also faced a delimitation in terms of scope. The researcher only assessed the effect of three independent variables, culture, pastoralist women knowledge and healthcare infrastructure. This was a delimitation since there are other factors that influence the utilization of free maternity care services such as other costs associated with seeking free maternity care. As such the study recommended that further research should be conducted to identify other factors that can impact utilization of free maternity health care services. Moreover, the study was limited to Isiolo County. This delimitation was addressed by making the recommendation that further research should be replicated in other neighboring counties such as Mandera and Garissa Counties.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This section covers the extant literature review as it pertains to the study objective. Additionally, the anchoring theories together with the conceptual framework are covered in this chapter.

2.2 Utilization of Maternity Care Services

Maternity care service is medical care accorded to women during the period of pregnancy, delivery, and 42 days after childbirth, these include antenatal and postnatal care (WHO, 2021). The history of maternity healthcare dates back to 1978 during the Primary Healthcare Conference (PHC) which advocated for standards set based on the principle of equity and advocates for healthcare including maternity care (African Union, 2018). In 1985 following a seminar paper by Rosenfield and Maine (1985) that cautioned against the neglect of maternity healthcare, WHO (1985) documented that; the obstetric complication was a leading cause of maternity mortality annually. The Safe Motherhood Initiative (SMI) was born in Nairobi in 1987 following a consensus by scholars that maternity healthcare was a global challenge which led to the initiation of the Preventive Maternity Mortality program by Colombia University. Thaddeus and Maine (1994) documented that maternity care faced challenges including the delayed provision of quality care, delayed arrival at medical centers, and delayed decision-making in seeking maternity care. Efforts toward improved maternity care adopted the Millennium Development Goals (MDGs) strategy in the year 2000. Further, the Sustainable Development Goals, (SDG) strategy was also adopted in 2015, with SGD 3 targeting improved maternity care.

Globally, maternity health care is improving; 86% of expectant women (UNICEF, 2018) can access maternity care. Additionally, globally 87% of women (WHO, 2021) have easy access to antenatal care services with professional medical personnel while three in each five (59%) receive less than 4 antenatal care visits (WHO, 2021). It was established that across the world approximately 65% of expectant women go for 4 antenatal visits (Yaya, *et al.,* 2018). UNICEF, (2018) found that only 52% of expectant women sought maternity care in the form of at least 4 prenatal visits. The WHO (2021) found that over the period 2014 -2021, only 53% of women in Central and Western Africa have gone for four ANC visits while in Eastern and Southern Africa, 54% of women have gone for 4 ANC visits. However, in pastoralist areas, the uptake of maternity healthcare has been observed to be below 50%. For instance, Odjidja (2018) reported

that the maternity care uptake among pastoralist women is 33%. In East Africa, the uptake among pastoralist women ranges from 13.82%-27% (Wako & Kassa; 2017; Umer *et al.,* 2020).

In Kenya, the utilization of maternity healthcare is low since only 44% of women receive professionally assisted deliveries (Wairoto, Joseph & Macharia (2020). The percentage of Pastoralist women making 4 antenatal visits ranges from 17% in Mandera to 77% in Nakuru (Wairoti, Joseph & Macharia, 2020). In Central Kenya, Muchemi, Gichogo, and Mungai (2017) found that the adoption of maternity services was low since 71% of the expectant women attended less than four antenatal visits. In Murang'a County, Mutai and Otieno (2021) observed that maternity care utilization in the form of professional deliveries stood at 54%. Only 27% of the women in Murang'a County attend four antenatal clinics (Mutai & Otieno, 2021). In Tharaka Nithi County, it was reported that 52% of women for the recommended four antenatal care visits (Gitonga, 2017). A report by UNICEF (2015) documented The rate of expectant women going for four ANC visits was 62.3% on the Coast, 58.7% in Nyanza, 56.3% in Eastern, 51.7%, in Rift Valley, 51.3% in Western, and 36.8% in North Eastern. With a focus on pastoralist women, Byrne et al (2016) observed that only 10% of pastoralist women in Kenya receive free maternity care in the form of delivery using skilled professionals. Ahmed, Mwanzo, and Agina (2020) found that only 37% of pastoralist women in North Eastern Kenya receive free antenatal maternity care in the form of 4 antenatal visits; this is way below the rate of the country at 58% (Ahmed, Mwanzo & Agina, 2020).

2.3 Influence of Culture on Utilization of Free Maternity Care Services

Culture refers the norms and behavior used by a specific group of individuals. Culture can influence healthcare services uptake as established by Creanga (2018) in the United States of America. The study focused on maternity mortality in the country and established that the culture of racism in the USA has limited the uptake of maternity healthcare by black women as compared to white women. The study found that due to the implicit bias of black women, their uptake of maternity services was low as compared to that of white women. A contextual understanding gap exists since, while Creanga's (2018) study emphasizes the role of racial bias in maternity healthcare uptake in the USA, it does not explore how particular cultural practices among pastoralist women in Isiolo County might affect their engagement with free maternity care services which is the focus of the current research.

A study in India on maternity care determinants was conducted by Contractor, *et al.*, (2018). The study found that pregnancy and childbirth are viewed as natural processes, with established traditional practices that acknowledge the need for health interventions in high-risk situations. However, the health system has failed to integrate traditional health providers and has instead relied on incentives, leading to barriers such as distance, language, and cultural inappropriateness that exacerbate women's distrust and hinder access to maternity healthcare. Similarly, Chanda, Horne, and McHugh (2023) in Bangladesh found that cultural factors such as superstition that lead families to prefer traditional healthcare providers and cultural restrictions that limit women's ability to seek care. Additionally religion, such as the taboo of using birth control techniques inhibit the use of maternity care services. Although the research shed light into the cultural challenges limiting maternity care uptake in India and Bangladesh, there is a dearth of information regarding the precise ways in which the pastoralist culture in Isiolo County affects the use of free maternity care services, which calls for more research.

Wulifan, Dordah, and Sumankuuro (2022) examine the barriers nomadic pastoralist communities face in accessing reproductive and maternal healthcare services. The study found that rooted traditional beliefs about childbirth and healthcare can discourage women from seeking formal medical care. According to the study, cultural traditions that prioritize home delivery and the social stigma associated with hospital deliveries and the use of birth controls are a hindrance to the uptake of maternity care services. Wulifan, Dordah, and Sumankuuro (2022) discusses the low uptake of institutional maternity care among nomadic women, but there is a research gap because the study does not fully examine how home deliveries, which are common among pastoralist women in Isiolo County, are influenced by similar cultural preferences.

The study was supported by Zepro et al. (2021) explore the cultural barriers that hinder access to skilled maternity care for pastoralist women in North-Eastern Ethiopia, revealing a significant disconnect between the health system and the traditional childbirth practices of the Afar community. The study identifies three major cultural challenges: negative attitudes of healthcare providers, lack of culturally acceptable care, and absence of social support during childbirth.

These factors deter nomadic women from seeking skilled birthing care, as they feel neglected and disrespected in facilities that fail to accommodate their beliefs, values, and customs. The authors argue that to improve maternal healthcare for these communities, the health system must provide culturally sensitive, woman-centered care that respects the unique needs of pastoralist women.

However, the study was limited to North Eastern Ethiopia presenting a research gap that was filled by the current study based in Kenya.

Caulfield *et al.,* (2016) in Kenya also found that pastoralist women in Kenya have a strong culture and belief system which hindered maternity care use. Notably, the cultural beliefs of pastoralist women in the context of a family setup also influence maternity care services utilization. Caulfield *et al.,* (2016) found that most home births by pastoralist women are undertaken by unskilled personnel increasing the risk of maternity death among nomadic women. The study concluded that the culture among nomadic communities was a contributor to the hesitance recorded by women in seeking maternity healthcare services. The results of Caulfield et al. (2016) highlight a larger cultural barrier to pastoralist women in Kenya using maternity care; however, they do not explore the distinctive cultural customs of pastoralist women in Isiolo County, requiring a more focused investigation to elucidate the cultural nuances influencing the uptake of free maternity care in this region.

2.4 Influence of Knowledge of Pastoralist Women on Utilization of Free Maternity Care Services

Knowledge is the familiarity or awareness gained through experience. Knowledge by pastoralist women influences their decision to take up maternity services. In China, Wu et al (2019) established that an increase in knowledge resulted in a rise in seeking maternity care. A similar finding was established by Nisha *et al.,* (2021) while assessing antenatal and healthcare utilization in Bangladesh found that many women lack awareness of the appropriate timing for their first ANC visit, which often leads to delays in care. This knowledge gap is compounded by superstitions and misconceptions about pregnancy, as well as fears related to modern medical interventions like caesarean sections. In their discussions of the impact of knowledge on the uptake of maternity care in China and Vietnam, respectively, Wu et al. (2019) and Nisha *et al.,* (2021) do not address the distinct socio-cultural dynamics of pastoralist communities in Isiolo County, Kenya, which may have a different effect on knowledge and, consequently, the uptake of maternity services.

Khatri and Karkee (2018) in Nepal evaluated the impact of social determinants on maternity care among women. The study concluded that that lack of education and health literacy significantly affects women's ability to access and use routine maternity services. Women from marginalized communities and lower socioeconomic backgrounds often have limited knowledge about the

importance of antenatal care, skilled birth attendance, and postnatal services. This lack of awareness, combined with traditional beliefs and limited decision-making autonomy, prevents them from seeking timely and adequate care. The knowledge-practice nexus in Nepal is examined by Khatri and Karkee (2018), however they do not delve into detail about how pastoralist women in Isiolo County's distinctive cultural practices and nomadic lifestyle may intersect with knowledge and decisions about maternity care.

In their systematic review, Gammino et al. (2020) examine the barriers to health services uptake among nomadic pastoralist populations in Africa, with a focus on the knowledge-related factors that hinder maternity healthcare. The study identifies that a lack of disease-specific knowledge and limited awareness about available health services are significant barriers for these communities. This knowledge gap is exacerbated by their mobile lifestyle, cultural beliefs, and reliance on traditional healthcare practices, which often discourage the utilization of formal medical services, including maternity care. The research was broad since it looked at Africa as a continent while the current study was narrowed down to one County, Isiolo County in Nairobi, Kenya.

The findings were supported by Alemayehu *et al.,* (2018) in Ethiopia who established that religion plays a big role in determining whether pastoralist women used maternity care services or not. The study assessed the level of religious knowledge among pastoralist women and how it affected their decision to or not to use maternity care services. The current study delved deeper into all of the components of maternity healthcare services. The study by Alemayehu *et al.,* (2018) was limited to the religion knowledge possessed by pastoralist women. Alemayehu et al. (2018)'s focus on religious knowledge only draws attention to a research gap in the understanding of the comprehensive knowledge spectrum and how it affects pastoralist women in Isiolo County's use of free maternity care.

Jillo, Ofware, Njuguna, and Mwaura (2015) in Kenya found that the Ng'adakar in Bamocha model was effective in motivating women to seek maternity services in Turkana. The model was based on the lifestyle of the community people and hence was easily accepted. According to the study, increasing the awareness and knowledge of women concerning maternity services is essential in lowering maternity deaths. The findings contradict the results by Wako and Kassa (2017) who established that although pastoralist women had the necessary knowledge on maternity care, the uptake was still low. There's a need to find out which knowledge

communication models work best in encouraging maternity care uptake in Isiolo County because Jillo, Ofware, Njuguna, and Mwaura (2015) discuss a model that worked well in Turkana, Kenya. However, because of potential differences in cultural, social, and economic contexts, this model may not be directly applicable to Isiolo County.

2.5 Influence of Healthcare Infrastructure on Utilization of Free Maternity Care Service

Healthcare infrastructure is the physical facilities and systems that support the day-to-day operations in medical facilities. Dihn (2019) in West Philadelphia, USA observed that the available infrastructure influences accessibility and the uptake of maternity services. According to the study, poor urban infrastructure is a barrier that hinders the uptake of maternity care. The study was based in the USA and was limited in context since it only assessed the barriers hindering the use of maternity care. Dihn (2019) investigates how urban infrastructure affects the uptake of maternity care in West Philadelphia, USA, but it overlooks the particular infrastructure issues that pastoralist women in Isiolo County face, like their remote rural locations, which may have a substantial impact on their ability to access maternity services.

Hostetter and Klein (2021) while looking at the state of maternity care in Mexico in North America, observed that infrastructure influences the uptake of medical services. According to the findings, the women do not take antenatal and postnatal medical care since the hospitals and medical facilities are far from their homes. The report documented that in some instances expectant women get into accidents as they are attempting to reach medical services. The study was empirical since it relied on secondary data. Primary sources together with secondary sources were used for this study. The Hostetter and Klein (2021) study's dependence on secondary data raises the possibility that primary data collection in Isiolo County is necessary to obtain firsthand knowledge of the ways in which infrastructure influences pastoralist women's use of free maternity care in the area.

Ummer *et al.,* (2020) in Eastern Ethiopia, indicated that women complained of the long distances they had to travel to find a hospital or health facility near them. The study revealed that on arrival at the hospitals, the health professionals were disrespectful, thus discouraging the women from seeking professional help in the healthcare facilities (Ummer, *et al.,* 2020). There is a need for a focused study to identify the interpersonal and systemic barriers to maternity care uptake in Isiolo County, as the experience of disrespect by healthcare professionals as reported in Eastern

Ethiopia may or may not reflect the interpersonal dynamics in healthcare facilities in Isiolo County.

In addition, Ibrhim, *et al.*, (2018) found that the pastoralist women did not trust the healthcare personnel in the hospitals and thus, did not seek medical assistance. Due to the lifestyle of the pastoralist women moving from one place to another, it was revealed that the distance to the hospital also hindered the maternity services uptake by women in the Afar region in Ethiopia. A contextual backdrop is provided by the nomadic lifestyle of pastoralist women in the Afar region; however, there is a research gap because there has not been any focused research on how these lifestyle attributes relate to the maternity care experiences of pastoralist women in Isiolo County, the study area of the current research.

Byrne et al. (2016) discovered that pastoralist women in Samburu and Laikipia were unable to access maternity care services due to cost and staff availability. The majority of pastoralist women live distant from health facilities, which makes it difficult for them to access institutionalized healthcare services, according to the research. Byrne et al. (2016) discuss how staff availability and cost affect maternity care uptake in Samburu and Laikipia, but they do not go into detail about how these factors, along with the unique geographical and cultural context of Isiolo County, affect pastoralist women's use of free maternity care services.

2.6 Theoretical Review

The theory of planned behavior (TPB) developed by Ajzen (1991) served as the study's theoretical foundation. TPB was developed with the objective of foreseeing a person's intentions to engage in a particular activity within a given situation. This theory aims to explain behaviors by claiming that people have self-control. The fundamental component of TPB is behavioral intent, which is essential. According to Ajzen (1991), beliefs about how likely a certain behavior is to result in desired outcomes, as well as subjective assessments of the risks and advantages connected to those outcomes, have a major impact on behavioral intent. According to the theory, when people perceive a behavior as positive (attitude) and believe that other people expect and demand them to engage in it (subjective norm), it leads to a higher motivation level and a higher likelihood that the person would engage in the behavior. The literature has demonstrated a strong relationship between subjective standards, attitudes toward behavioral goals, and ultimately behavior (Moshi, Kibusi & Fabian, 2020).

TPB posits that the intention of an individual to engage in a particular behavior predicts the likelihood that it will be carried out. Attitudes, subjective norms, and self-efficacy all influence behavior; they also act as its accelerators. When there is a breach of behavior, the sense of control that an individual has over that behavior is a crucial indicator (Ajzen & Madden, 1986). It involves a person's sense of how easy or difficult it is to engage in specific behaviors, and it is typically characterized by Bandura's (2004) philosophy of perceived self-efficacy. In this sense, a significant weakness of the theory is the lack of knowledge regarding the metrics to be used to assess self-efficacy. According to Ajzen and Madden (1986), the intention of taking part in a specific action is influenced by both internal and external elements, such as opportunities and self-efficacy or the necessary abilities.

The theory is predicated on different premises, one of which holds that despite one's best efforts, a person has acquired the tools and opportunities necessary to succeed in engaging in the desired behavior. The threat, previous experience, and fear (all of which contribute to motivational and behavioral goals) are not covered (Sussman, 2019). Although normative impacts are perceived (the influence of others that drives one to comply to be accepted by them), the economic and environmental influences on an individual's intention to engage in behavior are not taken into account. The theory assumes that a person's behavior results from a single decision-making process and ignores how that behavior changes over time.

The Theory of Planned Behavior (TPB) is important to this study as it provides a framework for understanding the factors influencing pastoralist women's utilization of free maternity healthcare services. By emphasizing the role of behavioral intent, TPB highlights how women's attitudes towards maternity care, perceived social norms, and self-efficacy shape their healthcare-seeking behaviors. In the context of this study, cultural beliefs surrounding pastoralism and patriarchy significantly affect women's attitudes and perceived norms regarding maternity care, while their level of education and understanding of healthcare can enhance their self-efficacy. Furthermore, the theory shows that external factors, such as healthcare infrastructure, also play a role in shaping these intentions. By integrating TPB, this study sought to explain the utilization of maternal health services among pastoralist women as influenced by culture, knowledge of the pastoralist women and healthcare infrastructure.

2.7 Conceptual Framework

A conceptual framework according to Adom, Hussein, and Agyem (2018) is a diagram representation showing the link between the variables of a study. This study's independent variables are the factors that influence maternity care services utilization which is operationalized to include: culture, knowledge of pastoralist women, and healthcare infrastructure. The dependent variable is the utilization of free maternity care services. The conceptual framework shows that culture, knowledge of pastoralist women, and healthcare infrastructure independently influence the utilization of free maternity care services.

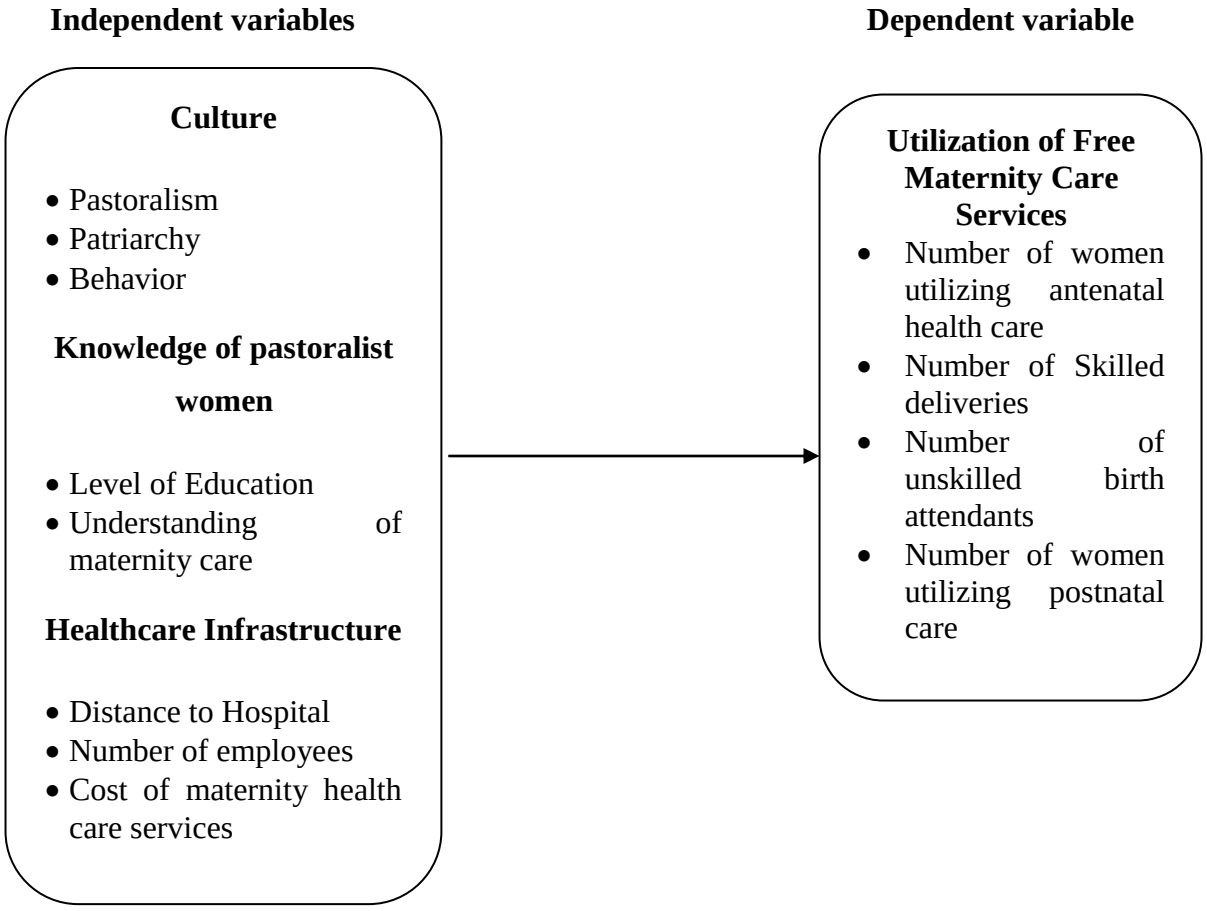

Figure 2. 1: Conceptual Framework

Source: Researcher, (2023)

The conceptual framework shows how the independent variables; namely culture, knowledge of pastoralist women, and healthcare infrastructure influence the dependent variable, utilizing free maternity care services. Cultural factors such as pastoralism, patriarchy shape women's behaviors

and attitudes toward healthcare hence has a direct impact on their utilization of free maternity health care (Wulifan, Dordah, & Sumankuuro, 2022). Additionally, the level of education and understanding of maternity care among pastoralist women directly impacts their health-seeking behaviors (Khatri & Karkee, 2018). Furthermore, healthcare infrastructure elements, including the distance to hospitals, the number of healthcare employees, and the cost of services, directly affect accessibility and affordability (Hostetter & Klein, 2021). These variables as presented on Figure 2.1 determine the extent to which women utilize free maternity care services, such as seeking antenatal and postnatal care and delivering in the hospital with the help of skilled attendants.

2.8 Summary of Literature Review

This chapter reviewed extant literature with reference to the influence of culture, women's knowledge and healthcare infrastructure on the utilization of maternity healthcare services. From the literature reviews, it was observed that different authors agree that culture plays an important role in determining the use of maternity care services. Authors such as Creanga (2018) in the USA and Contractor *et al.,* (2018) in India found that culture influences women's attitude and behavior towards the use of maternity care services. Focusing on pastoralist women Zepro et al. (2021) in North-Eastern Ethiopia and Caulfield *et al.,* (2016) in Kenya found that the nomadic lifestyle among these pastoralist communities hinders accessibility of maternity healthcare services. While the reviewed literature revealed that deeply ingrained culture influences the behavior of women towards seeking maternity healthcare, these studies did not focus on Isiolo County which was the location of the current study. Moreover, the studies did not look into the aspect of free maternity healthcare services which is available in Kenya, hence forming the foundation of this study.

Secondly the reviewed literature shows that the knowledge of women also influences the utilization of maternity care services. Findings by Wu et al (2019) in China and Khatri and Karkee (2018) in Nepal established that women who understood the importance of maternity healthcare services were more inclined to seeking the services. The same was evident as established by Alemayehu *et al.,* (2018) in Ethiopia and Wako and Kassa (2017) who focused on pastoralist women in the Eastern African region. The reviewed literature revealed that the pastoralist women who had knowledge of the free maternity healthcare services were likely to use the services if their husbands were also knowledgeable on the same. The studies however

were limited since they did not reveal the extent to which the men and women pastoralist had knowledge on the available free maternity care. Moreover, the reviewed literature did not address the issue of pastoralist women knowledge in Isiolo County where the community members are nomads moving from one place to another. The current research addressed these gaps by targeting pastoralist women in Isiolo County.

Literature review on the influence of healthcare infrastructure on the utilization of maternity healthcare services has also been presented in chapter two. The literature reveals that healthcare infrastructure with reference to the accessibility of healthcare facilities, availability of skilled labour, and availability of equipment all have a positive impact to the utilization of maternity healthcare services as established by Dihn (2019) in the USA and Hostetter and Klein (2021) in Mexico. Focusing on Africa, Ummer *et al.,* (2020) in Ethiopia and Byrne et al. (2016) found that healthcare infrastructure and in particular accessibility to healthcare facilities plays an important role in determining the use of these services by nomadic women. The studies, though relevant to the current study were not conducted in Isiolo County, where accessibility to healthcare facilities is a challenge. Based on this gap, the current study targeted Isiolo County, hence is a foundation study for further research too be conducted in the neighboring Counties.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1Introduction

The key elements of the research methodology used in the study are reviewed in detail in this chapter. It provides comprehensive details on the research design, the target population, sampling methodologies, methods of data collection, and the data analysis technique.

3.2 Study Design

The cross-sectional survey approach used in the current study made it easier to organize and summarize the data (Mugenda & Mugenda, 2019). The cross-sectional survey approach facilitated the systematic organization and summarization of data, allowing for a clearer understanding of the research findings. A descriptive design was used, which helped to give a thorough summary of the data that was gathered. By employing a descriptive design, the study was able to provide a thorough summary of the collected data, capturing the relevant patterns of the study. This study focused on the dependent and independent variables. The dependent variable of the study was the utilization of free maternity healthcare services while the independent variables were culture, knowledge of pastoralist women and healthcare infrastructure. The study sought to determine the relationships between these study variables with the aim of providing actionable recommendations that can pave way to increase the use of free maternity healthcare services among pastoralist women in Isiolo County.

3.3 Study Area

Isiolo County is located in Kenya's Eastern Province at 0° 52' 60.00" N latitude and 38° 40' 0.12" E longitude. The study area has a total population of 268,002 according to Kenya's 2019 census. It is important to note that almost 50% of the population is under the age of 15 years old. 16% of the population is aged below 5 years while 24% is aged 10-19 years. The birth rate in Isiolo County stands at 4.9. This implies that the birth rate of Isiolo County is higher compared to the nation's fertility rate which stands at 3.9 (Decip, 2020). Isiolo County, which has an MMR of 790 per 100,000 live births as opposed to the national MMR of 362 per 100,000 live births, is ranked with 14 other counties in Kenya with maternity fatalities of over 60% (the Republic of Kenya, 2020). Pregnant women in Isiolo County experience significant challenges in obtaining medical care among which include the accessibility of health facilities. According to a report by the County government of Isiolo County, (2020), there are two public hospitals, one faith-based

hospital, five health centers, thirty-three dispensaries, and three clinics. Pastoralism is the primary source of income in Isiolo County. Many expectant mothers live miles distant from the nearest health centers, and some must walk 24 kilometers to get to expert delivery services. In Isiolo County, social and cultural conventions have established community structures that marginalize pastoralist women over time. Men have long been regarded as the keepers of all household assets, while women have been viewed as weak and denied the ability to make decisions or be self-sufficient (Research Sound Support Limited, 2019). The study was conducted in the three sub counties in Isiolo County, Isiolo sub-county, Garbatulla sub-county and Merti sub-county.

3.4 Target Population

The target population consisted of pastoralist women in Isiolo County aged 19-49 years.

Following the 2019 national census in Kenya, the women population in Isiolo County was 128,483 women. However, the study population targeted women of reproductive age from the age of 19-49 who were identified by the National Council for Population and Development (2020) to be composed of 57.5% of the total population. The study targeted women aged 19-49 since they are in their reproductive years. Thus, the target population of the study was 73,877 women.

3.5 Inclusion and Exclusion Criteria

3.5.1Inclusion Criteria

The inclusion criteria of the target population included pastoralist women with a history of pregnancy including; expectant mothers, women who experienced miscarriages, and women who have lost their children during birth) aged 19-49 years. Moreover, only the women who gave their voluntary consent participated in the research.

3.5.2 Exclusion Criteria

Pastoralist women in Isiolo County with any medical or psychological conditions that could interfere with the reliability of the data were also excluded.

3.6 Sampling Procedure and Sample Size

3.6.1 Sampling Procedure

Census sampling, purposive sampling and simple random stratified sampling was employed to select the sample size. A census sampling was used to collect data from the three sub-counties in Isiolo County, namely; Merti, Isiolo and Garbatulla. Six delivery attendants were purposively

sampled for the study. Simple random stratified sampling was used to sample the pastoralist women. Simple random stratified sampling technique gave each targeted respondent an equal chance to be chosen to take part in the research. Isiolo County is divided into three sub-Counties; Isiolo, Garbatulla, and Merti. There are 73,877 women in Isiolo County aged 19-49 years.

3.6.2 Sample Size

With a confidence level of 95%, the Yamane formula was used to determine the sample size for this study. The used formula is shown as follows:

$$n = \frac{N}{1+N(e)2}$$

Where n = sample N = population targeted e = allowable error (5%).

n = 73,877 /1 +73,877 (.05) ²

n= 397

The simple random stratified was conducted based on the population of pastoralist women in the three sub counties of Merti, Isiolo, and Garbatulla. A disproportionate probability sampling technique was employed in choosing the 397 respondents. In this sampling technique population was divided into three strata, Merti, Isiolo, and Garbatulla. After that, samples were selected randomly from each stratum. This ensured representation from each of the three sub-counties (Garbatulla, Isiolo, and Merti). Table 3.1 displays the sample size.

Table 3.1: Sample Size of the Study

Sub- County	Target Population	Pastoralist women	Calculation	Sample Size
Garbatulla	28,794	25,915	$\frac{97 \times 25,915}{67,163}$	**153**
Isiolo	34,872	27,897	$\frac{397 \times 27,897}{67,163}$	**165**
Merti	13,090	10,472	$\frac{397 \times 10,472}{67,163}$	**62**
Total	**73,877**	**67,163**	**397**	**380**

Source: Researcher, 2023

The sample size of the study was 386 respondents (six delivery attendants and 380 pastoralist women). The two categories of respondents ensured that both quantitative data and qualitative data were collected for the study.

3.7 Research Instruments

Structured questionnaires were used to collect data. Closed-ended questions were instrumental in conducting quantitative analysis. The closed-ended questionnaires were developed based on what other scholars have used in collecting data including (Jillo, *et al.,* 2015; Wako & Kassa, 2017; Ibrahim, *et al.,* 2018). The use of close-ended questionnaires allows for the collection of quantitative data that was analyzed using descriptive statistics and presented in the form of tables and figures.

Additionally, qualitative data was collected from the delivery attendants using key informant interviews. This ensured face-to-face interaction with the delivery attendants. The qualitative data collected complemented the quantitative data gathered using the structured questionnaires. A data sheet survey was used to gather information from pastoralist women on the use of free maternity care. For the period of January 2022 to May 2022, the data sheet survey was used to gather information on a number of pastoralist women who delivered successfully at medical facilities and those who did not.

3.8 Pre-test Study

A pre-test was conducted in Kina ward in Garbatulla Sub-county in Isiolo County. The location of the pre-test research was ideal because there are facilities in the area that provide free maternity care and are comparable to those found in Isiolo North. In both regions, Isiolo North and Isiolo South, women practice pastoralism. Moreover, Kina ward is located 25km from Garbatula town where majority of the women practice pastoralist. The sample used in the pretest study was 10% of the total study sample. Women with similar features to the study's target population were given the research instruments. This made it easier to make sure that the study instruments were reliable in answering the research questions. The final questionnaires were clear and relevant to offer the right answers after making the necessary revisions. The actual collection of primary data did not include the participants in the pre-test research.

3.8.1 Reliability Test

Mugenda and Mugenda (2019) define reliability as the level of consistency and stability that research tools demonstrate. Cronbach's alpha was used in assessing reliability and it ranges from 0 to 1, with values of 0.7 and above indicating a reliable instrument. In this study, the suggested metric for gauging dependability was Cronbach's alpha. The findings from this assessment are succinctly stated in Table 3.2 below.

Table 3. 2: Reliability Test Results

Scale	Number of Items	Cronbach's Alpha	Interpretation
Culture	8	0.77	Reliable
Knowledge	7	0.81	Reliable
Healthcare infrastructure	7	0.76	Reliable
Utilization of free maternity healthcare	7	0.79	Reliable

According to Table 3.2 above, each variable in the study had internal consistency that was at least 0.7 Cronbach's alpha. According to Lang et al. (2018), the Cronbach alpha value was between the advised range of 0.7 and 0.9. This implies that every question on the questionnaire was reliable, leading to its retention

3.8.2 Validity Test

Validity is the measure of the level of truth of the study results and the level to which the recorded scores mirror the underlying study variable being investigated. According to Mugenda and Mugenda (2019), pre-testing questionnaires ensure that the instruments are easy to understand and fill by the respondents. To attain content validity, the academic supervisor guided the researcher in developing the research instruments. This was instrumental in refining the research items thus establishing content validity.

3.9 Data Management

Data was gathered from pastoralist women in their homes and hospitals. Six research assistants, two from each sub-county, were to assist in data gathering. The researcher randomly selected the homes to collect the data from. The structured questionnaires were distributed to each participant. The researcher and research assistants waited until the participants filled the questionnaire. This helped in lowering the non-response rate that is associated with the drop-andpick technique of data collection. The six key informant interviews facilitated the collection

of first-hand data. The delivery attendants used to collect the data were from the Isiolo referral hospital, Garbatulla sub-county hospital and Merti Sub county hospital. After data collection, the questionnaires in both hard copy and softcopy.

3.10 Data Analysis and Presentation

The returned questionnaires were revised and coded before analysis using SPSS version 25.0. Descriptive analysis was used to analyze the quantitative data collected on each study variable (culture, knowledge of pastoralist, healthcare infrastructure and utilization of free maternity healthcare services). The descriptive analysis was presented using frequencies and percentages. The relationship between culture, client's knowledge and the usage of free maternity care services was demonstrated using regression models.

The qualitative data was analyzed using content analysis. Themes were developed based on the specific objectives. This ensured that there was no deviation from the study objectives. The qualitative data was presented in narration form. Additionally, direct quotations were made to show the voice of the respondents.

The table below summarizes the variables examined as well as the data collecting and analytic techniques used to address the study questions (Table 3.3).

Table 3. 3: Summary of the Operationalization of the Variables

Objective	Variable	Indicators	Measurement Scale	Data analysis technique	Analysis Statistic
To determine the influence of culture on the utilization of free maternity care services among pastoralist women in Isiolo County.	**Independent** Culture	- Religious beliefs - Pastoralism - Female Genital Mutilation	Ordinal scale Nominal scale	Descriptive analysis Multiple regression analysis Content analysis.	Frequency Percentage Narration
To assess the influence of knowledge on free maternity care services on this service utilization among pastoralist women in Isiolo County.	**Independent** Knowledges	- Level of Education - Level of resistance to modern medicine	Ordinal scale Nominal scale	Descriptive analysis Multiple regression analysis Content analysis.	Frequency Percentage Narration
To assess the influence of healthcare infrastructure on the utilization of free maternity care services among pastoralist women in Isiolo County	**Independent** Healthcare infrastructure	- Distance to Hospital - Number of employees in hospitals - The attitude of health professionals - Cost of free maternity care services	Ordinal scale Nominal scale	Descriptive analysis Multiple regression analysis Content analysis.	Frequency Percentage Narration
	Dependent Utilization of maternity care	- Number of women using free maternity care services - Number of institutiona l deliveries	Ordinal scale Nominal scale	Descriptive analysis Multiple regression analysis Content analysis.	Frequency Percentage

3.11 Ethical Considerations

Before and during the primary data collection ethical standards were upheld. To collect primary data for the project, a letter of authorization from the Maseno University School of Graduate Studies and Ethics Review Committee (MUERC) was obtained and a license to conduct the research from NACOSTI (see all attached) were all contacted for additional approvals and authorizations. Before collecting any data for the study, the letters were presented to the study participants.

To ensure the collection of correct data, the pastoralists were educated on the objectives of the study as recommended by Smith, (2024). To make sure that the respondents got the essential information before responding to the research instruments, this was done before the data collection. The respondents were provided with written consent to take part in the survey. Confidentiality was also maintained by not disclosing the personal information of the study respondents. This was achieved by making sure that the names and national identification numbers of the responders were not written down. The data was stored in both hard copy and soft copy formats to make sure there was a backup. To ensure appropriate data collection, six research assistants (two from each Isiolo sub-county) were trained. Moreover, the research assistants also took up the role of interpreters for the pastoralist women who did not understand English.

CHAPTER FOUR

RESULTS

4.1 Response Rate

A response rate from the pastoralist women was calculated and presented on Table 4.1 below.

Table 4.1: Response Rate

Respondents	Frequency	Percent
Filled questionnaires	302	79.5
Unfilled questionnaires	78	20.5
Total	**380**	**100**

The results shown in Table 4.1 above show that 302 respondents (79.5%) out of the sample population of 380 took part in the research. The 20.5% of the respondents did not take part in the study because they were scared to engage in discussions on maternity healthcare given the sensitivity of the topic. Moreover, the patriarchal system practices among the pastoralist in Isiolo County also affected the response rate as some of the husbands did not allow their wives to participate in research. The achieved response rate is noteworthy since it corresponds with Morton et al.'s (2012) conclusions that scholarly research is acceptable if the response rate is 60% or above. Hence, the response rate for the study was acceptable.

4.2 Demographic Information

The study collected data on the demographic data on the respondents who took part in the research. The results are presented in Table 4.2 below;

Table 4.2: Demographic Information

Level of Education	No. of respondent	Percentage (%)
No Formal Education	126	41.7
Primary	105	34.8
Secondary	54	17.9
College	12	4.0
University Degree	5	1.6
Total	**302**	**100**
Age (years)	**No. of respondent**	**Percentage (%)**
19 - 28	139	46.0
29 - 38	87	28.8
39 – 48	76	25.2
Total	**302**	**100**
Marital Status	**No. of respondent**	**Percentage**
Single	14	4.6
Married	122	40.4
Divorced	65	21.5
Widowed	82	27.2
Separated	19	6.3
Total	**302**	**100**

According to Table 4.2 above, 5.6% of the pastoralist women had a higher level of education (College and University degree), compared to 41.7% of the pastoralist women, who had no formal education. The research revealed that roughly half of the participants had no formal schooling. Table 4.2 above, shows that majority (46.0%) of the respondents were between the ages of 19 and 29, while the minority, 25.2% were between the ages of 39 and 48. The study's target age range of 19 to 49 years was met by all of the respondents. Notably, pastoralist women from three different age groups took part in the study, hence the data collected could be used to generalize in the case of women in the same age groups who practice pastoralism in other communities and regions. The findings in Table 4.2 above show that the majority of the pastoralist women (40.4%) were married. This was followed by 27.2% of the pastoralist women who were widowed, 21.5% were divorced, 6.3% were separated and, 4.6% were single. Based on the findings, it is clear that marriage is a critical aspect of the pastoralist way of life.

4.3 Descriptive Analysis

4.3.1 Influence of Culture on Utilization of Free Maternity Care among Pastoralist Women

The researcher sought to examine the influence of culture on the utilization of free maternity care services among pastoralist women in Isiolo County. The findings are illustrated on Table 4.3 below;

Table 4. 3: Culture among Pastoralists in Isiolo County

Statement	N	SD	D	N	A	SA
My culture encourages home delivery	302	-	10 (3.30%)	50 (16.6%)	183 (60.6%)	59 (19.5%)
My Culture does not support Hospital visits and delivery	302	-	58 (19.2%)	163 (54.0%)	81 (26.8%)	-
My husband is responsible for making decisions involving my health	302	3 (1.0%)	53 (17.6%)	123 (40.7%)	78 (25.8%)	45 (14.9%)
I fear visiting a hospital for delivery for fear of a Male Nurse conducting delivery.	302	-	-	83 (27.5%)	102 (33.8%)	117 (38.7%)
Since I have not undergone FGM, I fear visiting the hospital for maternity services for fear that I will be circumcised during birth	302	-	37 (12.3%)	101 (33.4%)	164 (54.3%)	-
Due to the practice of pastoralism, I am not able to acquire membership in any hospital as a result of continuous movement	302	-	-	80 (26.5%)	124 (41.1%)	98 (32.5%)
In my culture maternity services are not embraced	302	-	-	97 (32.1%)	205 (67.9%)	-
The culture in Isiolo County is that pastoralist women only seek maternity medical services during complications	302	-	31 (10.3%)	167 (55.3%)	104 (34.4%)	-

The data presented on Table 4.3 above reveals a strong inclination towards home delivery, with 60.6% of the respondents indicating that their culture actively encourages it. This sentiment is further emphasized with 26.8% pastoralist women suggesting that their culture does not support hospital visits or deliveries. The inclination towards home delivery and aversion to hospitalbased maternity services echo deeply rooted traditions that might have been passed down generations.
The influence of gender dynamics in decision-making is evident, as 40.7% of the women either agree that their husbands play a pivotal role in decisions regarding their health. This might reflect broader societal norms where men predominantly hold decision-making powers in various spheres of life. Therefore, given the significant role of husbands in decision-making, they need to be equally educated and sensitized about the benefits of institutional childbirth and maternal care.

A significant concern is the apprehension regarding male medical personnel during delivery, with a combined 72.5% of the respondents expressing some level of agreement. Similarly, 54.3% of the respondents have reservations about visiting a hospital for maternity services due to concerns about female genital mutilation (FGM). The fear regarding male medical personnel and FGM presents a trust deficit between the community and healthcare institutions. Addressing these concerns would require focused community engagements and perhaps more female healthcare providers in the region.

Logistical challenges are also evident, with over 73.6% of the pastoralist women indicating difficulties in obtaining hospital membership because of their nomadic lifestyle. The nomadic lifestyle, inherent to pastoralism, presents logistical challenges. While this is harder to address, innovative solutions like mobile clinics or telemedicine could bridge the gap. Moreover, 67.9% of the respondents either agree that in their culture, maternity services are not widely embraced. This reactive approach to maternal healthcare is further confirmed with 34.4% of respondents suggesting that pastoralist women typically seek medical services only during complications.

The researcher also collected qualitative data from six delivery attendants in Isiolo County. The data was analyzed using content analysis, developing themes aligned with the specific objectives of the research. The first theme that was identified was an influence of nature on the utilization of free maternity care. Data collected from six delivery attendants in Isiolo County revealed that childbirth is intertwined with cultural and spiritual beliefs. Four interviewees stated that childbirth transcends being a mere physiological process; but it spiritual and communal. Two of

the interviewees echoed that the preference of home deliveries is attributed to familial presence and the overall spiritual sanctity of the childbirth process in Isiolo County. Moreover, the delivery attendants noted that the inclination towards home births arises not just from a desire for privacy, but also from a belief in maintaining familial purity. One of the interviewees said that the decisions on child delivery among the pastoralist communities are made by husbands and community elders.

This notion was supported by a delivery attendant from GarbaTulla who noted that women often find their personal preferences overshadowed by their husbands. Moreover, the interviewees agreed that the women have raised concern over the potential encounters with male birth attendants. Two interviewees noted that this fear is particularly severe among the older women as compared to the younger women.

4.3.2 Influence of Knowledge on Utilization of Free Maternity Care among Pastoralist Women

The researcher evaluated the influence of knowledge of free maternity care services on this service utilization among pastoralist women in Isiolo County. The researcher enquired from the pastoralist women whether they understood the concept of maternity care services to gauge their level of knowledge of the medical service. The findings are presented in Figure 4.1 below.

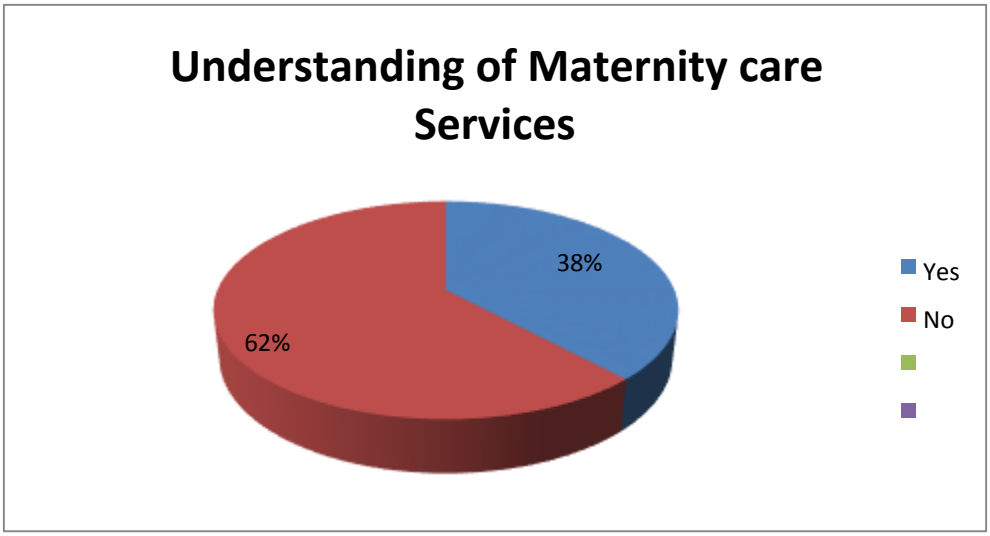

Figure 4.1: Understanding of Maternity Care Services

Figure 4.1 above shows that 189 (62%) of the pastoralist women did not understand the concept of maternity care services while 115 (38%) of the pastoralist women revealed they understood the concept of maternity care service. According to the demographic information gathered, the

majority of the pastoralist women had no formal education, which may be the cause of these findings given the prevalence of illiteracy among the group. The researcher also sought to understand where pastoralist women got their information about maternity care services from. Figure 4.2 below presents the findings.

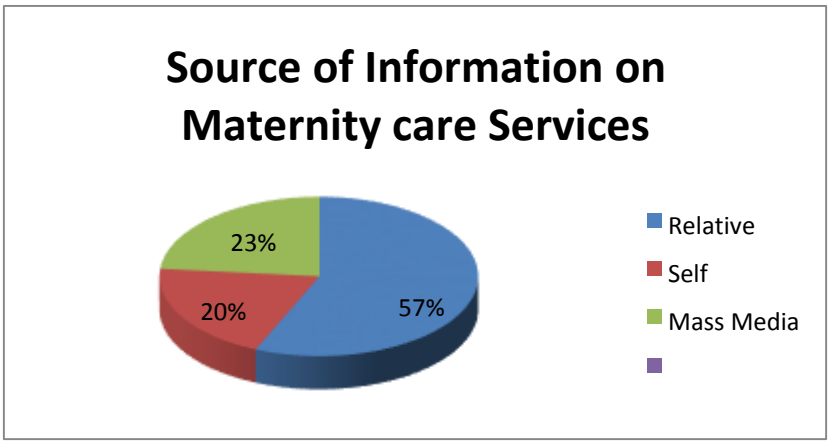

Figure 4. 2:Source of Information on Maternity Care Services

The findings in Figure 4.2 above show that 65 (57%) of the pastoralist women had acquired their knowledge on maternity care services from relatives while 27 (23%) had acquired knowledge from the media and 23(20%) had acquired knowledge by themselves. The collected data indicates that word of mouth from one individual to the other works well in ring information among pastoralist women. Therefore, to improve the number of free maternity care services among pastoralist women, healthcare facilities should rely on word of mouth to raise awareness of the importance of maternity services.

Additionally, the researcher used a Likert scale to assess the pastoralist women's level of agreement with assertions about the knowledge, which were operationalized into seven items. The results are displayed in Table 4.4 below.

Table 4.4: Knowledge of Pastoralist omen in Isiolo County

Statement	N	SD	D	N	A	SA
I have had discussions with my friends on free maternity care	302	-	18 (6.0%)	232 (76.8%)	52 (17.2%)	-
I have knowledge on home deliveries	302	-	-	157 (52.0%)	98 (32.5%)	47 (15.5%)
I do not know the process of receiving free maternity health care	302	-	20 (6.6%)	19 (6.2%)	204 (67.6)	59 (19.6%)
I know of mothers who have attended all of the required antenatal visits while pregnant	302	-	217 (71.9%)	15 (5.0%)	70 (23.1%)	-
My husband possesses more knowledge of maternity care services	302	-	38 (12.6%)	-	200 (66.2%)	64 (21.2%)
I understand what entails maternity care	302	-	36 (11.9%)	201 (66.6%)	57 (18.9%)	8 (2.6%)
I have never been educated on free maternity health care services offered in my County	302	-	-	102 (33.8%)	119 (39.4%)	81 (26.8%)

Table 4.4 above shows that 76.8% of the respondents were neutral that they had conducted discussions with their friends on free maternity care, whereas only 6.0% of the respondent disagreed with the statement. With reference to birthing preferences, 48.0% of the pastoralist women agreed that they were knowledgeable on home deliveries. 67.6% of the respondents agreed with the sentiment that they did not have knowledge on the process of receiving free maternity care, with 19.6% strongly concurring with the statements. The high neutral proportion regarding not having the knowledge on receiving the free maternity care, coupled with acknowledge on home deliveries, indicates potential barriers in service utilization. This could be rooted in cultural practices, previous negative experiences, or systemic challenges.

The majority (71.9%) disagreed with the statement that they knew of mothers who had attended all of the required antenatal visits while pregnant, suggesting a potential gap in prenatal care attendance. This may be due to lack of awareness as indicated by 66.6% of the respondents who maintained a neutral position on understanding what entails maternity care. Moreover, it was observed that 39.4% agreed, and 26.8% strongly agreed to having never been educated on these services.

In terms of knowledge dynamics, 66.2% agreed that their husbands were more knowledgeable about maternity care services, and 21.2% strongly echoed this sentiment, revealing potential gender-based knowledge disparities. The high agreement on husbands possessing more

knowledge underscores the critical role men can play in enhancing maternal health awareness and service uptake. To improve maternal health outcomes, it's essential to integrate men into maternal health programs.

4.3.3 Influence of Healthcare Infrastructure on Utilization of Free Maternity Care among Pastoralist Women

The researcher investigated the influence of healthcare infrastructure on the utilization of free maternity care services among pastoralist women in Isiolo County. The responses as presented in Table 4.5 above.

Table 4. 5: Healthcare Infrastructure in Isiolo County

Statement	N	N	SD	D	N	A
The hospitals in Isiolo County lack skilled attendants and personnel	302	-	-	198 (65.6%)	67 (22.2%)	37 (12.2%)
The hospitals in Isiolo County have poor emergency obstetric care	302	-	56 (18.5%)	43 (14.2%)	128 (42.4%)	75 (24.9%)
The hospitals in Isiolo County offer inadequate reproductive healthcare	302	-	89 (29.5%)	20 (6.6%)	104 (34.4%)	89 (29.5%)
Most Pastoralist women in Isiolo County do not utilize the free maternity program due to mistreatment and abuse by personnel from the health facilities	302	87 (28.8%)	59 (19.5%)	89 (29.5%)	67 (22.2%)	-
Negligence by hospital staff is high in Isiolo County	302	112 (37.1%)	57 (18.9%)	126 (41.7%)	7 (2.3%)	-
Pastoralist Women in Isiolo County do not visit the hospitals in the County due to poor supervision and understanding of maternity healthcare services	302	30 (9.9%)	100 (33.1%)	165 (54.7%)	-	7 (2.3%)
The hospitals in Isiolo County are situated far away from the residential homes of the community members	302	-	-	-	214 (70.9%)	88 (29.1%)

The findings on Table 4.5 above reveal that 34.4% of the respondents indicated that the hospitals in Isiolo County lack skilled attendants and personnel. This finding is supported by 42.4% of the respondents agreeing that emergency obstetric care is poor in Isiolo County. Moreover, 63.9% of the respondents agreed that reproductive healthcare is inadequate in Isiolo County. The perceived inadequacy in emergency obstetric and reproductive healthcare services suggests a need for immediate intervention, as these services are crucial for maternal and child health.

The findings also show that 28.8% and 19.5% strongly disagreed and disagreed respectively on experiencing mistreatment and abuse during delivery in the medical facilities. However, 22.2% of the pastoralist women indicated that they were mistreated and experienced abuse while

receiving maternity care services. Such experiences could deter these women from seeking essential healthcare services, potentially endangering their lives and those of their unborn children. This warrants an in-depth investigation into the treatment of pastoralist women by health personnel and possible re-training or sensitization programs for the staff.

Negligence seems to be another primary concern, with 41.7% of respondents being neutral to its prevalent issue in these hospitals. Additionally, 54.7% of the respondents provided a neutral response to the statement that pastoralist women avoid county hospitals due to poor supervision and understanding of maternity healthcare services. These neutral perceptions might result in a lack of trust in the healthcare system, leading residents to seek alternative, potentially unsafe, healthcare solutions. Further, the 70.9% and 29.1% agreed and strongly agreed respectively that the low uptake of free maternity care among the pastoralist women is due to the fact that the hospitals are situated far away from the residential homes.

The second theme identified from the interview guides was the influence of knowledge and utilization of free maternity care. Three interviewees stated that while there is an overarching appreciation for the cost-free maternity services, this gratitude is often tinged with concerns about potential cultural compromises within the hospital setting. This has led to a conflict of interest given that the pastoral communities in Isiolo County have deep-seated reverence for tradition in comparison to modern medical services. However, the interviewees noted that the younger generation is more inclined to recognize the benefits of professional medical care, especially during complications. Despite this generational divide, a common thread persists, the pastoralist women in Isiolo County view hospital births as a last resort.

Data collected using the interview guide indicated that in Isiolo County, awareness regarding free maternity care services among pastoralist women varies significantly. The interviewees explained that many women, especially from older generations, remain uninformed about these services. A substantial number of them still prefer traditional birth practices and rely on traditional birth attendants, often due to cultural inclinations. However, one of the interviewees added that there is a noticeable increase in awareness among younger women and those residing near healthcare facilities.

The delivery attendants also revealed that the main sources of information on free maternity care in Isiolo County is through community-based channels such as local chief meetings, community

health workers, and vaccination drives. The health attendants revealed that sharing information on free maternity services while in hospital is a challenge since majority of the pastoralist women perceives medical facilities as a last resort. As such, the health attendant revealed that the hospitals have taken a more active approach in sharing information where the medical personnel make home visits to educate the pastoralist women on free maternity services. However, two interviewees added that sharing information by making home visits is a challenge given the lifestyle of the pastoralist women and the fact that the homes are situated far away from the healthcare facilities.

Further, the interviewees added that there is a lot of misconception and misunderstanding about free maternity care among the pastoralist women of Isiolo County. One of the interviewees said that a common misconception of free maternity care services is that hospital deliveries might not accommodate and respect the cultural and traditional beliefs of the community. The interviewees added that the misconception is further exacerbated by concerns about potential cultural insensitivity, especially in the context of free services. Moreover, three delivery attendants revealed that women also harbor anxieties about hospital environments being perceived as impersonal, intensifying fears that they might be separated from their newborns during their stay.

The researcher asked the birth attendants whether the hospitals had hired any unskilled birth attendants. All the interviewees expressed that to the best of their knowledge, the hospitals particularly the public hospitals in the region only hired qualified and competent birth attendants. However, the interviewees explained that there are unskilled birth attendants within the community set-up that help the pastoralist women with home deliveries. The interviewees indicated that most birth deliveries are conducted by unskilled birth attendants an issue that is regarded as a norm among pastoralist women. This implies that by using unskilled birth attendants, the safety of both the child and mother is endangered.

The qualitative data indicated that the infrastructure for maternity care varies across healthcare facilities, with many providing basic amenities but lacking the advanced equipment found in urban centers. A delivery attendant from the Isiolo sub-county revealed that the county only has one maternity theater an implication of poor infrastructure in the region. The delivery attendant revealed that the Isiolo sub-county receives many referrals from Garba Tula and Merti sub Counties raising concerns over the availability of infrastructure in the region. Additionally, the interviewees revealed that due to poor infrastructural facilities, the pastoralist women prefer to

undergo traditional home births. Another challenge faced by pastoralist women is the distance between the residential homes and the healthcare facilities. The interviewees indicated that the rugged terrains, coupled with the seasonal adversities like the rainy season, often render roads impassable, making it exceptionally challenging for women, especially from remote areas, to reach healthcare centers. An interviewee revealed that an obstacle faced by pastoralist women is the lack of regular and affordable transportation options. Consequently, many women, particularly during emergencies, have to traverse long distances on foot, which exacerbates the difficulties in timely access to vital maternity services. Further, the delivery attendants indicated that the healthcare facilities are recognizing the influential role of traditional birth attendants (TBAs) within the community and are working to integrate them into the modern healthcare system. By offering TBAs training on safe birth practices, these facilities aim to bridge the gap between traditional and modern methods. Two birth attendants explained that the inclusion of TBAs in the healthcare facilities not only emphasizes their significance but also ensures that pastoralist women are greeted with familiar faces

4.3.4 Utilization of Free Maternity Care Services

Using a 5-point Likert scale, participants were asked to rate their level of agreement with statements about using free maternity care services. The results are shown in Table 4.6 down below.

Table 4.6: Utilization of Free Maternity Care Services

Statement	N	SD	D	N	A	SA
I have sought free antenatal services from the hospitals in Isiolo	302	-	193 (63.9%)	-	91 (30.1%)	18 (6.0%)
I delivered my child for free in the hospital	302	76 (25.2%)	117 (38.7%)	23 (7.6%)	86 (28.5%)	-
I get free post-natal services from the hospital	302	76 (25.2%)	101 (33.4%)	65 (21.5%)	60 (19.9%)	-
Free theatre services have helped reduce the number of pregnancyrelated deaths among women	302	61 (20.2%)	94 (31.1%)	58 (19.2%)	80 (26.5%)	9 (3.0%)
The use of free professional birth attendance at all births is paramount to achieving safe deliveries	302	-	-	59 (19.5%)	151 (50.0%)	92 (30.5%)
Free ambulance services ensure successful deliveries	302	-	76 (25.2%)	127 (43.1%)	99 (32.7%)	-
Lack of transport leads women to deliver at home versus our hospital facility	302	-	-	6 (2.0%)	107 (35.4%)	189 (62.6%)

Table 4.6 above indicated that 63.9% of the pastoralist women had not taken up the free maternity care offered in the region, while only 30.1% agreed, and 6.0% strongly agreed to having undertaken the free maternity care. This finding was supported with 25.2% strongly disagreed and 38.7% disagreed with having their child delivered for free in the hospital. Moreover 58.6% of the respondents indicated that they did not receive post-natal care services in Isiolo County. The skepticism around free antenatal, delivery, and post-natal services hints at underlying issues possibly related to quality, accessibility, or even cultural preferences that need to be addressed.

26.5% of the respondents indicated that free theater services have contributed to a decline in pregnancy-related deaths. The low percentage is attributed to the fact that theatre services are only offered in Isiolo sub-county. Therefore, many pastoralist women in Merti and GarbaTula sub-counties are not aware of any theater services offered in their regions.

The issue of distance was also identified as a challenge to the utilization of free maternity health care services. 97.8% (comprising of 35.4% agreeing and 62.6% strongly agreeing) of the respondents indicated that the lack of transport is a major reason woman opt to deliver at home rather than in the hospital.

The results show that 80.5% (comprising of 50% agreeing and 30.5% strongly agreeing) believed in the importance of free professional birth attendance for safe deliveries. Based on the findings, even with available free services, structural barriers like transportation can play a deciding role in healthcare decisions. As such, it may benefit stakeholders to not only enhance the quality and outreach of free medical services but also focus on facilitating easier access to these services, especially for expectant mothers.

Using a secondary sheet, the researcher collected data on the successful and unsuccessful free deliveries that occurred in the three sub-counties (Isiolo, Merti, and Garbatulla) during the period Jan-May 2022. The findings are presented in Table 4.7 below;

Table 4.7: Deliveries – Free Maternity Care Service in Isiolo County (Jan – May 2022)

Sub-County	Months (2022)	Successful Deliveries	Unsuccessful deliveries
Isiolo	Jan	243	8
	Feb	262	4
	March	305	11
	April	276	6
	May	274	11
Total		**1360**	**40**
GarbaTulla	Jan	65	-
	Feb	57	-
	March	75	-
	April	67	4
	May	81	2
Total		**345**	**6**
Merti	Jan	18	-
	Feb	22	-
	March	25	-
	April	32	1
	May	28	1
Total		**128**	**2**

Table 4.7 above shows that there were 1360 successful deliveries in Isiolo for the period Jan – May 2022). This is attributed to the fact that the only hospital with theater facilities in the county is situated in the Isiolo district. Moreover, the Isiolo sub-county is more developed as compared to Garba Tulla and Merti sub-counties which lack the required infrastructure to ensure access to free maternity care services for pastoralist women. Table 4.7 shows that the Garba Tulla sub county falls second in deliveries recording 345 successful deliveries. This is attributed to the fact that Garba Tulla is near the Isiolo sub-county with a distance of 139km as compared to the distance between Merti and the Isiolo sub-county which is 185km. The fact that theater facilities found in Isiolo County are only based in the Isiolo sub-county implies that most women may have unsuccessful deliveries during the journey if they do not reside in the Isiolo sub-county. This finding cautions on the need to ensure that all sub-counties in Kenya have theater facilities to lower the rate of maternity-related deaths and promote the utilization of free maternity care services.

4.4 Inferential Analysis

A multiple regression model was used to determine the relationship between the independent variables (culture, knowledge of pastoralist women and healthcare infrastructure) and the dependent variable (utilization of free maternity healthcare services). To determine whether the

independent variables explained the dependent variables, a model summary was conducted. The model summary is presented in Table 4.8 below.

Table 4.8: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.8993	0.80874	0.794028	0.270996

Table 4.8 above shows that the coefficient of determination (R2) was calculated to be 0.808, meaning that approximately 80.8% of the variation in the utilization of free maternity care services is explained by the independent influences of culture, knowledge, and healthcare infrastructure. This percentage (80.8%) suggests that the independent variables significantly shape how pastoralist women in Isiolo County use free maternity care services. Nonetheless,

19.2% of the variations in the utilization of free maternity care services remain unexplained, suggesting the possibility of other factors not being taken into consideration in this study.

The following step in the regression analysis also included running an analysis of variance (ANOVA) to determine the regression model's overall statistical significance. The ANOVA test was presented on Table 4.9 as shown below.

Table 4. 9: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	12.732	3	4.244	55.111	0.004
	Residual	3.011	298	0.077		
	Total	15.743	301			

Table 4.9 shows that the relationship between independent variables (culture, knowledge of pastoralist women and healthcare infrastructure) and dependent variable (utilization of free maternity care services) was significant as established by a significance value of 0.004 which is below the threshold of 0.05. The calculated F value of 55.111 exceeds the critical F value of 2.60 at the 5% significance level, further confirming this relationship's significance. Additionally, the coefficient table was used to analyze the relationships between the study variables.

Table 4. 10: Coefficient of Determination

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	0.289	1.2187		1.615	0.216
	Culture	-0.708	0.1523	0.178	4.219	0.018
	Knowledge of pastoralist women	0.603	0.2009	0.121	3.893	0.024
	Healthcare infrastructure	0.663	0.1897	0.277	3.231	0.021

The following equation was generated based on the SPSS results from Table 4.10 above:

$Y = \beta 0 + \beta 1X1 + \beta 2X2 + \beta 3X3 + \varepsilon$**)**

$Y = 0.289 - 0.708 + 0.603 + 0.663 + \varepsilon$

The results from Table 4.10 shows that the utilization of free maternity healthcare services among pastoralist women in Isiolo County is influenced by culture, knowledge and healthcare infrastructure. The findings revealed that when all factors are held constant at 0.289, a unit increase in culture leads to a decrease in the utilization of free maternity healthcare by 0.708. Moreover it was revealed that when all factors are held constant at 0.289, a unit increase in knowledge of pastoralist women and healthcare infrastructure lead to an increase in the utilization of free maternity healthcare by 0.603 and 0.663 respectively. Based on the findings culture has a negative effect on the utilization of free maternity healthcare services while knowledge of women and healthcare infrastructure have a positive effect on utilization of free maternity health care among pastoralist women in Isiolo County. Moreover, at a 5% significance level and 95% confidence level, the results were statistically significant, with culture at 0.017, knowledge at 0.024, and healthcare infrastructure at 0.021.

CHAPTER FIVE
DISCUSSION OF THE FINDINGS

5.1 Introduction

Chapter five covers a discussion of the study findings. This is based on the specific objectives of this research. The discussion of the findings is anchored on literature reviewed in chapter two.

5.2 Discussion of the Findings

5.2.1 Culture on Utilization of Free Maternity Care Services

The findings from the collected data indicated that a majority of the women who participated in the research were in their early 20s. This fact was attributed to the cultural practice of early marriages among the pastoralist women. Additionally, the fact that majority of the respondents were in their early 20s shows that the pastoralist women did not attend formal education. This is an indication that culture plays an important role among pastoralist women. This is supported by Wulifan, Dordah, and Sumankuuro (2022) who established that culture plays an essential role among nomadic pastoralist women.

The results also established that cultural practices influenced the use of free maternity healthcare among pastoralist women. This was evident from the fact that the data collected from the women showed that the pastoralist were deeply engrained in their generational rituals for giving birth. The findings revealed that these traditions often involve delivering at home with the help pf traditional birth attendants. This reliance on traditional delivery methods impedes the use of free maternity healthcare services among pastoralist women. This finding concurs with results by Contractore *et al.,* (2018) who indicated that culture is essential among Indian women and influences their attitudes towards seeking maternity healthcare services. Further, the research by Contractor et al (2018) is aligned to the current study findings that established that cultural beliefs among pastoralist women dissuade them from seeking free maternity care and rather practice home deliveries.

In addition, the findings indicated that the gender roles are embraced among pastoralist communities. This is particularly with regards to making healthcare services decisions. According to the data collected the pastoralist communities are largely patriarchal in the sense that the males are responsible of making decisions while the females take care of the home.

While this might be the norm for pastoralist women, it suggests that women's liberty and access to free maternity care services are constrained because the decision is made by the men in the community. Further, the results indicated that the pastoralist women were reluctant to seeking healthcare services in the hospitals for concerns that they would be attended to by male nurses. This is an indication that pastoralist women are still stuck in the past where it was believed that some roles are more suited for one specific gender. These findings are similar to observations made by Caulfield *et al.,* (2016) that pastoralist women often feel at ease delivering within their homes where they enjoy the comfort of familiar faces and have privacy as opposed to public hospitals. Moreover, another cultural practice that was identified is that decision making among pastoralist communities is designated for the men in the families (Caulfield, *et al.,* 2016).While this was the observation made, it is worth to note that in the current modern era, gender roles are being rewritten, hence, in the future there may be a chance that more pastoralist women will take charge of making their own decisions especially those that pertain maternal health care.

The results also show that seeking maternal healthcare in the hospitals was not a common practice as it ought to be. This is because, using free maternity healthcare services is often stigmatized as it is considered going against the cultural norms and traditions. Wulifa, Dordan and Sumankuuro, (2022) agree with this finding and note that if pastoralist women seek maternity care services, they make themselves vulnerable to discrimination and marginalization. Additionally, the results showed that pastoralist women in Isiolo County avoided seeking out prenatal care services out of concern that they would be circumcised while at the medical facility. FGM was once a widespread practice in pastoralist cultures. Nevertheless, based on the results, it appears that the vice still exists in Isiolo County, which ultimately deters uncircumcised women from accessing prenatal care out of concern that they will be circumcised by form. This finding is consistent with that of Creanga (2018), who found that cultural prejudice against some women can discourage them from seeking out maternity care services.

The research also revealed that most pastoralist women in Isiolo County only want maternity care when anything goes wrong. This is due to the deeply ingrained traditions among pastoralist women. Additionally, the fact that pastoralist women often move from one place to another discourages them from utilizing maternity care facilities as frequently. This result is consistent with observations made by Zepro, et al (2021) that it is challenging for pastoralists to receive health services, especially maternity health care, due to their nomadic lifestyle. It is difficult for

health workers to reach pastoralists since they frequently reside in isolated places far from medical services.

5.2.2 Knowledge Pastoralist Women and Utilization of Free Maternity Care Services

The results show how knowledge affects their use of free maternity care services in Isiolo County. The results indicated that majority of the women had not discussed with their friends on free maternity care. This is attributed by the belief that seeking free services is seen as a sign of destitution or lack. Furthermore, pastoralist communities' traditional conception of wealth, which places more emphasis on cattle ownership than on material possessions, only serves to increase their resistance to using free medical care. This is aligned with observations by Wako and Kassa's (2017) that pastoralist women's views have a significant impact on how often they use maternity care services. The authors pointed out that simply knowing about maternity care services does not encourage pastoralist women to use them.

Furthermore, the knowledge of pastoralist women on home childbirth over hospital-based care highlights the significance of cultural influences in influencing their choices. Convenience is a key factor in influencing how frequently maternity services are used in this population. For pastoralist women, finding a health facility in Isiolo County can be difficult because of how few there are and how far away they are from residential areas. Since they may give birth in their homes' familiar and cozy environments, the majority of these women choose home deliveries. This predilection for in-home deliveries is strongly ingrained in the pastoralist community's cultural fabric and reflects a close relationship to their customary practices and beliefs around birthing. These results are consistent with those of Khatri and Karkee (2018) who found that pastoralist women prefer home deliveries due to cultural considerations, practicality, and personal convictions in rural Nepal.

The results also highlighted pastoralist women's did not knows of many women who had attended all antenatal sessions. This suggests that pastoralist women in Isiolo County may be unaware of or not following the advised prenatal care recommendations. Wu et al. (2019) further established that an increase in maternity knowledge increases the rate of its assimilation. To increase the use of maternity care, it is necessary to ensure that all Kenyan women, especially those living in remote areas like Isiolo County, are informed about its significance. Wu, et al. (2019) argue that educating women will increase their use of maternity care services, which will increase the number of live births in any region.

The results show that the men and pastoralist women have quite different degrees of knowledge about maternity care services, with husbands having more information. As pastoralist women have had fewer educational options than their male counterparts, this study emphasizes their neglected position in their society. This knowledge gap is perpetuated by traditional gender norms, which favor educating male children over preparing female youngsters for early marriage. Therefore, pastoralist women are unable to use maternity care services because they lack the knowledge and power to decide that would allow them to make an informed decision. The findings are in line with those of Alemayehu et al. (2018), who found that pastoralist women in Sudan and Ethiopia lack the skills necessary to provide for pregnant women. The findings in the current example of Isiolo highlight the urgent necessity for medical facilities to take a proactive role in informing pastoralist women about the significance of accessing maternity care services at hospitals and clinics. Medical facilities can close the knowledge gap and give rural women the power to decide on their maternity health by taking charge of their education.

5.2.3 Healthcare Infrastructure and Utilization of Free Maternity Care Service

The results of the research shed light on how the community views and experiences the impact of healthcare infrastructure on the use of free maternity care services. The availability of qualified practitioners is a crucial component of effective healthcare services. The hospitals in Isiolo County had insufficient medical staff, according to the data. This discourages the pastoral women from seeking medical services from the hospitals, hence contributing to the low uptake of free maternity care services. Additionally, the findings revealed that the hospitals in Isiolo County have poor emergency obstetric care. This shows that the hospitals in Isiolo County lack the necessary capacity to offer emergency healthcare services to expectant women. This raises questions about the efficacy and safety of the emergency care given to expectant mothers in Isiolo County. The findings support those of Dihn (2019), who found that low usage of maternal care services is caused by insufficient infrastructure, including incompetent staff, inadequate equipment, and inadequate facilities.

Moreover, the finding revealed that the hospitals in Isiolo County offered inadequate reproductive healthcare services. This is largely attributed to the fact that the few available hospitals were not well equipped; only one hospital which was based in the Isiolo sub-county has a theater. The findings showed a lack of comprehensive reproductive healthcare services tailored to the needs of the community. The need of expanding the variety and caliber of reproductive

healthcare treatments available to pastoralist women in the area is highlighted by this study. The finding was consistent with that of Byrne et al. (2016) who noted that poor maternity healthcare services supply was a regular occurrence in rural locations that frequently lacked the necessary people and equipment.

A major issue that was identified in the study as a hindrance to the uptake of maternity care services was the long distance between the residential homes of the pastoralist women and the medical facilities. The results revealed that the expectant women had to travel long distances to reach medical facilities. This situation was worse for pastoralist women from Merti and GarbaTulla who needed to use the theaters since they had to travel for hours to get to the Isiolo sub-county where the theater facilities are situated. Therefore, it is likely that some women experienced unsuccessful deliveries while in transit. The findings support the results by Hostetter and Klein (2021) who revealed that the long distances between the homes of pastoralist women and the medical facilities hindered the utilization of maternity care services.

The findings also indicated that mistreatment and abuse of expectant women by healthcare personnel and negligence by staff also contributed to the low utilization of maternity care services. Moreover, the negligence by staff often leads to mistrust between the pastoralist women and the medical personnel as elaborated by Ibrahim, *et al.,* (2018). Therefore, this study cautions on the need to ensure that the healthcare personnel take up their responsibility of addressing the health issues of pastoralist women and upholding their medical mantra of no harm. The finding suggests that there is a perceived lack of attentiveness and care among healthcare providers in Isiolo County, raising questions about pastoralist women safety and the quality of care provided. Efforts should be made to address this issue through training, supervision, and accountability mechanisms to ensure the highest standards of health care.

CHAPTER SIX

SUMMARY OF THE FINDINGS, CONCLUSION, AND RECOMMENDATIONS

6.1 Introduction

This is the final chapter of this study. It covers the summary of the findings, the conclusion and the recommendations of the study. The chapter culminates with the suggestion for further research.

6.2 Summary of the Findings

The study sought to determine the effect culture has on the utilization of free maternity health care among pastoralist women in Isiolo County. The results indicated that gender roles where women are expected to take care of the home while men make all decisions deters women attitude towards seeking for free maternity healthcare services. Additionally, the fear of being attended to by a male nurse in the hospital limit the pastoralist women usage of free maternity care. These factors are also exacerbated by the fact that the nomadic lifestyle of pastoralist women makes it difficult for women to rely on maternity care. The continuation of harmful practices and the requirement for comprehensive efforts to overcome cultural stereotypes that prevent women from accessing maternity care services are highlighted by worries about female genital mutilation, which feeds anxiety and discourages uncircumcised women from obtaining prenatal care.

Secondly, the researcher sought to understand how knowledge of free maternity care services influences its utilization among pastoralist women in Isiolo County. The findings show strong opposition to receiving free medical treatment from hospitals, possibly because people associate it with poverty. Resistance to using free medical care is strengthened by the traditional pastoralist view of prosperity that places a focus on livestock ownership. A lack of knowledge or adherence to advised recommendations is demonstrated by the low rates of prenatal care utilization. The study findings revealed that there is a knowledge gap between spouses, which reflects the marginalized status of pastoralist women that is maintained by conventional gender norms.

Thirdly, the study sought to establish the impact health infrastructure has on the utilization of free maternity healthcare services by pastoralist women in Isiolo County. The findings revealed that the county's hospitals lack appropriate medical staff, which deters pastoralist women from seeking medical attention and lowers the demand for maternity care. Concerns over the security

and efficiency of emergency services offered to pregnant women are also raised by the hospitals' inadequate emergency obstetric care. The findings also showed that the county's reproductive healthcare services are insufficient, with few comprehensive treatments and few facilities. The distances between pastoralist women's homes and medical facilities have been noted as a major barrier to getting maternity care, which could lead to preterm births while in transit. The poor usage of maternity care services was also attributed to mistreatment, abuse, and neglect by medical staff, underscoring the requirement for better care, attention, and safety of the pastoralist women.

6.3 Conclusion

This study examined the influences of culture, knowledge and healthcare infrastructure on the use of free maternity care services among pastoralist women in Isiolo County. The study revealed that traditional birthing practices, entrenched gender roles, hesitation toward male healthcare practitioners, and the shame of breaking from cultural norms all greatly impede the uptake of free maternity care services in Isiolo County. These cultural challenges highlight the importance of culturally sensitive methods for improving free maternity care uptake.

The study also assessed knowledge and found a gap in awareness and adherence to recommended maternal health practices, demonstrating that a lack of knowledge is a significant obstacle to accessing free maternity care services. This emphasizes the urgent need for focused educational campaigns to provide women with important information, allowing them to make educated healthcare decisions.

The findings on healthcare infrastructure established that a lack of medical personnel, inadequate emergency obstetric facilities, and limited reproductive health services severely limit the accessibility and quality of maternity care. The prevalence of maltreatment and neglect by healthcare providers erodes faith in these services, highlighting the need for systemic adjustments to ensure pastoralist women safety and confidence.

6.4 Recommendations of the Study

The study recommends that the policy makers in Isiolo County should design and implement culturally relevant interventions to encourage pastoralist women in the region to take advantage of the county's free maternity care services. The study recommends that cultural beliefs and maternity care services be integrated to support the communities in Isiolo County. This can be

achieved that there is an available female birth attendant in all hospitals to accommodate the pastoralist women who are not comfortable being attended to by a male nurse. Moreover, the policy makers can implement policies in the county that ensures that all pastoralist women are recognized and are educated on the available maternity care services once they visit these facilities.

To give pastoralist women more control over the choices they make regarding their maternity healthcare, it is crucial to address the impact of gender roles and power relations. The policy makers can implement policies in Isiolo County that promote gender equality. The main goal is to shift from conventional gender roles and advance gender equality in pastoralist communities. This can be accomplished through targeted awareness campaigns, community conversations, and capacity-building initiatives that support women's autonomy and promote men's participation in maternity health decision-making. The policy makers at the Ministry of Health in collaboration with Isiolo's county government should develop policies that strengthen the healthcare system in rural areas such as Isiolo County to increase the number of pastoralist women who use maternity care services. This entails increasing the number of healthcare institutions and their accessibility, especially those that provide maternity care services. To reduce the distance and logistical difficulties involved with getting care, efforts should be made to develop and upgrade healthcare facilities closer to pastoralist settlements.

6.5 Suggestions for Further Research

The current study was successful in illuminating the variables affecting pastoralist women's use of free maternity care services in Isiolo County, Kenya. However, a few outstanding problems still exist and need to be addressed. Further investigation into pastoral communities in other areas, such Marsabit County, is suggested to address this issue. This expanded focus will help increase the use of free maternity care services, especially in rural areas. The study also suggests that more research be done to examine variables other than culture, infrastructure, and pastoralist women knowledge that may have an impact on the use of free maternity care services.

Particularly, it is recommended to conduct a more thorough examination into gender equality and how it affects pastoralist groups' decisions about whether to use such services. This is especially important in circumstances where the male child is typically regarded as being superior to the female child.

REFERENCES

Adedokun, S. T., & Yaya, S. (2020). Correlates of antenatal care utilization among women of reproductive age in sub-Saharan Africa: evidence from multinomial analysis of demographic and health surveys (2010–2018) from 31 countries. *Archives of Public Health, 78*, 1-10.

Adom, D., Hussein, E. K., &Agyem, J. A. (2018). Theoretical and conceptual framework: Mandatory ingredients of a quality research. *International journal of scientific research, 7*(1): 438-441.

AFIDEF, (2017). *Isiolo County Fact Sheet.* Retrieved from https://www.afidep.org/resourcecentre/downloads/fact-sheets/reproductive-maternity -neonatal-child-health-isiolocounty/Retrieved on 12/06/2022

African Union (2018). *Primary Health Care and Reproductive, Maternity , Newborn and Child Health.* Draft Policy Brief for the International Conference on Maternity , Newborn and Child Health (MNCH) in Africa. Johannesburg, South Africa. Retrieved from https://www.who.int/pmnch/media/events/2013/au_policy_brief_primary_hc.pdf. Retrieved on 12/06/2022

Ahmed, I., Mwanzo, I., &Agina, O. (2020). A Qualitative Exploration of Access and Utilization of Focused Antenatal Care among Pastoralist Community in North Eastern Kenya. *Asian Journal of Medicine and Health, 18*(6): 1-10.

Ajzen, I., & Madden, T. J. (1986). Prediction of goal-directed behavior: Attitudes, inten-tions, and perceived behavioral control. *Journal of Experimental Social Psychology,22*, 45,374

Ajzen. (1991). "The theory of planned behavior". . *Organizational Behavior and Human Decision Processes.* , 50 (2): 179-211.

Alemayehu, M., Lemma, H., Abrha, K., Adama, Y., Fisseha, G., Yebyo, H., ... & Gebregzabher, T. (2018). Family planning use and associated factors among pastoralist community of afar region, eastern Ethiopia. *BMC women's health, 16*(1): 39.

Bandura, A. (2004). Health promotion by social cognitive means. *Health education & behavior, 31*(2): 143-164.

Bill and Melinda Gates Foundation (2021). *Historical Progress for Maternity Mortality.* [online] https://www.gatesfoundation.org/goalkeepers/report/2021-report/progressindicators/maternity -mortality/. Retrieved on 12/06/2022.

Byrne, A., Caulfield, T., Onyo, P., Nyagero, J., Morgan, A., Nduba, J., & Kermode, M. (2016). Community and provider perceptions of traditional and skilled birth attendants providing maternity health care for pastoralist communities in Kenya: a qualitative study. *BMC pregnancy and childbirth, 16*(1): 1-12.

Caulfield, T., Onyo, P., Byrne, A., Nduba, J., Nyagero, J., Morgan, A., & Kermode, M. (2016). Factors influencing place of delivery for pastoralist women in Kenya: a qualitative study. *BMC women's health, 16*(1): 52.

Chanda, S. K., Horne, M., & McHugh, G. A. (2023). Using the Theoretical Domains Framework to identify the barriers and enablers to access and use of primary and maternal healthcare services

by rural Bangladeshi women: a qualitative study. *Research Square* 1-19 Coleman, J. S. (1994). *Foundations of social theory*. Harvard university press.

Contractor, S. Q., Das, A., Dasgupta, J., & Van Belle, S. (2018). Beyond the template: the needs of tribal women and their experiences with maternity services in Odisha, *India. International journal for equity in health*, *17*, 1-13.

County Government of Isiolo (2020). *Health.* [online] https://isiolo.go.ke/health/Retrieved on 12/06/20222.

Creanga, A. A., MD, PhD. (2018). Maternity Mortality in the United States: A Review of Contemporary Data and Their Limitations. *Clinical Obstetrics and Gynecology*, *61*(2): 296-306.

Decip (2020). *Family Planning: a key ingredient for a healthier and more productive population.* [online] https://options.co.uk/sites/default/files/desip-policybrief_isiolo.pdf. Retrieved on 12/06/2022.

Dinh, C. (2019). *Let Motherly Love Endure: An Investigation of Maternity Health in West Philadelphia.*University of Pennsylvania

Gitonga, E. (2017). Determinants of focused antenatal care uptake among women in tharakanithi county, Kenya. *Advances in Public Health, 2017*(3685401): 1-5

Hostetter, M., & Klein, S. (2021). *Restoring Access to Maternity Care in Rural America.* The Common Wealth Fund

Ibrhim, M. A., Demissie, M., Medhanyie, A. A., Worku, A., & Berhane, Y. (2018). Reasons for low level of skilled birth attendance in Afar pastoralist community, North East Ethiopia: a qualitative exploration. *Pan African Medical Journal*, *30*(1): 1-13.

Jillo, J. A., Ofware, P. O., Njuguna, S., &Mwaura-Tenambergen, W. (2015). Effectiveness of Ng'adakarinBamocha model in improving access to ante-natal and delivery services among nomadic pastoralist communities of Turkana West and Turkana North SubCounties of Kenya. *The Pan African Medical Journal*, *20*(403): 1-10

Khalil, A., Samara, A., O'Brien, P., Coutinho, C. M., Quintana, S. M., & Ladhani, S. N. (2023). A call to action: the global failure to effectively tackle maternal mortality rates. *The Lancet Global Health*, *11*(8), e1165-e1167.

Kilonzo, S., Kamaara, E. &Magak, K. (2017). Improving Access to Maternity Health Care through Devolution in Western Kenya: Interrogating Decentralization in Africa. *IDS Bulletin*, *48*(2), 91-108

Kisiangani, I., Elmi, M., Bakibinga, P., Mohamed, S. F., Kisia, L., Kibe, P. M., ... & Ziraba, A. K. (2020). Persistent barriers to the use of maternal, newborn and child health services in Garissa sub-county, Kenya: a qualitative study. *BMC pregnancy and childbirth*, *20*, 1-12.

March of Dimes (2021). *Quick facts; Parental Care.* [online] Retrieved from https://www.marchofdimes.org/peristats/ViewTopic.aspx?reg=99&top=5&lev=0&slev=1 Retrieved on 12/06/2022.

Minority Rights Group International, (2020). *Enhancing Quality and Universal access to*

Indigenous People's reproductive healthcare (EQUIP) Report. Retrieved from https://minorityrights.org/wp-content/uploads/2021/03/Final-Baseline-SurveyReport_EQUIIP-Project-Mandera-4.pdf. Retrieved on 12/06/2022.

Mohammed, A. A. (2016). *Prevalence and risk factors for hepatitis B infection among pregnant women attending antenatal clinics in Garissa district* (Doctoral dissertation, Laboratory Management and Epidemiology, JKUAT).

Moshi, F. V., Kibusi, S. M., & Fabian, F. (2020). Using the theory of planned behavior to explain birth in health facility intention among expecting couples in a rural setting Rukwa Tanzania: a cross-sectional survey. *Reproductive health*, *17*(1), 1-12.

Muchemi, O. M., Gichogo, A. W., Mungai, J. G., & Roka, Z. G. (2017). Trends in health facility based maternity mortality in Central Region, Kenya: 2008-2012. *Pan African Medical Journal*, *23*(1).

Muheirwe, F., &Nuhu, S. (2019). Are health care facilities and programs in Western Uganda encouraging or discouraging men's participation in maternity and child health care?. *The International journal of health planning and management*, *34*(1), 263-276.

Mutai, K. T., &Otieno, G. O. (2021). Utilization of focused antenatal care among expectant women in Murang'a County, Kenya. *The Pan African Medical Journal*, *39*(1): 1-13.

National Bureau of Statistics-Kenya and ICF International. (2016). *2014 Kenya Demographic and Health Survey Atlas of County-level Health Indicators*. Rockville, Maryland, USA: KNBS and ICF International.

Nisha, M. K., Alam, A., Rahman, A., & Raynes-Greenow, C. (2021). Modifiable socio-cultural beliefs and practices influencing early and adequate utilisation of antenatal care in rural Bangladesh: a qualitative study. *Midwifery*, *93*, 102881.

Odjidja, E. N. (2018). Control of infectious disease during pregnancy among pastoralists in South Sudan: a case for investment into mobile clinics. *Pastoralism*, *8*(1): 1-6.

Orangi, S., Kairu, A., Malla, L., Ondera, J., Mbuthia, B., Ravishankar, N., & Barasa, E. (2021). Impact of free maternity policies in Kenya: an interrupted time-series analysis. BMJ Global Health, 6(6), e003649.

Republic of Kenya (2020). *UN H6 Joint Program on Reproductive, Maternity , Newborn, Child, and Adolescent Health.* [online] https://kenya.unfpa.org/sites/default/files/pubpdf/un_h6_joint_program_rmncah_-newsletter_final.pdf. Retrieved on 12/06/2022.

Research Sound Support Limited (2019). *Social assessment for the proposed upgrading of Isiolo-Wajir-Mandera road corridor.* [online] https://documents1.worldbank.org/curated/en/576091575009604904/text/SocialAssessment-for-the-Proposed-Upgrading-of-Isiolo-Wajir-Mandera-Road-CorridorA13.txt. Retrieved from 12/06/2022

Rosenfield, A., & Maine, D. (1985). Maternity mortality-a neglected tragedy: Where is the M in MCH?. *The Lancet*, *326*(8446), 83-85.

Ruktanonchai, C. W., Nilsen, K., Alegana, V. A., Bosco, C., Ayiko, R., Kajeguka, A. C. S., ... &

Tatem, A. J. (2018). Temporal trends in spatial inequalities of maternity and newborn health services among four east African countries, 1999-2015. *BMC Public Health*, *18*(1), 1-13.

Sakala, C. (2020). *Maternity Care in the United States: We Can - and Must - Do Better*. Brief Issue, National Partnership for Women & families. Retrieved from https://www.nationalpartnership.org/our-work/resources/health-care/maternity-care-inthe-united.pdfon 12/06/2022

Smith, A. J. H. (2024). Ethical Considerations in Practitioner Research: Navigating Challenges and Ensuring Quality. *In Practitioner Research in College-Based Education* (pp. 29-56). IGI Global.

Sussman, R. (2019). "Causality in the Theory of Planned Behavior". *Personality and Social Psychology Bulletin45*(6): 920-933.

Tessema, Z. T., &Minyihun, A. (2021). Utilization and Determinants of Antenatal Care Visits in East African Countries: A Multicountry Analysis of Demographic and Health Surveys. *Advances in Public Health*, *2021*(6623009): 1-9.

Thaddeus, S., & Maine, D. (1994). Too far to walk: maternity mortality in context. *Social science & medicine*, *38*(8), 1091-1110.

The Treet of Life (2019). *Project of mother and child well being - Kenya Samburu.* [online] https://www.treeoflife-africa.org/avada_portfolio/project-of-mother-and-child-wellbeing-kenya-samburu/. Retrieved on 12/06/2022

Umer, A., Zinsstag, J., Schelling, E., Tschopp, R., Hattendof, J., Osman, K., ... & Zemp, E. (2020). Antenatal care and skilled delivery service utilisation in Somali pastoralist communities of Eastern Ethiopia. *Tropical Medicine & International Health*, *25*(3): 328337.

UNDP. (2015). *Sustainable Development Goals: Transforming Our World* - The 2030 Agenda for Sustainable Development. United Nations, New York.

UNFPA (2020). *End term evaluation of the un h6 joint programme on reproductive, maternity , newborn, child and adolescent health (RMNCAH) 2015-2020.* Final Report UNICEF (2015). *Maternity and Newborn Health Disparities*, Kenya. UNICEF.

UNICEF (2019). *Maternity mortality*. UNICEF data. Retrieved from https://data.unicef.org/topic/maternity -health/maternity -mortality/. Retrieved on 12/06/2022

UNICEF (2023). *Maternal mortality declined by 34 per cent between 2000 and 2020*. UNICEF, retrieved from https://data.unicef.org/topic/maternal-health/maternal-mortality/ on 4th Oct 2024.

UNICEF. (2018). *Antenatal care*. [online] https://data.unicef.org/topic/maternity health/antenatal-care/. Retrieved on 12/06/2022

Wairoto, K. G., Joseph, N. K., Macharia, P. M., & Okiro, E. A. (2020). Determinants of subnational disparities in antenatal care utilisation: a spatial analysis of demographic and health survey data in Kenya. *BMC health services research*, *20*(1): 1-12.

Wako, W. G., & Kassa, D. H. (2017). Institutional delivery service utilization and associated factors among women of reproductive age in the mobile pastoralist community of the Liban District in Guji Zone, Oromia, Southern Ethiopia: a cross sectional study. *BMC pregnancy and childbirth*, *17*(1): 144.

WHO (2016). *New guidelines on antenatal care for a positive experience*. Geneva, Switzerland.

WHO (2020). Maternity Health, Africa. [online] https://www.afro.who.int/healthtopics/maternity -health. Retrieved on 12/06/2022

World Health Organization. (1985). Maternity mortality rates. *unpublished report, Geneva: WHO*.

World Health Organization. (2016). *Standards for improving quality of maternity and newborn care in health facilities.* WHO. [online] https://cdn.who.int/media/docs/defaultsource/mca-documents/qoc/quality-of-care/standards-for-improving-quality-of-maternity -and-newborn-care-in-health-facilities.pdf?sfvrsn=3b364d8_4. Retrieved on 12/06/2022

Wu, Y., Zhou, H., Wang, Q., Cao, M., Medina, A., &Rozelle, S. (2019). Use of maternity health services among women in the ethnic rural areas of western China. *BMC health services research*, *19*(1): 1-12.

Wulifan, J. K., Dordah, A. D., & Sumankuuro, J. (2022). Nomadic pastoralists' experience accessing reproductive and maternal healthcare services in low and middle-income countries: a contextual scoping review. *Pastoralism*, *12*(1), 47.

Yaya, S., & Ghose, B. (2019). Global inequality in maternal health care service utilization: implications for sustainable development goals. *Health equity*, *3*(1), 145-154.

Yaya, S., Uthman, O. A., Ekholuenetale, M., &Bishwajit, G. (2018). Socioeconomic inequalities in the risk factors of noncommunicable diseases among women of reproductive age in sub-saharan Africa: a multi-country analysis of survey data. *Frontiers in public health*, *6*(307): 1-11.

Zepro, N. B., Medhanyie, A. A., Bezabih, A. M., Tarr, N., & Merten, S. (2021). Lived Experiences and Perceptions of Childbirth among Pastoralist Women in North-Eastern Ethiopia: A Multimethod Qualitative Analysis to the WHO Health Systems Responsiveness Framework. *International Journal of Environmental Research and Public Health*, *18*(23), 12518.

APPENDICES

APPENDIXI: CONSENT FORM

FACTORS INFLUENCING UTILIZATION OF FREE MATERNITY CARE SERVICES AMONG PASTORALIST WOMEN IN ISIOLO COUNTY, KENYA

Introduction

I am **Hassan Bagaja Huyo** from the Department of Nutrition and Health, at Maseno University. I am conducting a study on **FACTORS INFLUENCING UTILIZATION OF FREE MATERNITY CARE SERVICES AMONG PASTORALIST WOMEN IN ISIOLO COUNTY, KENYA**

Purpose

The study seeks to investigate the factors influencing the utilization of free maternity care services among pastoralist women in Isiolo County, Kenya.

Procedure

If you consent to participate in this study, a qualified researcher will administer a semi-structured questionnaire on the usage of free maternity care. Your demographic information will also be collected on the questionnaire. You can be sure that the researcher will uphold complete confidentiality at all times.

Risks/Discomfort

Participating in this study won't expose you to any anticipated risks. We do understand, though, that some inquiries might touch on sensitive personal topics, which might be a little unsettling. Please be aware that the questionnaire will be conducted in private and that all information provided will be kept completely confidential.

Benefits

Although taking part in this study won't directly benefit you, the researcher and research assistants will be on hand to answer any questions or address any concerns you might have. The results of this study will help researchers better understand the factors impacting pastoralist women's use of free maternity care services. The findings might be used to raise awareness of the need for these services, particularly for pastoralist women in Isiolo County, and to argue their value.

Confidentiality

We guarantee that all of your data, including your name and other identifiers, will be kept private. The collected information will only be used for research purposes and will never be used to identify specific individuals in any subsequent publications or reports.

Compensation

You won't receive any financial reward for taking part in this study.

Voluntariness

It is totally up to you whether or not to take part in this study. You are free to choose not to participate without being forced to or suffering any repercussions. Additionally, you are free to leave the study whenever you choose without having to give a reason. If you decide to participate, we respectfully ask for your full participation.

Persons to contact

Please feel free to contact Hassan Bagaja Guyo at 0723 361 416 if you have any questions or concerns about this study.

Your participation in the study will be highly appreciated.

I_____ thus give my informed consent to take part in the study. I acknowledge that I have been provided with a thorough explanation of the nature of the study by Mr/Miss_____. I am aware that my involvement in this study is entirely voluntary.

Signature_____ Date_____

Signature of Reseacher/Assistant_____ Date_____

APPENDIX II: QUESTIONNAIRE

Dear respondent,

This survey aims to ascertain how the free maternity services program has affected the maternal health of pastoralists in the county of Isiolo. Your responses will only be used for academic purposes. You may be sure that every response will be treated with the utmost privacy and confidentiality.

Section A: General Information

What is your highest level of education? Please specify. (Check as appropriate)

No Formal education [ ]
Primary [ ]
Secondary [ ]
College [ ]
University [ ]
Others (specify) ……

How old are you?

.....

What is your marital status?

Single [ ]
Married [ ]
Divorced [ ]
Widowed [ ]
Separated [ ]

Section B: Factors influencing maternity services utilization

Please indicate with a tick (√) the extent to which you agree to the statements: The scale to use is: 1=Not at all; 2-To a small extent; 3=To a moderate extent; 4=To a large extent; and 5; To a very large extent

Culture	**1**	**2**	**3**	**4**	**5**
My culture encourages home delivery					
My Culture does not support Hospital visits and delivery					

My husband is responsible for making decisions involving my health					
I fear visiting a hospital for delivery for fear of a Male Nurse conducting delivery.					

Since I have not undergone FGM, I fear visiting the hospital for maternity services for fear that I will be circumcised during birth					
Due to the practice of pastoralism, I am not able to acquire membership in any hospital as a result of continuous movement					
In my culture maternity services are not embraced					
The culture in Isiolo County is that pastoralist women only seek maternity medical services during complications					
Knowledge of pastoralist women	**1**	**2**	**3**	**4**	**5**
I have had discussions with my friends on free maternity care					
I have knowledge on home deliveries					
I do not know the process of receiving free maternity health care					
My husband plays a big role in deciding where I will get maternity healthcare services					
The knowledge that impacted Pastoralist women influence their decision on Hospital visits.					
Pastoralist women do not seek maternity services from hospitals in Isiolo County due to the lack of female midwives					
Healthcare Infrastructure	**1**	**2**	**3**	**4**	**5**
The hospitals in Isiolo County lack skilled attendants and personnel					
The hospitals in Isiolo County have poor emergency obstetric care					
The hospitals in Isiolo County offer inadequate reproductive healthcare					
Most Pastoralist women in Isiolo County do not utilize the free maternity program due to mistreatment and abuse by personnel from the health facilities					
Negligence by hospital staff is high in Isiolo County					
Pastoralist Women in Isiolo County do not visit the hospitals in the County due to poor supervision and understanding of maternity healthcare services					
The hospitals in Isiolo County are situated far away from the residential homes of the community members					

Section C: Utilization of Free maternity care services Were you aware of the free maternity services?

Yes [ ] No [ ]

If yes, who educated you on free maternity care?

Relatives [ ]

Self [ ]

Mass media [ ]

Please indicate with a tick (√) the extent to which you agree to the statements: The scale to use is: 1=Not at all; 2-To a small extent; 3=To a moderate extent; 4=To a large extent; and 5; To a very large extent

Statements	**1**	**2**	**3**	**4**	**5**
I have sought free antenatal services from the hospitals in Isiolo					
I delivered for free my child in the hospital					
I get free post-natal services from the hospital					
Free theatre services have helped reduce the number of pregnancy-related deaths among women					
The use of free professional birth attendance at all births is paramount to achieving safe deliveries					
Free ambulance services ensure successful deliveries					
Lack of transport leads women to deliver at home versus our hospital facility					

Thank you for your time

APPENDIX III: INTERVIEW GUIDE FOR DELIVERY ATTENDANTS IN ISIOLO COUNTY

1. Can you describe the cultural beliefs and practices in Isiolo County surrounding childbirth?
2. How do cultural norms influence the decision of where a woman gives birth?
3. Are there any cultural practices or beliefs that may discourage women from using hospital maternity services?
4. In your experience, how do families and community leaders perceive the use of free maternity care services?
5. Are there any traditional birth practices that compete with the services offered at healthcare facilities?

APPENDIX IV: DATA COLLECTION SHEET FOR MATERNITY HEALTH

Dates (Jan - May 2022)	Number of successful delivery	Number of unsuccessful deliveries	Total	Proportion (%)

APPENDIX V: SGS APPROVAL LETTER

MASENO UNIVERSITY
SCHOOL OF GRADUATE STUDIES

Office of the Dean

Our Ref: EL/ESM/00475/013

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

Date: 28th October, 2022

TO WHOM IT MAY CONCERN

RE: PROPOSAL APPROVAL FOR HASSAN BAGAJA GUYO— EL/ESM/00475/013

The above named is registered in the Master of Public Health degree programme in the School of Public Health and Community Development, Maseno University. This is to confirm that his research proposal titled "Factors influencing utilization of free maternity care services among pastoralist women in Isiolo County, Kenya" has been approved for conduct of research subject to obtaining all other permissions/clearances that may be required beforehand.

Prof. J.O. Agure
DEAN, SCHOOL OF GRADUATE STUDIES

APPENDIX VI: RESEARCH APPROVAL FROM MASENO UNIVERSITY SCIENTIFIC AND ETHICS REVIEW COMMITTEE

MASENO UNIVERSITY SCIENTIFIC AND ETHICS REVIEW COMMITTEE

Tel: +254 057 351 622 Ext: 3050
Fax: +254 057 351 221
Private Bag – 40105, Maseno, Kenya
Email: muerc-secretariate@maseno.ac.ke

REF: MSU/DRPI/MUSERC/01180/22 **Date**: 17th February, 2023

TO: Hassan Bagaja Guyo
EL/ESM/00475/2013
Department of Nutrition and Health
School of Public Health and Community Development
Maseno University
P. O. Box, Private Bag, Maseno, Kenya

Dear Sir,

RE: Factors Influencing Utilization of Free Maternity Care Services among Pastoralist Women in Isiolo County, Kenya

This is to inform you that **Maseno University Scientific and Ethics Review Committee (MUSERC)** has reviewed and approved your above research proposal. Your application approval number is MUSERC/01180/22.The approval period is 17th February, 2023 – 16th February, 2024.

This approval is subject to compliance with the following requirements;

i. Only approved documents including (informed consents, study instruments, MTA) will be used.
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by Maseno University Scientific and Ethics Review Committee (MUSERC).
iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to Maseno University Scientific and Ethics Review Committee (MUSERC) within 24 hours of notification.
iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to Maseno University Scientific and Ethics Review Committee (MUSERC) within 24 hours.
v. Clearance for export of biological specimens must be obtained from relevant institutions.
vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vii. Submission of an executive summary report within 90 days upon completion of the study to Maseno University Scientific and Ethics Review Committee (MUSERC).

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

Yours sincerely

Prof. Philip O. Owuor, PhD, FAAS, FKNAS
Chairman, MUSERC

17 FEB 2023

APPENDIX VII: RESEARCH LICENSE

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **671256**

Date of Issue: **31/March/2023**

RESEARCH LICENSE

This is to Certify that Mr.. HASSAN BAGAJA GUYO of Maseno University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Isiolo on the topic: FACTORS INFLUENCING UTILIZATION OF FREE MATERNITY CARE SERVICES AMONG PASTORALIST WOMEN IN ISIOLO COUNTY, KENYA for the period ending : 31/March/2024.

License No: **NACOSTI/P/23/24154**

671256

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

See overleaf for conditions

APPENDIX VIII: RESEARCH APPROVAL (COUNTY GOVERNMENT OF ISIOLO)

COUNTY GOVERNMENT OF ISIOLO
OFFICE OF COUNTY DIRECTOR
HEALTH SERVICES

County Director for Health
P.O. BOX 673 – 60300
ISIOLO
6th April 2023

When replying Please quote
ISO/CONT/CDH/ADM/01/2023

Hassan Bagaja Guyo,
EL/ESM/00475/2013
Department of Nutrition and Health
School of Public Health & Community Development
Maseno University, Kenya.

Dear Sir,

RE: APPROVAL TO UNDERTAKE A STUDY IN ISIOLO COUNTY: "FACTORS INFLUENCING UTILIZATION OF FREE MATERNITY CARE SERVICES AMONG PASTORALIST WOMEN IN ISIOLO COUNTY, KENYA"

Hassan Bagaja Guyo (EL/ESM/00475/2013) is a student undertaking Master of Public Health Degree Programme in the School of Public Health and Community Development at Maseno University, Kenya. He plans to conduct a study titled: "Factors influencing utilization of free maternity care services among pastoralist women in Isiolo County, Kenya".

It is hereby noted that he has obtained ethical clearance from Maseno University Scientific and Ethics Review Committee (Ref MSU/DRPI/MUSERC/01180/22) and approval from the office of dean, school of graduate studies, Maseno University. He has also been granted a research license (NACOSTI/P/23/24154) by the National Commission for Science, Technology and Innovation for the period ending 31 March 2024. Consequently, the Department of Health, Isiolo County hereby approves the study.

Thank you.

Yours sincerely,

COUNTY GOVERNMENT OF ISIOLO
DIRECTOR OF HEALTH
06 APR 2023
P.O. BOX 36 - 60300, ISIOLO

Dr. Abubakar A. Hussein
Director, Health Services,
Ministry of Health-Isiolo County

CC: MOH Isiolo, Garbatulla and Merti Sub Counties

APPENDIX IX: MAP OF ISIOLO COUNTY