BARRIERS TO UPTAKE AND UTILIZATION OF LINDA MAMA INITIATIVE AMONG WOMEN OF REPRODUCTIVE AGE (15-49 YEARS) IN KAJIADO NORTH SUB-COUNTY, KENYA

LYDIA KENDAGOR

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DECLARATION

Declaration by the Candidate:

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Sign Date: 23RD SEPTEMBER 2024

Lydia Kendagor

PHT-3-0660-1-2018

Declaration by Supervisors:

This thesis proposal has been submitted for examination with our approval as University Supervisors.

Sign Date: 23rd SEPTEMBER 2024

Dr. Eunice Nyavanga

KEMU

Sign Date: 23rd SEPTEMBER 2024

Dr. Consolata M'Mayi

KEMU

DEDICATION

I dedicate this work to my dear family, for their enormous and invaluable support in my studies. May GOD Bless you abundantly.

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ABSTRACT

Maternal mortality remains a significant concern globally, with substantial improvements observed over the years yet persisting challenges, particularly in resource-constrained regions like Kenya. From 2000 to 2018 according to the World Health Organization (WHO), approximately 295,000 women died during and following pregnancy and childbirth in 2017. Kenya, like many countries in sub-Saharan Africa, faces challenges in reducing maternal mortality rates despite efforts to improve maternal healthcare services. According to the Kenya Demographic and Health Survey (KDHS) 2014 estimates, Kenya's maternal mortality ratio (MMR) was 362 maternal deaths for every 100,000 live births. In Kajiado North Sub-County, Kenya, despite governmental efforts such as the Linda Mama program, aimed at sponsoring maternal care services to alleviate financial burdens on expectant and pregnant women, uptake and utilization of these services remain low. This study, conducted between 2018 and 2020, targeted childbearing mothers aged 15-49 in Kajiado North Sub-County, with a population of 310,696. The study employed inferential statistics, specifically chi-square tests, to reveal significant relationships between socio-demographic factors, health system factors, and the uptake of the Linda Mama Initiative, with p-values less than 0.05. It was found that only 26% of women had registered for the initiative, a figure significantly lower than the national target, despite high levels of knowledge and positive perceptions of the program. The analysis further demonstrated that health system factors, such as infrastructure and support from health workers, had a more substantial impact on the uptake of the initiative compared to socio-demographic factors. Findings indicate that the Linda Mama Initiative program is accessible and straightforward, with easy enrollment processes primarily conducted in health facilities and minimal paperwork requirements. Information dissemination about the initiative is facilitated through various media channels, including social media, radio, television, and community forums like Chief's Baraza. The study underscores the importance of promoting

the utilization of Linda Mama initiative services, emphasizing their accessibility, affordability, and critical role in safeguarding the health and well-being of mothers and newborns. The study recommends policymakers to improve infrastructure and possibly increase funding. Implementers should make use of social media for dissemination, expand insurance coverage and involve local leaders for credibility.

ACRONYMS AND ABBREVIATIONS

AIDs	**:**	Acquired immune deficiency syndrome
ANC	**:**	Antenatal care
CIDA	**:**	Canadian International Development Agency
CWC	**:**	Child Welfare Clinic
FBOs	**:**	Faith Based Organizations
HIV	**:**	Human Immuno-deficiency virus
LM	**:**	Linda Mama
MDG	**:**	Millennium Development Goals
NHIF	**:**	National Health Insurance Funds
PMTCT	**:**	Prevention of mother to child transmission (PMTCT)
PNC	**:**	Post Natal Care
RoK	**:**	Republic of Kenya
UNFPA	**:**	United Nation Population Fund
USAID	**:**	United States Agency for International Development
WHO	**:**	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The condition of women during their pregnancies, deliveries, and postpartum periods is referred to as Maternal Health. It includes preconception, prenatal, postnatal, and family planning in order to reduce maternal morbidity and death (World Health Organization [WHO], 2019). The survival and well-being of a mother and her child depend on the medical treatment she receives during her pregnancy, during childbirth, and in the immediate postpartum period (Jha et al., 2017). Therefore, while women work to realize their potential as people, mothers, and family members as well as members of a larger community, maternal health (MH) is a crucial issue that needs attention (Althabe & Palacios, 2017). Individually, women's bad health results in lost or nonexistent employment, which lowers income. This adds to the ongoing impoverishment and a lack of agency experienced by women. Issues with maternal health can also have a big financial impact, emotional, and physical toll on families (Chou et al., 2018). It is commonly known that mother morbidities and deaths have a direct impact on children's survival and well-being and also exacerbate dysfunctional family dynamics . This statement can be justified through the findings of Swetha et al. (2021) that states that maternal health is a global imperative that extends beyond the mere healthcare of women during pregnancy, childbirth, and postpartum periods. Its profound impact on individual lives, family dynamics, and societal well-being necessitates comprehensive attention, linking proper medical care to economic empowerment, family stability, and the broader pursuit of societal progress. Recognizing and prioritizing maternal health on a global scale is not only a matter of individual and familial welfare but a critical step toward fostering healthier communities and advancing the collective potential of societies worldwide.

Globally and particularly in Africa, the number of maternal fatalities has declined, but not sufficiently to exceed the MDG targets for maternal mortality (Atinga et al., 2018). Compared to a 1 in 3,800 danger in industrialized nations, a woman in Africa, south of the Sahara, has a 1 in 39 chance of dying during pregnancy or childbirth. Obstetric problems around childbirth are the leading cause of mother mortality. Access to a comprehensive continuum of high-quality maternal health services can avoid considerable morbidity and seventy-five percent of maternal deaths (Amdemichael et al, 2014). Family planning, prenatal care, and skilled delivery at birth are among the services that are still not widely available or used

In developing nations, pregnancy and delivery complications are the main cause of maternal morbidities and deaths among women in the reproductive age range of 15 to 49 years (Bitew et al., 2015). According to WHO estimates, pregnancy-related problems claim the lives of over 500,000 women and girls worldwide each year, with developing nations accounting for 99% of these deaths (Brooks & Sabin, 2017). The loss of productivity that follows a mother's death is linked to an estimated $15 billion in economic losses worldwide. Therefore, in addition to the more obvious health benefits, maternal health also has developmental implications. Pregnancy and childbirth are linked to life-threatening and other major health issues for millions of women in impoverished nations (Chou et al, 2018). Therefore, in addition to the more obvious health benefits, maternal health also has developmental implications. Pregnancy and childbirth are linked to life-threatening and other major health issues for millions of women in impoverished nations (Johnson et al., 2016). One out of every two women who pass away in some rural parts of Africa and South Asia does so from a pregnancy-related cause (Dalinjong et al., 2018).

Ninety-eight percent of the 514,000 maternal deaths worldwide, according to the United Nations Population Fund (UNFPA, 2019) figures, happened in developing nations. In the

majority of affluent nations, maternal death rates are rarely higher than 10 per 100,000 live births; yet, in many underdeveloped nations, rates frequently exceed 500 per 100,000 live births (Fisseha & Terefe, 2017). According to additional data, Sub-Saharan Africa continues to have extremely high rates of maternal death and limited access to reproductive health care (Ferrer & Roche, 2019). Sub-Saharan Africa has a 175-fold greater risk of maternal death during pregnancy and childbirth than wealthy nations. Additionally, there is an even greater chance of disorders associated to pregnancy and unfavorable outcomes following delivery. Maternal health, child outcomes, and poverty are all related. Ninety-eight percent of all newborn fatalities globally occur in underdeveloped nations (Gichangi et al, 201).

UNFPA (2019) reports that pregnancy-related problems claim the lives of over 500,000 women worldwide each year, with sub-Saharan Africa accounting for half of all maternal deaths worldwide (Jallow & Huang, 2018). Every day, issues related to pregnancy or childbirth claim the lives of almost 800 women worldwide. The year 2010 saw 287 000 women pass away both during and after pregnancy and delivery. The majority of these deaths might have been avoided, and nearly all of them happened in low-resource environments (Liljestrand & Hagander, 2018). Even though being a mother is frequently a happy and rewarding experience, for far too many women, it is also linked to pain, illness, and even death. Maternal mortality rates in Kenya declined from 414 per 100,000 live births in 2003 to 488 deaths per 100,000 live births in 2008–2009, according to the country's Comprehensive Public Expenditure Review 2017. Moreover, the percentage of births attended by qualified medical professionals fell from 51% in 2007 to 43% in 2010–11 (Oyugi & Okumu 2018). According to the Health Policy Paper from 2012, among other reasons, the majority of maternal deaths are brought on by bleeding during childbirth, HIV and AIDS, malaria, unsafe abortions, the low percentage of deliveries made by trained birth attendants, and inadequate staffing. WHO (2021) states that in

impoverished nations, a woman dies during childbirth every minute. The report also states that many mothers in Kenya lose their lives to childbirth every day (Gatakaa, et al., 2019).

A number of obstacles to improving prevention of mother to child transmission (PMTCT) services were noted in the Government of Kenya's 2009 National Road Map for Accelerating the Attainment of the MDGs Related to Maternal and Newborn Health in Kenya and the Child Survival and Development Strategy 2008-2015 (Kituku & Amata, 2016). The lack of awareness of pregnancy danger indicators, inaccessibility, and low use of professional care during pregnancy, childbirth, and the postpartum period are a few of the obstacles. As per the September 2012 Health Policy Paper, a mere 40% of prenatal care (ANC) institutions provide PMTCT services at the moment. In the general population, 26 percent of women's family planning needs are unmet. It also claims that just 44% of women give birth while receiving medical attention from a professional (Kamau et al., 2017).

Beginning in June 2013, public hospitals in Kenya started providing free maternal health treatments. In order to lower the number of maternal and perinatal deaths, the government allocated funds in the 2013–14 fiscal year for free maternity and prenatal care for women giving birth in public health facilities (Kamau, et al., 2017). Furthermore, the government waived the registration fees. Because most mothers would now give birth under professional care, this measure by the Jubilee government improved maternal health. Additionally, it resulted in a decrease in birth-related issues such bleeding and difficult labor (Maina, et al., 2019).

1.1.1 Linda Mama Initiative

The Linda mama (LM) Programme provides pregnant women and their babies with an increased package of benefits for a year, starting on the day the mother activates the benefits at a health care institution contracted with NHIF. Aiming to help roughly 80% of pregnant

women and their babies, the program contracted with both public and private health providers in Kenya to deliver services (Sripad, et al., 2018). In compliance with national norms, the package of benefits includes prenatal care (ANC), maternity delivery, and postnatal care (PNC). The package also includes therapy for the newborn baby during the program's one-year duration, as well as both inpatient and outpatient management for illnesses and difficulties during pregnancy, delivery, and the postnatal period. According to Appleford, and Saumya , (2019) these services are essential interventions for addressing maternal mortality and child survival.

Article 43 of Kenya's 2010 constitution established the general legal basis for a rights-based approach to the provision of health services. It states that everyone has the "right to the highest attainable standard of health, which includes the right to health care services, including reproductive health care" and that those who are unable to support themselves and their dependents must receive appropriate social security payments from the state (Gatakaa, et al., 2019).

The Free Maternal care program was officially started on June 1st, 2013, when the President of the Republic of Kenya stated that mothers will no longer have to pay fees to receive maternity services in public health facilities across the nation The government allocated KES 3.8 billion in the 2013–14 financial year and KES 4.0 billion in the 2014–15 and 2015–16 financial years, respectively, to make up for the lost revenue to the health institutions (Lemaron, 2016). The necessity to remove financial barriers to maternity services in public hospitals led to the repeal of maternity fees. This would enhance pregnancy outcomes, including maternal and neonatal fatalities, by encouraging women to give birth in medical facilities with the support of qualified professionals (Muli, 2019). Furthermore, the project would guarantee household earnings for additional economic pursuits that could benefit impoverished households (Okumu & Oyugi, 2018). By guaranteeing income to augment their regular

budgetary allotments, public health facilities offering maternity care under the program effectively close quality gaps in service delivery (Kituku & Amata, 2016). The number of births at public health facilities increased dramatically in the first year of the program's introduction, rising from 461,995 in 2012–13 to 627,487 in 2016–17, a 35% increase (Pavlos & Sachsanidis, 2018). Following this, the number of births in public health institutions has been rising, with a projected 900,000 births in the 2018–19 fiscal year (Maina, et al., 2016). This trend is summarized in Table 1.1.

Table 1.1

Total number of births at public health institutions

Financial Year	**2012/13**	**2016/17**	**2017/18**	**2018/19**	**No. of beneficiaries**
No. of deliveries in public facilities	461,995	627,487	811,645	900,000	2,801,127

Source: Kajiado North Sub-County Health Report (2020)

The overall number of deliveries in health facilities climbed from 44% in 2012/13 to 62% by the end of 2014, partly due to the increased use of maternity services in public health facilities. 70% was the goal for 2019–20. The Kenyan government acknowledges that the initiative has the ability to successfully set the nation up for the achievement of universal health coverage and, consequently, the realization of the right to health (Mutungi, 2018).

Concerning beneficiary registration, all expectant Kenyan residents are qualified to receive program benefits (Orare, et al., 2017). Pregnant women who are 18 years of age or older register using both their national identification cards and the antenatal care records; pregnant women

who are younger than 18 register using the national identification cards and the records of their guardians; and pregnant women who do not have a national identification card register using the records of the antenatal care (Mutungi, 2018). The program's recipients receive a membership card and a unique identification number after completing the registration process (Muli, 2019).

When the beneficiary visits the contracted healthcare facilities, verification and activation take place. Verification and activation are completed any way: present the unique identification number that was assigned during registration; present the client's or guardian's national identification card; and confirm the pregnancy, including the gestational stage, by presenting the unique identification number that was assigned during registration. When obtaining prenatal care or maternity services at the contracted health facilities, the program's benefits are triggered at the point of contact (Orare, et al., 2017).

There were 9,362 registered health facilities in the nation in 2015, according to data from the Ministry of Health. Of them, 46% were public, 14% were FBOs, and 40% were private. 4,108 were public health facilities and 2,458 were private out of the 6,566 health facilities that offered prenatal care services (FBOs and for – profit). Maternity (delivery) services were offered by 5,073 health institutions in total, of which 2,422 were public and 2,651 were private. The LINDA MAMA Program contracts with facilities licensed to operate by the Ministry of Health, either directly (public facilities) or through the appropriate regulatory organizations (private institutions) to deliver the services (Nguhiu, et al., 2017).

1.1.2 Kajiado North Sub-County Overview

Kajiado County is one of the 47 counties established by the 2010 Kenyan Constitution's decentralized form of governance. With a population that borders the Republic of Tanzania, the Maasai community is the major group in the county, which has a broad background

including both urban and rural setups as well as a rich ethnic and cultural variety composition (Lemaron, 2016).

Kenya's southern region is where Kajiado County is located. Its southern boundary is shared with the Republic of Tanzania, and its internal borders are shared by the counties of Nairobi, Machakos, Makueni, Kiambu, Nakuru, Narok, and Taita Taveta. Kajiado North, Kajiado Central, Kajiado South, Kajiado West, and Kajiado East are the five seats in the county, and each is represented by a member of parliament. There are 16 nominees and 25 elected County Assemblies members who represent each of the 25 Wards. With a total population projected at 807,070 in 2012—405,245 men and 401,785 women—the County has a 5.5 percent population growth rate. According to KNBS (2019), the population is expected to increase to 898,298 in 2015 and 999,819 in 2017.

Current Ministry of Health data shows that in Kajiado County, there were 178 health facilities offering antenatal care services, also there were 134 registered health facilities in the country in 2019; of which 75were public and 59were private. Of the 128 health facilities that provided antenatal care services, 68 were public and 61 were private (FBOs and for – profit). The county recorded an estimated 13,141 deliveries, out of which 9,590 were in public facilities and 3,551 in private facilities, this indicated that there were 13,141 total facility deliveries equivalent to 43% facility deliveries, only 18,487 were home deliveries. Also, in the year 2019, 32,766 were registered with Linda Mama Initiative, there were 20,012 antenatal care visits and 5,038 post-natal care visits.

1.2 Statement of the Problem

To address poor uptake and utilization of maternal care services, the government of Kenya subsidized all maternal care services such that pregnant women do not have to pay to access antenatal, delivery, neonatal or postnatal care through the Linda mama program. Despite these

efforts, uptake of Linda mama initiative and utilization of services offered under the initiative are still low in Kajiado County at 43% and 37% respectively which is lower than the national average (58%) and (62%) in the year 2019 .

1.3 Objectives of the Study

1.3.1 General Objective

The broad objective of the study is to investigate the barriers to uptake of the Linda Mama initiative and utilization of services offered under the initiative with special focus on pregnant mothers of reproductive age (15-49 years) in Kajiado North Sub-County, Kenya.

1.3.2 Specific Objectives

The specific objectives are –

i. To estimate the proportion of uptake of Linda Mama programme and utilization of services offered under the initiative among pregnant women in Kajiado North Sub-County, Kenya.
ii. To explore how socio-demographic affect the uptake of the Linda Mama Initiative and utilization of services offered under the initiative among pregnant women in Kajiado North Sub-County, Kenya.
iii. To explore how knowledge and perceptions affect the uptake of the Linda Mama Initiative and utilization of services offered under the initiative among pregnant women in Kajiado North Sub-County, Kenya.
iv. To explore how health system factors, affect the uptake of the Linda Mama Initiative and utilization of services offered under the initiative among pregnant women in Kajiado North Sub-County, Kenya.

1.4 Research Questions

The following questions will be addressed by the study:

i. What is the proportion of uptake of Linda Mama Programme and utilization of services offered under the initiative among pregnant women in Kajiado North Sub-County, Kenya?
ii. How do socio-demographic factors affect the uptake of the Linda Mama Initiative and utilization of services offered under the initiative among pregnant women in Kajiado North Sub-County, Kenya?
iii. How do knowledge and perceptions affect the uptake of the Linda Mama Initiative and utilization of services offered under the initiative among pregnant women in Kajiado North Sub-County, Kenya?
iv. How do health system factors affect the uptake of the Linda Mama Initiative and utilization of services offered under the initiative among pregnant women in Kajiado North Sub-County, Kenya?

1.5 Justification of the Study

The Linda Mama Initiative is still not widely used in Kajiado North Sub-County, and this study intends to improve knowledge of both the initiative's uptake and the use of its maternal health care services. Timely access to maternal health services reduces the risk of problems and teaches mothers how to take care of their unborn children. Skilled support during delivery also lowers the risk of both neonatal and maternal morbidity and death.

Developing pertinent policies to address the execution of initiatives concentrating on maternal health requires an analysis of County usage trends for maternal health care. Thus, policy makers can benefit from this study in addition to women. Policy implementers can benefit from this study by gaining insights into county-level usage trends for maternal health care, enabling

them to develop pertinent policies that effectively address the execution of initiatives. A deeper comprehension of the Linda Mama Initiative's adoption and the use of all the program's maternal health care services will help achieve the goals for national maternal mortality as stated in various strategies and Vision 2030, which will help achieve MDGs 4 and 5.

1.6 Significance of the Study

A study of the barriers to uptake of the Linda Mama Initiative and utilization of services offered under the initiative among women of reproductive age (15-49 years) in Kajiado North Sub-County in Kenya is significant for a number of reasons: Firstly, by examining socio-demographic and behavioral factors at an individual, household and community levels associated with the uptake of Linda Mama initiative and utilization of services offered under the initiative will be paramount in extending an understanding of factors influencing women‘s use of the health care service. Therefore, this study will provide a new dimension that will help in addressing the challenges involved in the implementation of Linda Mama Initiative and also help on addressing the challenges related to utilization of the services offered under the initiative among women during prenatal, intra-natal and postnatal care.

Secondly, it is imperative to comprehend the respective roles that each component plays in shaping the adoption of the Linda Mama initiative and the use of the services it provides. Therefore, consideration will be given to the rank at which each component influences the intake and use.

Kajiado north-sub county was selected for the study, firstly, it performs poorly in maternal uptake as far as Linda mama initiative is concerned. Secondly, there has been no previous research done to dive into the poor performance in maternal uptake for the county which is at 28% as compared to the national. Once the levels that influence women's choice of health usage are understood, the findings will help health policy key players implement the Linda Mama

Initiative and any other future initiative aimed at improving maternal health care. Having this information is crucial for guiding and refocusing activities meant to increase the availability of maternal health care services on a national scale.

1.7 Limitations and Delimitation of the Study

1.7.1 Limitations of the Study

This research focused primarily on women of child bearing age of Kajiado North sub-county. As a result, the findings cannot be generalized across the country because of the unique cultural background of the area under study.

1.7.2 De-limitations of the study

Linda Mama Initiative services involves a range of services categorized as prenatal, postnatal, delivery and well-baby care. This study was limited to Kajiado North Sub- County. This is because it is the most populated in Kajiado County and also it has the highest number of community health workers.

1.8 Assumptions of the Study

The respondents (mothers with children below six months, pregnant women and community health workers) were aware of the state and operations of the Linda Mama Initiative in Kajiado North Sub-County. The study assumed that respondents were aware of the Linda Mama Initiative and were willing to participate truthfully, which could have influenced the study outcomes if not met. A lack of awareness or understanding of the initiative might have led to an underestimation of barriers to its uptake, while dishonest responses could have skewed the findings on utilization. Additionally, assuming uniform socio-cultural factors across Kajiado North Sub-County may have overlooked important variations within different communities,

affecting the accuracy and generalizability of the results. These assumptions, if incorrect, could have introduced biases and impacted the study's overall conclusions.

1.10 Operational Definition of Key Terms

Maternal health care service — According to Aregay et al. (2014), maternal health care services are those that women receive in order to receive high-quality care for their health during pregnancy, labor, and the postpartum period in public health facilities.

Uptake of Linda Mama Initiative — When a mother participates in the maternity healthcare delivery program, it indicates that she has enrolled and is taking advantage of the services and benefits provided. In this instance, the women are registered and making use of the advantages provided by the Linda Mama initiative. According to Haleema et al. (2019), "uptake" can also refer to the mothers who participated in the program, as well as the healthy mothers and babies who were delivered as a result of using the program's services. In this study, Uptake means:

1. Enrollment into the program
2. Utilization of 4 focused ANC visits
3. Delivery (normal or caesarian section at a health facility)
4. Post-natal care

Women of reproductive age — Refers to all women aged 15–49 years (WHO)

Linda Mama Card	Is a paper record that is issued to a pregnant mother bearing the Linda Mama Membership number and where the particulars of the mother are indicated and is issued at the contracted healthcare facility or NHIF office.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter examined several studies from throughout the globe that provided guidelines for the use of maternal health care services. Finding the gaps and lack of studies related to the country of interest was the fundamental idea behind the review. These identified gaps are the fundamental targets addressed by the present study.

2.2 Global Maternal Health Services

A study of the literature indicated that the sociodemographic makeup of women, the cultural setting, and the availability of these services all had an impact on how often women in developing nations use contemporary health care, including maternity health services.

Using maternal health care has become more of a public health concern over time, especially for disadvantaged and marginalized population groups . Numerous research studies have linked this to perceived obstacles that persistently hinder marginalized communities from accessing maternal-child health services, particularly in low-income nations. Direct and indirect expenses that impact one's socioeconomic load are among the obstacles. The quality of care and travel time to inaccessible medical facilities are factors that contribute to the direct costs (Gebre , et al., 2018).

According to studies conducted in Vietnam, few women use maternal health care facilities during childbirth due to a shortage of adequately equipped healthcare facilities (Trinh , et al., 2007). Conversely, substantial improvements in maternal health care utilization have been achieved in Nigeria thanks to broad capacity support for health care operations, especially

among financially poor and marginalized women living in rural areas (Findley et al., 2013). The study also discovered that as healthcare was scaled up, both the infrastructure and equipment investments improved, as did the quality of care. Maternal death rates have improved and decreased as a result of this scaling up of development to avoidable direct causes such hemorrhage, sepsis, eclampsia, obstructed labor, and spontaneous abortion. According to the evidence that was available, balanced investment in the health sectors has been stalled by inadequate policy, a lack of priority settings, poor governance, and a lack of political will. Over time, this has had an impact on the effective and efficient operation of maternal healthcare facilities in the majority of low-income countries (Prata , et al., 2010).

Numerous personal sociodemographic factors influence the underlying propensity to seek medical attention (Anastasi, et al., 2015). Maternal age and parity are good examples in this regard, as they have been studied as factors of health care usage on multiple occasions. It has been proposed that older and higher parity women's increased confidence and experience, along with their increased domestic and child-rearing duties, account for their comparatively lower service utilization rates (Kalule-Sabiti, et al., 2014). The use of maternity care services has also been consistently linked favorably to maternal education, according to numerous studies. Education appears to be a significant mediator, even though women in higher socioeconomic categories generally show patterns of more frequent use of maternal health care than women in lower socioeconomic groups (Shah, et al., 2016).

The woman's cultural background plays a significant role in her use of maternity care services, particularly in Africa. According to the cultural perspective on the use of maternal health services, the perception of illness in a given culture influences medical demand in addition to the existence of physical disease. Maternal health services coexist alongside traditional health care services in the majority of rural African communities; women are forced to choose

between the two. Individual views of the effectiveness of contemporary health services and the religious convictions of particular women frequently impact the usage of modern health services in such a setting (Simona, et al., 2018). Furthermore, women have very little influence over decisions in many African countries, especially when it comes to sexuality and reproduction. In this sense, husbands or other family members frequently decide on matters pertaining to maternal care. Women's time availability is equally crucial. Women in poor nations devote more of their time to taking care of their children, gathering fuel or water, cooking, cleaning, gardening, and trading than they do to taking care of their own health (Haleema, et al., 2019).

It has been demonstrated that one significant factor influencing the use of health care in developing nations is accessibility to those services. One in three African women live more than five kilometers away from the closest medical institution in rural settings. Even relatively close facilities might be quite difficult for women to get due to poor road conditions and a lack of automobiles, especially in remote places. The main form of transportation, even for laboring women, is walking. For instance, in rural Tanzania, 84% of women who gave birth at home had planned to give birth at a medical facility but were unable to do so because of lack of transportation and distance. Millions of women are prevented from giving birth in a hospital or from seeking care even in the event of problems by fees, which also lower the number of women using maternal health services. There may be unofficial fees or other expenditures that provide substantial obstacles to women using services, even in cases where formal fees are little or nonexistent. These could include the woman's or her family members' expenses for lodging, food, medication, and medical treatment while she is in the hospital (Kassim, 2018).

In their investigation of maternal mortality in Kampala, Birabwa et al (2024) found that women who were not receiving maternity care were frequently impoverished, uneducated, single, and

ignorant of the services available for maternity care. The study also revealed that pregnant women who were pregnant for the first time between the ages of 10 and 18 had a higher chance of missing work. Maternity age, parity, time constraints, education, marital status, and women's economic standing were found to be significant predictors of maternity care utilization by Tegegne et al. (2019) in their study conducted in the Arsi Zone of central Ethiopia. A study conducted in Yirgalem Town and the adjacent Southern Nations, Nationalities, and People's Region (SNNPR) of Ethiopia revealed that the usage of antenatal care was significantly influenced by women's education, low household income, and unintended pregnancy.

It is commonly known that a mother's education positively affects her use of health care. The mother's education was found to be the most reliable and significant predictor of the utilization of child and maternal health care in a different study conducted by Tegegne and colleagues . The use of health care services is positively impacted by mothers' education, according to several additional research. It is suggested that women with higher levels of education are more conscious of health issues, are more knowledgeable about the resources available for medical care, and make better use of this knowledge to preserve or improve their health. A mother's education may also serve as a stand-in for a variety of background factors that indicate women's greater financial standing, allowing her to obtain appropriate medical treatment whenever she feels it is required. It is well knowledge that using contemporary health care services is positively impacted by higher income. The husband's profession might be used as a stand-in for social position and family income. Occupation is shown as a determining factor in differences in opinions about contemporary health care services among occupational categories (Mahamoud, et al., 2020).

Higher usage of maternal healthcare services has been linked to mother literacy, according to Bhandari, et al. (2016), since literacy enables women to defy social norms. A mother who has received an education is also better able to prioritize the wellbeing of her family. It has also

been discovered that educated husbands help their spouses make greater use of maternal healthcare facilities. The household's income is a significant determinant of healthcare service consumption.

Elo (2016) discovered a positive correlation between income and the use of these services. This suggests that because they can afford the fees, women from wealthy households seek more maternity services than women from low-income households. Having access to health information increases the number of people who use the services. The media is a primary information source, particularly for health-related information, in developing nations. When it comes to using health care services, women who are more exposed to information on health issues through print and electronic media typically use it better than those who do not. One factor that has been identified as influencing maternal use is religion.

In their research, Ganle (2015) found that Muslims use maternity healthcare services at a lower rate than other groups. However, other research has shown that religion has no discernible influence on whether or not these services are used (Overbosch, et al., 2014). The other's age has an impact on how many maternal healthcare services are used. Although it's often believed that middle-aged mothers use more prenatal care services, older mothers actually tend to require more postpartum and delivery care . Elo (2016) suggests that the reason for this discrepancy may be related to issues experienced by the older mothers during previous pregnancies.

Birth order and health care service utilization are strongly correlated, according to several research (Elo, 2016). A woman is more likely to seek out maternal health care services for her first birth than for future ones due to the perceived risk involved with being pregnant for the first time. Having more kids may also result in resource restrictions, which lower the amount of health care that is used. Due to time constraints, women who have a large number of children

tend to underuse the health services that are accessible to them. Ganle (201) claim that birth order influences the use of maternal healthcare services since a mother's need to use those services tends to decrease with the number of children she has.

Sserwanja et al. (2022) uses data from the 2005 Rwanda Demographic and Health Survey to examine the factors influencing maternal health care in Rwanda. Using a multinomial logit model and a probit model to investigate postnatal care utilization, she examined the factors influencing antenatal care visits, the time of the first antenatal care examination, and delivery care. The findings demonstrated that while being a working mother and having birth orders hinder the use of maternal health care services, education of the wife and husband, income, health insurance, age, and residing in an urban region favorably influence it.

Njaramba (2014) looked on the prenatal care utilization trend in the district that was then known as Thika. She divided the population into clusters using the Central Bureau of Statistics' National Sample Survey and Evaluation Program (NASSEP). She employed random sampling in two stages. Using random number tables, eight clusters were chosen in the first stage from a total of fourteen NASSEP list frameworks. Using random number tables, 128 households were chosen from each of the eight clusters in the second step. She calculated a model using conventional least squares. The study's findings showed that antenatal care utilization is decreased by service cost and distance. The number of children has an impact on the usage of prenatal care, although insurance and service quality have a positive impact. Income is expected to have an impact on antenatal use over time because only a significant rise in income boosts the use of antenatal care. Prenatal care is used more frequently when a woman is married, has a larger family, and is older.

It is often acknowledged that the age of women nowadays has a significant impact on their use of medical services. Mothers' age can often be used as a stand-in for the amount of knowledge they have acquired about health care services, which could encourage them to use them. However, younger women may have a better understanding of current health care services and value modern medicine more as a result of advancements in women's education and the field of modern medicine (Bhandari , et al., 2016).

Sharma et al. (2007) examined the variables influencing Kenyan mothers' utilization of different health care services by utilizing data from the 2003 Kenya Demographic and Health Survey. In order to analyze the factors influencing antenatal care, skilled delivery care services, and the number of antenatal care visits, she estimates five models: three probit models to examine the factors influencing antenatal, postnatal, and delivery care services; a poison count data model to examine the factors influencing the number of antenatal visits; and a multinomial logit model to examine the influences on these factors. This means that the likelihood of using these services rises with affluence. The need for prenatal care, delivery services, postnatal care, and early prenatal visits rises with the education of both wives and husbands. Employment has a beneficial impact on the use of prenatal and postnatal care; it has no effect on the use of delivery care, the quantity or timing of prenatal visits, or the number of prenatal visits. While a mother's age increases have a beneficial impact on her use of prenatal care, postnatal care, the number and timing of her prenatal visits, they also have a negative impact on her use of skilled delivery services.

2.3 Overview of Maternal Healthcare Services in Kenya

According to KDHS (2014), the main causes of inpatient morbidity and death among females of reproductive age in Kenya are problems related to pregnancy, childbirth, and the puerperium. One of the fundamental components is the finance for health care which directly

or indirectly determine the outcome of other health building blocks globally. An appropriate the health care financing mechanism places a strong emphasis on risk subsidization, income equality, and a tendency toward lowering out-of-pocket expenses (Gitobu, et al., 2018). A good healthcare financing system, according to the World Health Organization (2007), is one that raises enough money for health to guarantee that people can access and efficiently receive health services, as well as protection against potential disaster or impoverishment associated with having to pay for them. The goal of universal health coverage (UHC) has emerged as a top national and international policy concern. UHC wants to make sure that no citizen faces financial hardships or, worse yet, is forced into poverty and has access to the high-quality healthcare services they require. By 2022, the Kenyan government hopes to have achieved universal health coverage. One of the main development priorities in the government's Big Four strategy is healthcare for all, reflecting the nation's strong political commitment to UHC. The inclusion of UHC in national and international health policy goals has brought attention to the necessity of measuring it and monitoring advancement over time (Chimbevo & Ooga, 2017).

Prior to the recent launch of the Linda Mama program, not all Kenyan women had equitable access to maternal healthcare delivery programs. Under the program currently known as Linda Mama, the free maternity services policy that had previously been supported by the national government was moved to NHIF in April 2017. In April, the first phase opened with affordable private sector facilities that were founded on faith. In July 2017, the second phase of the program was transferred to the public sector, and in March 2018, the Linda Mama initiative included prenatal and postnatal care (Kemoi , et al., 2020). The goal of the Linda Mama initiative is to give all women access to free delivery of maternal health care in public health facilities. The initiative aims to deliver services based more on need than financial capacity. Under this publicly financed health program, all expectant mothers must have equal access to

high-quality, reasonably priced maternal healthcare services. Benefits and services obtained via the program are likewise transferable. It is not necessary for mothers to always receive services from the same provider or location.

2.4 Uptake and Utilization of Linda Mama Initiative

A government financed program called Linda Mama seeks to guarantee that all pregnant Kenyan women and their unborn children have access to high-quality, reasonably priced healthcare. The Kenyan government eliminated all user fees from public primary care institutions in 2013. Additionally, under the Free Maternity Scheme Muema (2016), costs for all deliveries in the public sector were removed. The Free Maternity Scheme was renamed Linda Mama after the Ministry of Health moved it to the NHIF in 2017. Concurrently, the benefits package was broadened to cover deliveries, difficulties for both the mother and the unborn child, and prenatal and postnatal care (ANC and PNC). At that point, the program was expanded to cover private providers as well.

All pregnant Kenyan nationals are welcome to join Linda Mama as members, and they can take advantage of services for a full year. Mobile devices, the NHIF's online registration site, NHIF service centers, contracted medical practitioners, or other public health centers can all be used for registration. Pregnant women are registered using their ANC records and national identification cards, or the identification cards of their guardians if they are under the age of eighteen. The only basis for registration for those without national identification cards is ANC records. After registration is complete, a membership card is provided (NHIF 2016). The uptake of the Linda Mama initiative among women of reproductive age (15–49 years) in Kajiado county is still very low at 26%, despite the various alternatives for enrollment under the scheme. This is in contrast to other counties like Nairobi, Kiambu, Nyeri, and Kirinyaga counties that have uptake above 45% .

In the Starehe sub-county of Kenya's informal settlements, Mutungi (2018) aimed to determine the perceived factors impacting the uptake of the Linda Mama maternal healthcare delivery program among women. According to the report, most of the women living in the Mathare slums think there isn't much information out there about the Linda Mama initiative. They also admit that Mathare women are aware of the risks involved in giving birth at home. In a similar spirit, they think that signing up for the program is difficult. Although a sizable portion expressed uncertainty, the researcher discovered that women in Mathare are generally satisfied with the attitudes of the healthcare professionals that work with them. Though a higher percentage of the ladies indicated a positive experience, the majority of them were unsure of their previous visit's experience. Furthermore, the women state that they respect their autonomy to make decisions and that their decision to enroll in the Linda Mama program will not be influenced by the experiences of their friends or neighbors. The majority of women in the Mathare slums are happy with Linda Mama services, especially the healthcare, the researcher discovered from the survey. Their opinions on the program's service delivery's efficiency and speed, however, varied widely and elicited differing responses. However, most people think the services are sluggish and ineffective. As most of the women in the Mathare slums have claimed, this may be a contributing factor in the higher number of women who are sent to buy more narcotics and other goods. According to this study, the majority of women living in the Mathare slums are undecided about participating in the program. Nonetheless, they recognize the program's contribution to fewer delivery-related difficulties and the healthy state of the children it has delivered. The results of the regression model analysis indicated that women living in informal settlements were adopting the Linda Mama program. $\beta = 4.34$ (Linda Mama program awareness) $\beta = -0.118$ (beneficiaries' demographic background) $\beta = 0.155$ (Healthcare Service Provider Attitude) Beta = - 0.424 denotes the standard of medical treatment provided in the medical facilities.

2.5 Socio-Demographic Factors and Uptake of Maternal Healthcare Delivery Programmes

The use of maternity care services has been found to be positively correlated with a mother's greatest level of education acquired . Mature mothers are more likely to seek appropriate medical attention; according to the 2007 Millennium Development Goals Report, 84% of women with postsecondary or advanced degrees have skilled labour attendants. This represents twice as many women without a formal education. Low levels of education, insufficient media exposure, poverty, and few prenatal clinic visits among women contributed to the ease of acceptance of home birth. More educated women might be aware of the necessity of signing up for a plan that provide maternal health care. In addition, women who have completed formal education may be better able to make decisions about leaving the house and signing up for delivery services. Equally educated husbands might also be better able to seek out healthcare programmes and are more aware of their advantages. Additionally, their attitudes might be more accommodating to their wives' choices, which would encourage delivery care seeking behaviour . It is acknowledged that a mother's level of education directly affects her capacity to enrol in a healthcare delivery scheme .

A mother's degree of education can have a variety of effects, one of which is enhancing her capacity to influence her reproductive practices and so produce favourable maternal health outcomes without even requiring the assistance of health professionals . These include using contraceptives, encouraging women to use maternity care services by improving their knowledge, attitudes, and practices, and giving them the capacity to influence decisions about access to delivery services and reproductive choices in the home and community. Older and more child-bearing women have more duties on the farm, including childcare, which may account for why they use facility delivery services less frequently . Compared to women in

monogamous relationships, women in polygamous marriages are less likely to participate in any maternal health delivery scheme.

It is essential that husbands participate in programmes that provide maternity healthcare in informal settlements. The majority of men seldom offer their spouses the assistance they require during pregnancy, especially if they didn't want to have children of their own or if the couple already has children . In contrast to predictions, a different study discovered that the country's adolescent mothers' use of maternal care delivery systems is a problem of inequity. According to Kumar et al. (2018), more attention needs to be paid to the adolescent mothers in the most underprivileged communities who are the poorest and least educated.

According to Nabugoomu et al. (2020), age-specific health education campaigns also increase the uptake of maternal health care delivery programmes in informal settlements.

2.6 Knowledge and Perceptions of the Linda Mama Programme and Uptake of Maternal Healthcare

According to Tegegne et al. (2019), slum dwellers' use of maternal health delivery services may not always be correlated with the programmes' quality but rather with their awareness of them. Furthermore, it is imperative that these women understand the necessity of registering or participating in any maternal healthcare programmes. They also need to be aware of the potential repercussions of not being enrolled in a programme that provides maternal health care (Jean, et al., 2008). Health education can help women in informal settlements improve their behaviours . Majority of women from informal settlements who visit the clinics or avail other services provided by the programme work as casual labourers or in other types of informal employment

The uptake of the maternal health care delivery programme may be hampered by their ignorance of opportunity cost. If the women can prove their attendance, some employers may permit them to take the time off needed to enrol in the clinic and attend the mandatory clinics; nonetheless, this is described as being uncommon in many circumstances . Some women find the user identification process to be laborious.

It may be possible to extend the reach and sustain the uptake of maternal healthcare delivery programmes for women living in informal settlements by channelling health messages through a variety of channels, including community radios, community meetings, outreach initiatives, posters, and leaflets (Chuma & Maina, 2013). The adoption of programmes for the delivery of maternal health care is significantly impacted by the absence of community outreach initiatives. However, when a woman has a good reputation, word-of-mouth does help her community in

informal settlements adopt maternal health care delivery programmes. In other instances, the society believes that the women are not motivated by service.

Sensitization and community involvement are effective strategies for raising health awareness of the advantages and disadvantages of the programme for the delivery of maternal health care. Since women make up a bigger portion of the population and should be the program's primary goal, it is important to take their awareness of the programme into consideration. Women should be registered and recorded into the programme more aggressively than they are now, as the majority of NHIF's audience is in the formal economy. When implementing maternal health care delivery programmes, planners of health care delivery initiatives must understand the need of trustworthy reproductive health information . Furthermore, women's perspectives on these delivery programmes are important and play a crucial role in the struggle for maternity healthcare programmes to be sustainable. Giving a response to their opinions could encourage a change in behaviour. According to Birabwa et ai (2024), there is a connection between the information source and the adoption of maternal healthcare delivery programmes

2.7 Health System Factors Characteristics and Uptake of Maternal Healthcare Delivery Programmes

Ganle (2015) defined a service as having to be located within a reasonable distance of the people who are supposed to profit from it, even in the event that it is available. Ganle (2015) defined accessibility as having two fundamental dimensions: financial access, or affordability, and physical access. In terms of the physical realm, resources that are available but inconvenient to access may make access difficult.

A variety of barriers were found in the Republic of Moldova between 2009 and 2011, according to studies conducted by the World Health Organization on factors that facilitate or impede access to health services. These factors included a lack of uniformity in the country's health infrastructure, with some facilities exceeding national standards for surface area, some being too old and in need of renovation. A shortage of vehicles and equipment, a shortage of human resources, and a shortage of pharmaceutical supplies in primary health care facilities. One of the main challenges in accessing primary healthcare facilities was their geographic location; some required travelling long distances and faced transportation issues. According to the WHO (2021) Regional Office for Europe, patients' perceptions of accessibility are positively correlated with the time it takes to get to a health facility, receive services, and wait for a medical professional.

Regrettably, Sub-Saharan Africa continues to have a high rate of avoidable early deaths among children under five due to inadequate access to timely and high-quality human services interventions. In Tanzania, it was believed that physical barriers to accessing healthcare facilities determined the mortality rate of children. 40% of women give birth in Tanzania's rural areas without the assistance of medical professionals in clinics or hospitals They give birth by themselves, however occasionally traditional birth attendants help them.

Research on the factors related to home deliveries conducted in Kilifi County, Kenya by Moindi et al. (2015) found that the number of rooms accessible for use and the distance to the health facility were important factors that led to a high number of home deliveries. Only those who were able to give birth in medical facilities under the guidance of a trained birth attendant were able to do so in a hospital.

A closer examination of Kilifi County's use of Linda Mama services was likely to reveal very poor uptake because most of the factors mentioned above also affected the Linda Mama

programme, which required health facilities to have a delivery room equipped with delivery sets. The study also revealed that the majority of the county's facilities lacked delivery rooms and were spread out more than five kilometers apart.

Poor infrastructure, such as the poor road network leading to the majority of rural health facilities, a lack of delivery rooms in the majority of rural health facilities, and a lack of delivery equipment, were some of the factors contributing to the majority of home deliveries, according to a case study conducted in Wareng Sub County of Uasin Gishu county and published in 2014 by Mokua.

Contrary to Wareng sub county in Uasin Gishu County, where studies conducted by Mokua (2014) found that inadequate road networks, a lack of delivery rooms, and a shortage of delivery equipment were among the factors contributing to home deliveries, Trans Nzoia County, according to this study, has both, even though some of the roads leading to rural health facilities are also problematic during the rainy season.

In contrast to Kilifi County, where studies conducted by Moindi et al. (2015) revealed that health facilities were located more than 5 km apart, lacked delivery rooms and equipment, were only open for 12 hours, and the majority of deliveries took place at night, Trans Nzoia County still has health facilities located less than 5 km apart, most of which are open 24 hours a day, and have utility vehicles available for emergency transfers to better-equipped health facilities.

Similar to this, Moindi et al. (2015) state that for the Linda Mama programme to be successful, there must be enough staff to support the health facility's 24-hour operation because some deliveries take place at night. "Staff shortage and health facility operating hours were some of the main reasons why many women in Kilifi County deliver at home," add Moindi et al. (2015).

Research on the implementation of Linda Mama insurance in Bungoma County conducted by Maternal and Newborn Improvement (MANI) revealed, among other things, that long client lines and wait times had a negative impact on the program's implementation because some clients chose to leave before receiving care.

Attitude of Medical Staff Towards Linda Mama The majority of the medical staff at the Embu level five MCH/FP Clinic had a negative attitude towards NHIF, which prevented them from encouraging expectant mothers to enroll in NHIF Super-cover, according to Kithuka et al. (2016)'s Insurance Studies on factors affecting uptake of NHIF by women of reproductive age. In other words, staff attitude at the MCH/FP was one of the factors impacting usage of NHIF Supa cover, along from other factors contributing to poor utilization of NHIF. In a similar vein, it's possible that Linda Mama is not liked by the majority of healthcare professionals.

2.8 Theoretical Framework

The predisposing, enabling, and need factors that might impact health behavior are grouped into three clusters or categories in a logical sequence by the socio-behavioral or Andersen model (Andersen & Newman, 1973). The purpose of the model's development was to examine how biomedical health services are used. According to the Anderson and Newman model, a person's ability to obtain and make use of health care services depends on three different types of circumstances. Predisposing factors include, but are not limited to, age, gender, religion, global health assessment, past medical experiences, formal education, attitudes toward health services in general, and sickness knowledge. Enabling elements include, but are not limited to, the availability of services, the ability to pay for services, health insurance, and support from social networks. The degree of need, the number of sick days from a reported sickness, the number of days spent in bed, the number of days lost from work or school, and outside caregiver assistance are a few examples of need variables. (Newman & Andersen, 1973). The

study borrowed key concepts from Andersen's Socio-Behavioral Model, which included predisposing, enabling, and need factors. These concepts guided the conceptual framework by influencing the focus on socio-demographic characteristics, health system factors, and perceived healthcare needs. Predisposing factors shaped the study's analysis of age, education, and family size, while enabling factors directed attention to health infrastructure and access. Need factors guided the investigation into how awareness and perceptions about the Linda Mama Initiative impacted its uptake. These borrowed concepts structured the study's objectives and analysis.

The International Collaborative Study on Health Care has altered Andersen's paradigm. This version also contains health service system elements, which refer to the organization of the health care system and its relationship to the social and political macrosystem of a nation, in addition to predisposing and enabling factors. This is a useful expansion since it highlights how structural levels within a macropolitical and macroeconomic framework are linked to health-seeking behavior. But according to Zhang et al. (2019), the model ignores the need components, which are crucial for comprehending health-seeking behavior.

Kroeger developed a further variation of Andersen's approach (1983). Upon conducting a thorough and comprehensive review of the literature, he put out the subsequent framework: Interconnected explanatory factors, each influenced by perceived morbidity, Characteristics or risk factors of an individual, including age, gender, marital status, level of education, ethnic group, degree of cultural adaptation, size of the household, formal education, employment, assets (land, livestock, money, income), and relationships with social networks, Features of the illness and how they are perceived: etiological model, expected outcomes or therapy (conventional versus modern), perceptions of the illness as severe or minor, chronicity or acuteness, and psychosomatic versus somatic disorders. Features of the service include

accessibility, acceptability, quality, communication, affordability, and attractiveness (perceptions of and attitudes toward both traditional and modern healers). The selection of health care resources is determined by how these factors interact (Pembe, et al. 2019).

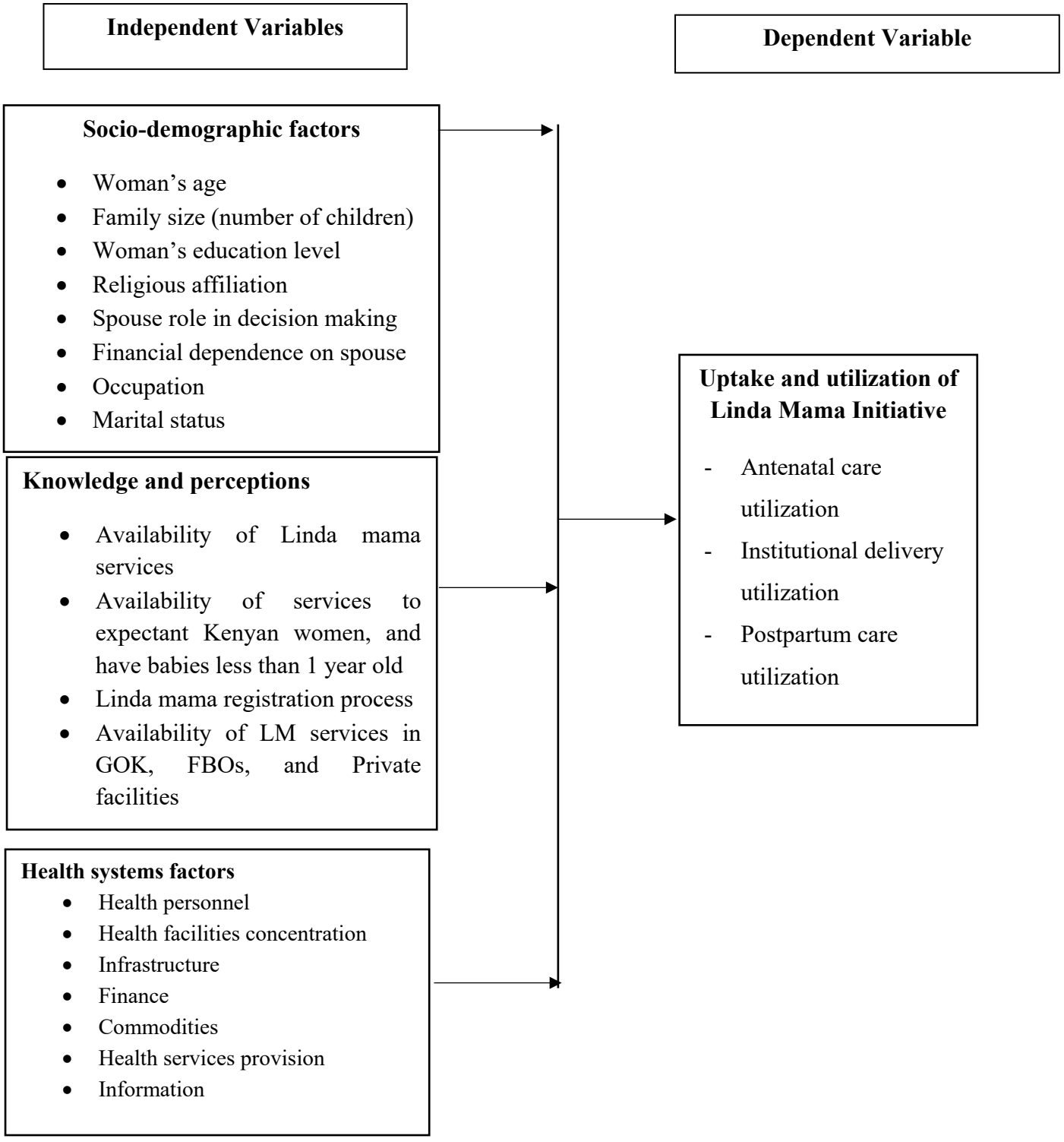
According to the literature, a number of factors, including women's sociodemographic traits, culture, and the accessibility and availability of the services, may have an impact on the utilization of maternal health care services in developing nations (Isaak et al., 2020 Numerous studies in the literature show a correlation between the use of maternal health care services and variables like income, education, ethnicity, religion, culture, age, parity, and decision-making authority. The majority of the research articles that were examined were quantitative studies that looked for statistical relationships between these variables and the use of MHCS. Measuring women's opinions and obstacles to seeking out maternity healthcare services was the primary focus of the scant number of qualitative studies that were accessed (Messi, et al., 2020).

2.9 Conceptual Framework

According to Anderson's thesis, the predisposing variables are made up of specific elements including economic and demographic characteristics. The theory also defines the utilization of maternal health care by showing how supportive community factors link to outcome variables like access to prenatal care, birthing in a medical facility, and postpartum care. The conceptual framework's relationship between the components and the outcome variable is depicted in Figure 2.1.

Figure 2. 1

Conceptual Framework



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The research approach employed in the study is described in this chapter. The study population, sample size, sampling process, data gathering techniques, research procedures, data management, and data analysis were all covered.

3.2 Research Design

A research design, according to Orodho (2003), is the framework or strategy utilized to produce responses to research questions. This study adopted a descriptive and analytical cross-sectional study design. Data was collected at one point in time for both dependent and independent variables. Its foundation is the idea that, given information about the independent variables, it is possible to forecast the dependent variable if there is a statistically significant association between two variables. The relationship or effect could be negative or positive. The descriptive and analytical design was well-suited for this study as it enabled a comprehensive examination of the uptake and utilization of the Linda Mama Initiative in Kajiado North Sub-County. The descriptive component allowed for a detailed exploration of socio-demographic characteristics, knowledge, perceptions, and health system factors influencing maternal healthcare use. The analytical aspect facilitated the identification of relationships between these variables, such as the impact of socio-demographic and health system factors on service uptake. Additionally, the cross-sectional nature of the design made it appropriate for capturing data at a specific point in time, enabling the study to describe current barriers and provide explanations for low utilization rates. This study aimed to identify the obstacles to the adoption of the Linda Mama initiative and the use of the services provided under the initiative, with a special focus on pregnant women of reproductive age (15–49 years) in Kajiado North Sub-County, Kenya. In Kajiado-

North Subcounty, we carried out a mixed-methods cross-sectional study, using a similar methodology to that used by Orangi et al (2021) and Mutungi et al (2018).

3.3 Target Population

The target population for this study was all women of child bearing age in Kajiado North sub-county, Kajiado County. According to Mugenda & Mugenda (2003), a research population is any group of individuals, occasions, or objects that share certain common observable characteristics. Kajiado North was purposefully selected as it represented the area with the highest average number of mothers with babies from 0-6 months in Kajiado County (RoK, 2019). Kajiado North population is approximately 310,696. Study population were women visiting health facilities in the sub-county for maternal health services.

3.3.1 Inclusion Criteria

The inclusion criteria for this study encompassed all women of childbearing age residing in Kajiado North sub-county, Kajiado County, including mothers who visited health facilities, expectant mothers, and mothers with children less than 1 year of age.

3.3.2 Exclusion Criteria

Exclusion criteria included women outside the defined age range for childbearing, women who had not visited health facilities, women who did not provide consent for participation and women with children aged more than one year.

3.3.3 Study Area

The research was conducted in Kajiado County. The County has six sub-counties and five constituencies with an approximate population of 1.3 million people (Kenya Population Housing Census, 2019). Out of the six sub-counties namely; Loitokitok, Kajiado central, Kajiado North, Kajiado West, Isinya and Mashuru. Kajiado north was the study area because of the high population of 306,596.

3.4 Ethical Considerations

First, approval letter from the ethical committee at KEMU was obtained. A NACOSTI permit (NACOSTI/P/21/10670) was also acquired and finally Kajiado county health license was obtained. As noted by Mugenda and Mugenda (2003), the researcher paid particular attention to the ethical concerns of privacy and confidentiality, voluntary and informed consent, anonymity, and honesty during the data gathering process. Because of this, the researcher took extra effort to make sure that everyone engaged was handled with regards to personal space, dignity and consideration. This required using professionalism together with ethical and legal considerations. In this study, the respondent's identity was kept secret, sensitive data was kept private, and respondents' opinions and beliefs were respected.

3.5 Sampling Techniques and Procedure

Sampling means selecting a given number of subjects from a defined population as representative of that population. Any statements made about the sample should also be true of the population (Orodho, 2003). Therefore, the study considered sampling size and sampling procedures for use in the current study. Utilizing systematic random sampling, a sample was chosen from each member category within the entire population. According to Kothari (2004), this approach is helpful when the sampling frame is provided as a list. 232 out of 550 family women were chosen to take part in the study, taking into account that the research possesses a master list of the population of households with children younger than six months. This indicates that the population chosen to take part in the study was chosen using an interval ratio of two (550/232). In this kind of design, the selection process began with a random point being chosen from the list, and it continued by selecting every nth element until the target number was obtained. After selecting a starting random number, let's say 7, the members of the ninth,

eleventh, thirteenth, and fifteenth households were chosen, and so on, until a population of 232 was reached.

3.5.1 Sample Size Determination

Kothari (2019) state that the requirement to maintain a reasonable sample size is the primary criterion taken into account when deciding the sample size. This allowed the researcher to obtain extensive data from it at a reasonable cost in terms of money, time, and resources. A representative sample was chosen for households with children under six months old, Statistical formulas supplied by Role (2013) were utilized to determine the sample size for households with children under 6 months of age.

$$n = \frac{N}{1 + Ne^2}$$

Where:

n=sample size

N=population size

E=margin of error (e≤0.05)

Therefore, the sample size for households were:

$$n = \frac{551}{1 + 551 \times 0.05^2} = 232\ Households$$

Therefore, the final sample size consisted of 232 households who had child (ren) aged less than 6 months.

3.6 Instrumentation

A questionnaire consisting of structured questions was used for gathering data. In Kajiado North, questionnaires were sent to families, with a focus on women in particular households. The questionnaire had four sections for uptake of Linda mama initiative, sociodemographic factors, health system factors, knowledge and perceptions. According to Mugenda & Mugenda

(2003), using the questionnaire approach has several benefits because it can quickly, easily, and affordably capture a large amount of the respondents' information. The questions were designed with the study's objectives in mind.

3.6.1 Pre-Testing of Research Instruments

The research instruments were pretested in Loitokitok Sub- County in Kajiado County. This was because of the similar characteristics the sub county shares with Kajiado North in terms of study population demographic characteristics and cultural background, 10 respondents were used for pilot study.

3.6.2 Validity

Mugenda and Mugenda (2003) define validity as the degree to which findings from the analysis of the data accurately and meaningfully represent the phenomenon being studied. In this study, several strategies were implemented to address potential threats to internal, external, and construct validity. To ensure internal validity, random sampling was used to reduce selection bias and ensure the sample was representative of the larger population. A pilot study was conducted to refine the questionnaire, minimizing ambiguities and ensuring consistent data collection. By maintaining a short and standardized data collection process, the threat of maturation—where participants' conditions or attitudes could change over time—was minimized.

External validity, which focuses on the generalizability of the findings, was addressed by including a diverse sample of women from Kajiado North Sub-County and using systematic random sampling to avoid selection bias. However, recognizing the specific cultural context of the area, comparisons with other regions were made to assess generalizability. Construct validity, ensuring that the research measured the intended concepts, was strengthened by aligning the study’s definitions with established literature and through expert reviews of the

questionnaire. Triangulation, combining both quantitative and qualitative methods, was employed to cross-validate the findings. Overall, these strategies were employed to ensure the study's findings were valid, reliable, and generalizable.

3.6.3 Reliability

The process of ensuring that research measuring instruments are consistent, or that questionnaires as a measure of an instrument, measure an instrument in the same way every time they are used with the same participants and under the same conditions is known as reliability . If a study's results on the same test administered twice are comparable, the measure is regarded as dependable. The researcher conducted a pre-test of the instrument on a neighboring community unit in the same Kajiado County (Loitokitok sub-county) before beginning fieldwork. Kothari (2019) stated that a reliability index of 0.7 was deemed excellent for the study if a reliability value of above 0.7 is obtained. The pre-test's objective was to determine the study's general viability and, in particular, to pre-test the research instrument for validity and reliability. Based on the results, the study instruments were modified as needed. Research assistants were trained on how to fill the questionnaires in a pre-determined sequence and how to present the questions in a standardized way. Translation was also practiced and understood

3.7 Methods of Data Collection

Women selected were given questionnaires to complete, and they were assured of their privacy while doing so. For those who did not understand English, Swahili translations of the questions were provided. All participants gave their informed consent before any data were collected. Information sheets and formal introducing meetings were employed. Every participant had the option to decline being observed or interviewed without fear of reprisal. Both their identities

and names were kept secret. When dealing with nonliterate respondents, the researcher conducted in-person interviews with them to ask questions for the questionnaire.

There was opportunity to rephrase or even translate interviewer-administered questionnaires into Swahili to make them easier for respondents to grasp. In order to properly interpret the results, the interviewer additionally gathered additional information about the personal traits and surroundings of the respondents. In order to verify veracity, it also enabled the interviewer to document the information gleaned from the respondents' body language and observations of events. Nevertheless, there are drawbacks to using questionnaires, such as respondents providing false information while filling it out. However, this was downplayed when the data was being gathered.

3.8 Methods of Data Analysis

During the course of the investigation, two different kinds of data were gathered: quantitative and qualitative. The majority of the data were manually entered into the questionnaires, and data cleaning and editing were the first steps in the data analysis process. The trustworthiness, consistency, and completeness of the data were also checked. Using IBM SPSS Version 26.0, the Statistical Package for Social Sciences was utilized for data coding in the second step. Following that, the data were descriptively evaluated using central tendency statistics (means and standard deviation), frequency, and percentage in accordance with each study goal. Key informant interviews provided a qualitative understanding that was manually examined in accordance with each of the study's objectives. The resulting knowledge was then combined with the aforementioned findings to produce final results through content analysis. The study's conclusions were discussed in the next chapter. Inferential statistics were employed to draw meaningful and reliable conclusions from the collected data. Through the application of chi-square tests, we sought to make inferences about the population based on the observed sample.

This inferential technique allowed us to go beyond mere descriptive analysis, providing insights into the relationships, patterns, and trends within the data.

P-values were used to assess the significance of observed differences or associations in the data, in the context of maternal health attendance and subscription to Linda Mama services, the researcher used p-values to determine whether there are statistically significant differences in attendance rates between various groups (e.g., different socioeconomic statuses, education levels, or geographical locations). Chi-square test was particularly useful because the researcher was dealing with categorical variables and was employed to assess the association between two categorical variables. The researchers used a chi-square test to examine the association between maternal health attendance (categorical variable: attended, did not attend) and categorical variable (e.g., education level).

CHAPTER FOUR

RESULTS AND DISCUSSION

4.0 Introduction

This chapter presents the outcomes and conclusions of a study conducted in Kajiado North Sub-County, Kenya, focusing on the uptake and utilization of the Linda Mama initiative among child bearing women. The study objectives included determining the proportion of uptake of the initiative, exploring the influence of socio-demographic factors, examining the impact of knowledge and perceptions, and investigating health system-related factors on the uptake and utilization of Linda Mama services.

4.1 Study Response Rate

Response rate was as discussed below

Table 4.1

Response Rate

Concept	Number	Percent
Response	197	84.9
Non-response	35	15.1
Total	**232**	**100.0**

232 people were the study's target sample households in Kajiado North Sub-County, only 197 participated and filled the questionnaires representing a response rate of 84.9% which was adequate. A portion of the 35 targeted respondents who were still alive either neglected to submit the surveys or returned them incompletely. A response rate of 70% or above is considered extremely satisfactory for manual survey analysis and reporting, according to Drost (2012). As a result, the response rate was judged enough for additional examination of the

study's goals. In comparison with current recommendations, response rates approximating 60% for most research should be the goal of researchers as this avoids bias . The response rate being above 84%, we felt confident to proceed

4.2 Uptake and Utilization of Linda Mama Health Insurance

The first study objective was on uptake and utilization of Linda Mama health insurance. This was measured using the following indicators: Mothers who enrolled for the initiative, ANC visits, delivery in a health facility and post-natal care.

Table 4. 2

Linda mama enrolment

		Frequency	Percent
Registered;	YES	52	26.4
	NO	145	73.6
	Total	197	100.0

The results as per table 4.2 sought to establish the utilization of the service. We asked the mothers by finding out if they had a Linda mama card. Out of the 197 participants 52 had the Linda mama card which representing 26.4% of the participants. This rate is below national average which is at 67%. Compared to Bungoma county, both private and public hospitals reported an average of between 75% to 90%, meaning that the uptake of the service is low in Kajiado county

Globally, the issue of Maternal health services is a vast topic due to different approach each country uses. Canada's universal healthcare system covers maternity care (Martin et al., 2018). In the U.S., the situation is more complicated due to the privatized nature of healthcare. However, government programs like Medicaid cover maternity care for eligible individuals. The Affordable Care Act (ACA) also made strides in ensuring more comprehensive coverage of maternity care.

In Latin America, free enrollment has been witnessed in countries like Bolivia, Chile, Brazil and Peru. The general subscription for the service stands at 60%.

We further evaluated the utilization of the Linda mama services as provided by the NHIF. We analyzed the following service; hospital delivery, ANC attendance and PNC attendance. Both amongst women with a Linda mama card and those who didn't have. The results are as in the table 4.3;

Table 4.3

Hospital Delivery

		With Card		Without card	
		F	%	F	%
I delivered in a health facility.	Yes	22	42.3	68	46.9
	No	30	57.7	77	53.1
Total		**52**	**100.0**	**145**	**100.0**

As per table 4.3 hospital delivery 22 of the 52 respondents who have a Linda mama card suggested that the birth took place at a medical setting, which translates to 42.3% of the mothers with a card. 68 of the 145 mothers without a card delivered in a health facility and it represents 46.9%. The results suggest that delivery at a health facility was higher for mothers without a card as compared to mothers with a card.

In Australia and Canada majority of births are in hospitals .In Eastern region of Africa, Ethiopian women (72.5%) had the highest percentage of home deliveries, followed by Kenyan women (37.5%) and Tanzanian women (34.7%). Women from Mozambique (2.8%), Rwanda (6.9%), and Malawi (7.1%) had the lowest rates (Regassa et al., 2022).

Kajiado county hospital birth rate at 44% therefore as per the research is low compared to developed countries of which we can allude to the economic advantage these countries have. Furthermore, as per the Kenya national council of population of 2019, Kajiado county is Maasai dominated who still practice the traditional ways of giving birth.

Table 4.4

Hospital Delivery chi-square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.871[a]	1	0.171		
Continuity Correction	1.447	1	0.229		
Likelihood Ratio	1.851	1	0.174		
Fisher's Exact Test				0.189	0.115
Linear-by-Linear Association	1.861	1	0.172		
N of Valid Cases	197				

From table 4.4, with a chi-square statistic of 1.871, one degree of freedom, and a significance level of 0.05, the results suggest that there is some evidence to reject the null hypothesis (that mothers with card differs in utilizing the Linda mama services to mothers without card) , indicating a statistically significant association between the categorical variables(mothers with Linda mama card embraced uptake and utilization of the service), based on the comparison of the chi-square statistic and the significance level. Having a Linda mama card has an impact on uptake and utilization of Linda mama services.

Table 4.5

Antenatal Clinic Visits

ANC visits	With card		Without card	
	count	% of total	count	% of total
none	5	9.6	10	6.9
Less than four	24	46.2	81	55.7
Four and above	23	44.2	54	37.2
totals	**52**	**100**	**145**	**100**

In regard to ANC attendance, we analyzed mothers who had card and those who did not have a card. ANC visits, mothers with card, attendance, the findings show that 23 mothers attended the recommended 4 ANC visits (44.2%) and 24 (46.2%) and 5 (9.6) did not attend any ANC visits. Mothers without card, 54 (37.2%) attended the recommended 4 ANC visits, 81 (55.7%) attended less than 4 ANC visits and 10 (6.9%) did not attend any ANC visit.

It appears that the mothers with card are likely to attend the recommended 4 ANC visits. As compared to those without a card. Nationally, around 58.7% of mothers attend the required 4+ ANC attendance (Tamirat, 2021). The research study suggests that Kajiado county is below the national average.

According to the WHO, (2021) globally, around 86% of pregnant women access antenatal care with skilled health personnel at least once. However, only about 65% of women receive at least four antenatal care visits during their pregnancy, which is the minimum number recommended by the WHO for a normal pregnancy .

Sub-Sahara regions have lower ANC coverage compared to global averages, with significant disparities within countries, often related to socioeconomic status, education, and urban vs. rural residence, Kajiado being from an economically disadvantaged sub-Saharan region tend to be affected by the economic issues.

Table 4.6

ANC visits chi-square tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)
Pearson Chi-Square	0.220[a]	1	0.639	
Continuity Correction[b]	0.093	1	0.76	
Likelihood Ratio	0.221	1	0.639	
Fisher's Exact Test 0.744				0.744
Linear-by-Linear Association	0.219	1	0.64	
N of Valid Cases	197			

As depicted in Table 4.6, we used a chi-square test with one degree of freedom to assess the association between two categorical variables i.e. mothers with card and those without card. With a chi-square statistic of 0.22, one degree of freedom, and at a significance level of 0.05, the results indicate that there is little/no statistical significant association between the categorical variables being studied (mothers with card and those without card in utilizing Linda mama services), given the high significance level and the small chi-square statistic. We therefore conclude that having a Linda mama card does not disadvantage a mother as long as they are able to visit a clinic, then they will be attended to. This result is in line with a study among expectant mothers in Trans Nzoia (Michael, 2018).

Table 4.7

Post Natal Care Visits

	With card		Without card	
	Count	% of total	count	% of total
Yes	31	59.6	66	45.5
No	21	40.4	79	54.5
Totals	52	100	145	100

With regards to PNC visits as depicted in table 4.7, 31 (59.6%) of the 52 mothers with a card indicated that they had attended PNC clinics. we also found out that 66 (45.5 %) out of the 145 mothers without card had attended the PNC visits. The results suggested that mothers with a Linda Mama card (59.6%) are more likely to go for their PNC visits as compared to mothers without a Linda mama card (45.5%).

The average of 52% was in line with the attendance of PNC nationally (Kenya) that stood at 53% (Burnett-Zieman et al., 2021). Globally PNC coverage is generally lower than ANC (Antenatal Care) attendance worldwide . A significant portion of maternal and neonatal deaths occurs in the immediate postnatal period, emphasizing the importance of improving PNC coverage. In developed countries, at 80% of the mothers attend . According to the Mokua (2014) in many low- and middle-income countries, less than half of mothers and newborns receive postnatal care in the first few critical hours and days after birth.

We can therefore allude that the low percentages for mothers attending PNC in Kajiado county is Similar to data from other developing countries. This is often associated with low economic income to fund costs like transportation, long distance, low literacy level and ignorance .

Table 4.8

Post Natal Care (PNC) VISITS chi-square tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3.044[a]	1	0.081		
Continuity Correction[b]	2.506	1	0.113		
Likelihood Ratio	3.057	1	0.08		
Fisher's Exact Test				0.106	0.057
Linear-by-Linear Association	3.028	1	0.082		
N of Valid Cases	197				

From table 4.8 with a chi-square statistic of 3.044, one degree of freedom, and a significance level of 0.05, the results suggest that there is evidence to reject the null hypothesis (that there is no association between Linda mama service and PNC visits), indicating a statistically significant association between the categorical variables, that Linda mama service has significantly led to significant PNC visits. Hence having a Linda mama card significantly leads to more subscription to Linda mama service than not having. This in line with NHIF report of 2020 that stated that 89% of the mothers who visited health centers for maternal health were enrolled into the service. This was in line with the findings done by Michael Wamalwa on factors influencing utilization of linda mama Boresha Jamii health insurance by expectant mothers in trans Nzoia county, Kenya where by 87% of the mothers who had NHIF had enrolled for Post natal clinical.

4.3. Socio -demographic Characteristics and uptake and utilization of Linda mama insurance

The other research question that the researcher wanted to understand was how the socio demographic factors affected adoption and use of Linda Mama's insurance. The socio - demographic factors that were explored included age, religion, marital status, education,

economic status, number of children and financial dependence on spouse. The results are presented in the table below.

Table 4.9

Socio -demographic Characteristics

Uptake and utilization		With card count	Without card Count	% of mothers with card
Age	15-19 years	15	33	31.25%
	20-24 years	7	25	21.88%
	25-29 years	5	13	27.78%
	30-34 years	6	24	20.00%
	35-39 years	19	50	27.54%
	Totals	**52**	**145**	
Marital Status	Never married	15	50	23.08%
	Married	30	62	32.61%
	Separated	3	21	12.50%
	Widowed	4	12	25.00%
	Totals	**52**	**145**	
Religion	Roman Catholic	23	71	24.47%
	Protestants/Other Christians	15	47	24.19%
	Muslim	14	25	35.90%
	No religion	0	2	0.00%
	Totals	**52**	**145**	
Education Level	None	1	1	50.00%
	Certificate of primary	18	61	22.78%
	Form four	19	39	32.76%
	College certificate	6	24	20.00%
	College diploma	8	15	34.78%
	Degree	0	5	0.00%
	Totals	**52**	**145**	
Occupation	Self -employed	15	38	28.30%
	employed	12	47	20.34%
	Not employed	25	60	29.41%
	Totals	**52**	**145**	
Level of Income	Less than 10,000	5	16	23.81%
	11,000-15,000	8	21	27.59%
	16,000-20,000	1	10	9.09%

	21,000 – 25,000	32	67	32.32%
	26,000 and above	6	31	16.22%
	Totals	**52**	**145**	
Number of children	None	1	5	16.67%
	One to two	21	72	22.58%
	Three	17	41	29.31%
	Four to five	8	23	25.81%
	More than five	5	4	55.56%
	Totals	**52**	**145**	
Financial dependence on spouse	Strongly disagree	17	65	20.73%
	disagree	5	11	31.25%
	Neutral	7	18	28.00%
	Agree	10	17	37.04%
	Strongly	11	28	28.21%
	Totals	**50**	**139**	
Spouse role in decision making	Strongly disagree	2	10	16.67%
	disagree	6	11	35.29%
	Neutral	6	15	28.57%
	Agree	22	61	26.51%
	Strongly	16	47	25.40%
	Totals	**52**	**144**	

4.3.1 Age

As per table 4.9 above, the highest uptake of Linda mama card was from the age group 15-19 years at 31.25% followed by age group 25-29 years at 27.78%. However, for mothers without card, age group 30-34 years had the highest percentage at 80% followed by age group 35-39%. The age range of childbearing mothers in Asia and Latin America, as in many parts of the world, can vary significantly due to cultural, socioeconomic, and regional differences. In general, childbearing age spans from late adolescence to early or mid-adulthood. However, there is no universally defined age range for childbearing, and what is considered "typical" can differ from one country or region to another . According to the global gender gap index of 2023, between 2015 and 2020, the mean age for first-time mothers in South Korea was over 32 years, the highest in the Asia-Pacific region. In contrast, Bangladesh and Nepal had the

lowest mean age for women at their first childbirth at 22 years. The uptake of UHC meant that 90% of the mothers could access prenatal, birth and postnatal activities . In Kenya, the average age of childbirth was 28.6 years old as of 2021. Since 2010, the average age of women in the nation at the time of childbirth has somewhat declined .

4.3.2 Marital status

Married women embraced the utilization of the service standing at 32.61% for mothers with the card and but separated women embraced the uptake of Linda mama services for mothers without card at 87.5%. Majority of the women interviewed were married.

4.3.3 Religion

Kajiado County is Christian dominated and this can reflect on the uptake of the service with Christians having the highest percentage at (24% for roman catholic and 24% for protestant for mothers with cards in conjunction with 76% for roman catholic and 76% for protestant for mothers without the card.) Globally the percentage of Christians attending maternal health services can vary significantly depending on the region, country, and local factors. In many countries, Christians, like people of other religious affiliations, do access maternal health services. However, the specific percentage can be influenced by various factors, including cultural norms, healthcare infrastructure, and socioeconomic conditions lacking a global quantification of the numbers . About 85.5% of Kenyans are reported to be Christians, making Christianity the country's most popular religion. With 10.9 percent of the population practicing it, Islam is the second most popular religion in Kenya. Traditional religions, Buddhism, Hinduism, and Baha'i are among the other faiths practiced in Kenya .

4.3.4 Education Level

Majority of the mothers interviewed had a KCSE and KCPE certificate level of education. This can reflect in the data with the combined levels of academic accounting for 55.4% of the uptake for mothers with the card and 73.4% for mothers without the card.

4.3.5 Occupation

From the data collected, 28.3% of mothers who had subscribed to the service were with card as compared to 71.7% of those without card. Employed mothers without card had embraced the uptake of the service at 79% as compared to 20.34% of mothers with card.

4.3.6 level of income

Approximately 23.81% of individuals earn less than 10,000, indicating a significant portion with relatively low incomes. A larger segment, comprising 27.59%, falls within the income range of 11,000 to 15,000. Notably, a smaller percentage, 9.09%, earns between 16,000 and 20,000. The majority of the surveyed population, accounting for 32.32%, lies in the income bracket of 21,000 to 25,000. Lastly, 16.22% of individuals have incomes of 26,000 and above, signifying a notable proportion with higher earnings. Together, these percentages provided a comprehensive overview of the income distribution, offering insights into the economic landscape of the surveyed group.

4.3.7 Number of Children

Approximately 16.67% of mothers reported having no children. A slightly larger portion, accounting for 22.58%, had one to two children. A significant 29.31% of mothers had three children, reflecting a notable percentage in this category. Those with four to five children constituted 25.81% of the surveyed mothers, representing a substantial group with relatively larger families. The smallest percentage was found in the category of more than five children, comprising 15.56% of the population. Collectively, these percentages provided insights into

the diverse family sizes among surveyed mothers, offering a nuanced understanding of the distribution of the number of children among this group.

4.3.8 Financial Dependence on the Spouse

A notable percentage of 20.73% strongly disagreed with the notion of financial dependence on their spouse. Meanwhile, 31.25% disagreed with the idea, suggesting a significant portion had reservations about relying on their spouses financially. A substantial 28.00% remained neutral on the matter. On the contrary, 37.04% agreed with financial dependence on their spouse, indicating a considerable number of mothers who acknowledged such dependency. Additionally, 28.21% strongly agreed with this dependence, representing another significant perspective within the surveyed group. These percentages collectively offer insights into the varied attitudes and levels of financial dependence on spouses among the surveyed mothers.

4.3.9 Spouse role in Decision Making

A notable 16.67% strongly disagreed with the idea of the spouse having a significant role in decision-making. Additionally, a substantial 35.29% disagreed, indicating a considerable portion of mothers who were not in favor of their spouse playing a major role in decision-making. A smaller but still noteworthy 28.57% remained neutral on the matter, suggesting an ambivalence or lack of strong opinion. On the contrary, 26.51% agreed that the spouse should have a role in decision-making, while 25.40% strongly agreed, signifying a combined perspective that supports the involvement of spouses in the decision-making process. These percentages provide insights into the diverse attitudes and opinions regarding the role of spouses in decision-making among the surveyed mothers.

The global status of maternal health had seen significant improvements over the past few decades, but challenges and disparities still existed. It's important to note that the status of maternal health vary significantly from one region or country to another. The average

childbearing age vary from one region to another and change over time due to cultural, social, economic, and healthcare factors. In many developed countries and urban areas of developing countries, women tend to delay childbearing to their late 20s and early 30s. This delay is often attributed to women pursuing higher education, career opportunities, and personal goals before starting a family. In many developing countries, women often start childbearing in their late teens or early 20s. Early childbearing can be due to various factors, including limited access to education and healthcare, cultural norms, and economic considerations. Kajiado falling in the developing country category and less urbanized depicts this case by teens of between 15-39 years bearing children.

In contrast to the global average of 48.9 live births per 1,000 women aged 15 to 19 and the average for developing nations of 52.7 live births per 1,000, the teenage birth rate in Latin America and the Caribbean is 73.2 live births per 1,000 women aged 15 to 19.

As a comparison, Kajiado-north subcounty birth for the teens is below the latin America at 50% (both for mothers with cards and without cards in the same age bracket). The birth rate range however is close to the one for sub-Sahara Africa which stands at 52.1%,. Only Sub-Saharan Africa has a higher rate of live births per 1,000 women aged 15 to 19 than the region, where it is almost twice as high as levels in other regions. Due to the intimate connection between high adolescent birth rates and sexual assault and abuse, adolescents bear a double social burden.

Socio-demographic factors play a crucial role in the uptake of maternal services in Asia and South America. These factors encompass a wide range of characteristics related to individuals and their social and economic circumstances. Understanding how these factors affect the utilization of maternal services is essential for improving maternal health outcomes. In Asia younger and older mothers face challenges accessing maternal services. Teenage mothers have

limited resources and support, while older mothers have unique health considerations. In south America teenage pregnancies are more common in some countries, and adolescent mothers face barriers to accessing care due to their age and social status. In Asia Lower levels of education are associated with reduced access to maternal services. Women with less education may not fully understand the importance of prenatal care or have limited decision-making power within their families. In south America education is a significant determinant of maternal service utilization. Women with higher education levels seek and receive timely care during pregnancy .

In Asia Poverty and low income are substantial barriers to accessing maternal services. Women from low-income households struggle to afford transportation, healthcare costs, and time off from work. In Asia unmarried or divorced women face stigma, which discourage them from seeking maternal care .

In Kenya, and more so for county headquarters, urban areas and families of strong economic back ground, access to maternal health is well embraced. The citizens in these counties plan for their ANC, child delivery and PNC appropriately. The use of insurance cards for health coverage for working class citizens, married women and learned mothers have seen the uptake of Linda mama service increase. like many other regions, several barriers to maternal health services persist, which can hinder women's access to quality healthcare during pregnancy, childbirth, and the postnatal period. These barriers are often interconnected and can vary from one county or community to another. Many women in rural and remote areas of Africa face challenges accessing healthcare facilities due to long distances, poor road infrastructure, and a lack of transportation options .

Table 4.10

Socio -demographic Characteristics chi-square tests

	stats	values			
Age	x^2	1.61			
	df	4.00			
	p-value	0.00		*count*	*with card*
Marital status	x^2	4.60	Mean	11.09524	0.257429
	df	3.00	Variance	67.69803	0.010604
	p-value	0.20	Observations	42	42
Religion	x^2	2.86	Pooled Variance	33.85431	
	df	3.00	df	82	
	p-value	0.04	t Stat	8.535798	
Education level	x^2	5.57	P(T<=t) one-tail	3.02E-13	
	df	5.00	t Critical one-tail	1.663649	
	p-value	0.35	P(T<=t) two-tail	6.03E-13	
Occupation	x^2	0.61	t Critical two-tail	1.989319	
	df	6.00			
	p-value	0.41			
Level of income	x^2	5.55			
	df	4.00			
	p-value	0.41			
Number of children	x^2	1.62			
	df	2.00			
	p-value	0.41			

As from table 4.10, under the age parameter, with a chi-square statistic of 1.61, one degree of freedom, and a p-value of 0, we reject the null hypothesis. This implies that there is a highly significant association between age and uptake of Linda mama utilization for mothers with card.

Under the marital status, with a chi-square statistic of 4.6, three degrees of freedom, and a p-value of 0.20, the results do not provide strong evidence to reject the null hypothesis. It suggests

that there may not be a statistically significant association between the uptake and utilization of Linda mama service with the marital status of mothers with card based on the typical significance level of 0.05.

Under the religion, with a chi-square statistic of 2.86, three degrees of freedom, and a p-value of 0.04, the results provide evidence to reject the null hypothesis. This indicates a statistically significant association between uptake and utilization of Linda mama service and religion for mothers with cards at the 0.05 significance level.

Occupation level, level of income and number of children had a p-values of 0.41. A high p-value suggests a lack of statistical significance, hence there is no statistical significance of association between uptake and utilization of Linda mama service for mothers with card with the three parameters.

As per the t-test: two-Sample Assuming Equal Variances measurement, we found a p-value of $6.03x10^{\wedge-13}$ which is less than 0.05. Statistically therefore, socio-demographic factors had little association with regards to uptake and utilization of Linda mama for the two categories (mothers with Linda mama card and those without).

4.4 Effect of Knowledge and Perceptions on Uptake of Linda Mama Initiative

Table 4.11

Knowledge and perceptions

Knowledge and perceptions indicators	With card		Without card	
	Out of 52	% of total	Out of 145	% of total
I am aware that all Kenyan women who are pregnant or who have a child under one year old are eligible for the Linda Mama Initiative program.	40	76.9	96	66.2
I am aware of the Linda Mama Initiative's free nature.	25	48.1	64	44.1
Enrolling in the Linda Mama Initiative program is an easy process.	11	21.2	26	17.9
The Linda Mama Initiative Scheme is exclusively available for enrollment at medical facilities.	22	42.3	44	30.3
The Linda Mama Initiative is being used in private, faith-based, and public healthcare facilities.	27	51.9	79	54.5
The Linda Mama Initiative only covers an expectant mother and her unborn child up to 11 months of age; it does not cover the complete family.	20	38.5	66	45.5
Very minimal paperwork is needed in order to enroll in the Linda Mama Initiative.	21	40.4	61	42.1

As per table 4.11, 76.9% are aware that Linda mama card is intended for all Kenyan women who are expecting or who have a child under a year old. Still, a slightly higher rate of 66.2 % of women without the card seems to be aware of the use of Linda mama card service.

Both categories, with card and without card, less than 50% of mothers with a card (48.1%) and mothers without card (44.1%) knew that the Linda mama initiative was free.

The mothers also had a challenge during registration for Linda mama service for only 21.2% of mothers with card agreed to the process being simple and straight forward and 17.9% of mothers without card.

The mothers with Linda mama card, i.e. 27 of 52 mothers (51.9%) agreed that Linda Mama Initiative is currently being used in private, faith-based, and public healthcare facilities while 79 of 145 (54.5%) of mothers without card agreed on the same.

On knowledge that Linda mama initiative did not include the whole family, only the expecting mother and the baby up to 11 months, 20 mothers (38.5%) with card and 66 mothers (45.5%) were aware of the same. Mothers with card which numbered 21 (40.4%) and mothers without card, 61 mothers (42.1%), acknowledged Very minimal paperwork was needed in order to enroll in the Linda Mama Initiative.

However, in areas where these programs are not promoted or where healthcare infrastructure is weak, awareness can be lacking. In developed countries, UHC covers most of the topics in ANC, birth and PNC and therefore the citizens are well aware of the required steps.

In many Latin American countries, there are disparities in maternal health knowledge and perceptions between urban and rural areas. Urban populations tend to have better access to healthcare services and information, resulting in higher awareness levels. In contrast, women in rural areas may face challenges related to limited access to healthcare facilities and lower levels of education, which can impact their knowledge about maternal health. In many Latin American countries, women in urban areas are more likely to receive timely and adequate prenatal care than their rural counterparts. This is often due to greater availability of healthcare facilities and resources in urban settings.

Latin America utilizes a variety of methods and channels to disseminate information on maternal health to its populations. These efforts are aimed at raising awareness about the importance of maternal health and ensuring that women have access to essential information and healthcare services. The methods include Governments and health organizations running

public health campaigns to raise awareness about maternal health issues, trained community health workers providing information about maternal health.

Nationally, the Linda mama initiative was highly popularized during the year 2013 to 2022 over the news channels, social media, among other communication platform led by the then First Lady, Her. Excellency Margaret Kenyatta, with the beyond zero campaign. In countries or regions where, free maternity services have been newly introduced or where maternal health is a key policy agenda, there is typically a concerted effort to raise awareness, leading to a relatively higher level of public knowledge.

At county level, various disparities existed, with Nairobi county, Kiambu county and other counties with major urban areas experiencing relatively ease in accessing Linda mama services. Availability of Television and high rate of usage of social media was the reason for Nairobi county being on the advantaged side. Mt. Elgon, for instance more than 45% of those surveyed were unaware of the free services for maternal healthcare, experienced few challenges during registration into the service and more than 50% did not know whether the service was implemented in both public and private facilities.

Internet coverage in Kajiado county is low generally due to wide areas of land being rural with the exception of kitengela and Kajiado town. Low level of academic level is also a factor for negative feedback on ease and registration into the Linda mama initiative.

Table 4.12

Knowledge and Perceptions chi-square Tests

I am aware that all Kenyan women who are pregnant or who have a child under one year old are eligible for the Linda Mama Initiative program.	x2	2.06			
	df	1.00	t-Test: Two-Sample Assuming Equal Variances		
	p-value	0.15			
I am aware of the Linda Mama Initiative's free nature.	x2	0.24		With card%	Without card%
	df	1.00	Mean	45.61	42.94
	p-value	0.62	Variance	284.89	245.01
Enrolling in the Linda Mama Initiative program is an easy process.	x2	0.78	Observations	7.00	7.00
	df	1.00	Pooled Variance	264.95	
	p-value	0.38	Hypothesized Mean Difference	0.00	
The Linda Mama Initiative Scheme is exclusively available for enrollment at medical facilities.	x2	0.33	df	12.00	
	df	1.00	t Stat	0.31	
	p-value	0.57	P(T<=t) one-tail	0.38	
The Linda Mama Initiative is being used in private, faith-based, and public healthcare facilities.	x2	2.06	t Critical one-tail	1.78	
	df	1.00	P(T<=t) two-tail	0.76	
	p-value	0.15	t Critical two-tail	2.18	
The Linda Mama Initiative only covers an expectant mother and her unborn child up to 11 months of age; it does not cover the complete family.	x2	3.24			
	df	1			
	p-value	0.62			
Very minimal paperwork is needed in order to enroll in the Linda Mama Initiative.	x2	8.2			
	df	1			
	p-value	0			

From table 4.12 the question on Linda mama being implemented at both public and private health facility factors had a p-value of less than 0.05, to mean that statistically, we could not

reject the null hypothesis of the response being significant. All other categorical variables yielded a p-value of more than 0.05, meaning that we reject the null hypothesis and state that, statistically there was some degree of association between uptake and utilization of Linda mama services for mothers with cards at confidence level of 0.05.

Hence, we can conclude that insufficient information about the existence of Linda mama services, registration only taking place at a health facility are barriers for the uptake of the service. However, the fact that it is free and available in both public and private facilities are the biggest enablers

4.5 Health System Factors Effect on the Uptake and Utilization of the Linda Mama Initiative

The next study objective was to explore how health system factors affect the uptake of the Linda Mama Initiative and utilization of services offered under the initiative among pregnant women in Kajiado North Sub-County, Kenya.

Table 4.13

Health System Factors

Health system factors		**With card**		**Without card**	
		Out of 52	% of total	Out of 145	% of total
Health personnel	Every time I visit my local health center, the staff members always treat me with a smile.	5	9.6	22	15.2
	Women's access to free maternal health care services is hampered by the public hospitals' inadequate emergency obstetrical treatment.	7	13.5	38	26.2
	The medical staff at my neighborhood hospital consistently praises the Linda Mama Initiative.	7	13.5	38	26.2
	The medical staff at my neighborhood hospital pushed me to sign up for the Linda Mama Initiative Scheme.	30	57.7	76	52.4

	Every time I visit my neighborhood health institution, the staff members are always welcoming.	32	61.5	58	40
	The inability of public hospitals to provide expert birth attendance prevents women from receiving free maternal health care services.	25	48.1	60	41.4
	Abuse and mistreatment cases in public hospitals prevent women from receiving free treatments related to maternal health care.	18	34.6	53	36.6
	Incidents of patient carelessness by public hospital workers prevent women from receiving free services related to maternal health.	16	30.8	45	31.0
	The medical staff at my neighborhood hospital recommended that I use my Linda Mama insurance card should I became pregnant.	19	36.5	49	33.7
Health service provision	At my local health center, I receive service in less than an hour.	21	40.4	43	29.6
	The local medical center is open seven days a week, twenty-four hours a day.	15	28.8	46	31.7
	The post-natal clinic at my neighborhood hospital is open from 8:00 am to 5:00 pm. Five days a week	15	28.8	52	35.9
	It is not necessary to make an appointment in order to see a first ANC physician in my area.	16	30.8	50	34.5
	The hours of operation for ANC and CWC at my local health center are 8 a.m. to 5 p.m. Five days a week	18	34.6	47	32.4
Infrastructure	The closest medical facility is less than five kilometers away.	0	0	2	1.4
	There are adequate clean bathrooms and toilets at my neighborhood health center.	18	34.6	55	37.9

	There is a maternity wing with a delivery space as well as a healing space in my local hospital.	20	38.5	37	25.5
	There is enough medical equipment, including X-rays, in my neighborhood hospital.	10	19.2	27	18.6
	There is a functioning utility truck at my local health institution for emergency	11	21.2	22	15.2
Finance	In my local health institution, I pay nothing to use the services related to childbirth.	15	28.8	61	42.1
	I registered for my PNC checkup using cash.	23	44.2	75	51.7
	I purchased my child welfare clinic with cash.	23	44.2	83	57.2
	For my most recent delivery, I paid cash.	21	40.4	64	44.1
Information	Prior to becoming pregnant, I was aware of the Linda Mama Initiative Scheme Prior to becoming pregnant, I was aware of the Linda Mama Initiative Scheme.	36	69.2	94	64.8
	You may easily find information on Linda Mama insurance on radio, television, and even Chief's Baraza.	10	19.2	41	28.3
	Social media networks provide me with access to information about the Linda Mama Initiative.	38	73.1	119	82.1
	Linda Mama has embraced the use of technology, interacting with clients and customers via emails and cell phones, among other means.	10	19.2	60	41.4
Commodities (drugs, lab tests, and other inputs)	blood pressure measurements	17	32.7	60	41.4
	Tetanus injection	23	44.2	61	42.1
	Iron/Folic tablets or syrup	22	42.3	72	49.7
	anti-malarial drugs	18	34.6	59	40.7

counseled or given information on VCT for HIV/AIDS?	18	34.6	59	40.7
counseled on PMTCT for HIV/AIDS?	11	21.2	43	29.7
assisted to calculate the expected date of delivery	11	21.2	47	32.4
Urine testing	25	48.1	52	35.8
Asked history of previous delivery, complications and health conditions	25	48.1	68	46.9
Blood tests for ANC (blood grouping, VDRL, HIV)	31	59.6	60	41.4

4.5.1 Health Personnel

As per table 4.13 above, under the health personnel indicator, reception of client and cordial discussion with the health officers received a rating at less than 12.5% (I.e. 9.6% for mothers with card and 15% for mothers without card). Lack of quality emergency obstetrical care at the public hospitals did not hinder women from accessing free maternal health care services, with an overall rating of 19% (I.e. 13.5% for mothers with card and 26.2% for mothers without card).

Health workers significantly encouraged mothers to join Linda mama initiative receiving a rating of 55.5% (I.e. 57.7% for mothers with card and 52.4% for mothers without card). Friendly discussion with the client by the health workers received rating of 51% (I.e. 61.5% for mothers with card and 40% for mothers without card), availability of skilled personnel received a rating of 44% (I.e. 48.1% for mothers with card and 41.4% for mothers without card). Cases of abuse and mistreatment received a rating of 35% (I.e. 34.6% for mothers with card and 36.6% for mothers without card) whereas negligence received a rating of 30.9% (I.e. 30.8% for mothers with card and 31% for mothers without card). Further direction of using

Linda mama initiative by client from the health workers received a rating of 30.9% (I.e. 36.5% for mothers with card and 33.7% for mothers without card).

In general, very few mothers reported not well treated by the health personnel, 50/50 of mothers were not encouraged to join the Linda Linda mama with a third of the women reporting abuse and mistreatment. 38.5% of mothers with card perceived that the health workers were not friendly and 61.5% of them perceived friendly. Mothers without Linda mama cards, 60% perceived that the health workers were not friendly and 40% of them perceived that the health workers were friendly.

More and more information is being delivered to client and with additional training of the CHWs on how to handle client, both with conflicting behavior, defusing tension among others, a lot has changed. Improvements of level five hospitals in each county and establishment of delivery centers within 5 km of distance is being implemented nationally.

The relationship between health workers and maternal clients worldwide is a critical aspect of maternal healthcare, as it directly impacts the quality of care, patient satisfaction, and health outcomes. The nature of this relationship can vary based on cultural, social, economic, and healthcare system factors /

A positive and respectful relationship contributes to safer and more satisfying childbirth experiences, better health outcomes, and greater client trust in healthcare systems. Healthcare organizations and governments often work to improve the training and communication skills of health workers to enhance this relationship. In developed countries this relationship is at a higher level and hence low conflict .

The state of health personnel for maternal health in Latin America varied across countries and regions. The availability, distribution, and quality of healthcare personnel involved in maternal

health, including doctors, nurses, midwives, and other healthcare providers, could differ significantly . In some parts of Latin America, there were shortages of skilled health personnel, particularly in rural and remote areas. The distribution of healthcare professionals was often uneven, with urban areas having better access to skilled providers than rural and marginalized communities. In many Latin American countries, community health workers have been essential in reaching remote and underserved populations with maternal health information and services . The commitment of governments to maternal health, healthcare policy, and funding allocation for maternal and newborn health services can significantly impact the state of health personnel and the quality of care.

County wise, in Kenya, maternal health facilities and workers in major urban areas like Nairobi, Nakuru, Kisumu, Eldoret, and Mombasa are at a stable state. The government from 2013 invested a lot in level four and five hospitals in the country. A lot of private hospitals also have come up in major cities basically to fill the gap and serve high end customers. As a result, trained workers are attracted to work in these cities. Counties like Turkana, Marsabit and more specifically the ones located in Arid and semi-arid areas faced the same challenges as the ones in Kajiado North-county .

Professionalism of health care workers, good infrastructure, availability of safe delivery equipment contributes significantly to uptake of Linda mama service as it encourages mothers to plan for their delivery in a health facility hence a high probability of utilizing the service Orangi S et al., 2021.

4.5.2 Health Service Provision

As far as waiting time at the health is concerned, 40.4% of mothers with card noted that they took less than one hour to get attended to while 29.6% of the mothers without the card noted the same. The service charter is that clients should be attended to within an hour.

On the health service provision variables, it appears that one in every three mothers agreed that the health facility was operational 24/7 i.e. 28.8% of mothers with card noted that health care facilities operated 24 hours while 31.7% of mothers without card acknowledged the same. Also, one in three mothers seeking PNC services agreed that the facility was operational from 8 to 5, 5 days a week i.e. 28.8% of mothers with card noted that health facilities were operational 8am to 5pm for PNC a day (5 days a week) while mothers without card rated this at 35.9%. This same result applies for operational service for ANC and CWC. 30.8% of Mothers with card said that they needed an appointment for their first ANC visit while 34.5% of mothers without card acknowledged the same

The health service provision variables, were the enabling indicators. This data/results suggest that these facilities are not really enabling mothers to utilize these facilities, this could be a hindrance to uptake and utilization of Linda mama services.

Public maternity hospitals in Latin America and Africa in urban areas typically operate 24/7 to provide continuous care for pregnant women and new mothers. These facilities are often the primary source of care for low-income individuals and those without private health insurance. The hours of operation for maternal health facilities in rural areas of Latin America and Africa can vary based on the specific location, available resources, and the type of facility. Rural areas may have limited access to healthcare services, which can impact the hours of operation .The rural areas generally operate for more than 16 hours a day

In Kenya, big towns and cities health facilities generally operated for 24 hours a day Monday to Sunday. Many rural areas have public health posts or rural health centers that provide basic

maternal health services. These facilities typically operate during regular business hours on weekdays, but the hours can vary depending on the specific location. The government with the help of the county governments is continuously working to put up health facilities that are within the reach of the people. Challenges are however being experienced as a result of the function being devolved and hence inadequate funds and co-ordination to make the facilities run efficiently.

Health service provision, efficiency and general availability of the services when needed contributes significantly to uptake of the Linda mama service. Giving birth is a continuous situation and hence health facilities should run 24/7 resulting into uptake of the service.

4.5.3 Infrastructure

Infrastructure wise, mothers with card all acknowledged that health facilities were more than 5km away from them with only 1.4% of mothers without card acknowledging that their health facilities were within 5km. 35% of mothers with card noted that their health facilities had enough toilets and bath rooms as compared to 38% of mothers without card. 39% of mothers with card noted that the local health facility had maternity wing which has a delivery room and a recovery room as compared to 26% of the mothers without card. 19% of mothers with card noted that local health facility had enough medical equipment like X-ray and others which was the same percentage for mothers without card. 21% of mothers with card noted that local health facility had a functional utility vehicle for emergency as compared to 15% of the mothers without the card.

In Asia and latin America, state of maternal delivery infrastructure varies widely as it depends on factors such as the country's economic development, healthcare system, and urban-rural divide. High-income Asian countries such as Japan, South Korea, and Singapore, the maternal

delivery infrastructure is generally well-developed. There are modern, well-equipped hospitals and clinics, and access to skilled healthcare professionals. Access to maternal health infrastructure in rural parts of Asia varies significantly. Remote and underserved areas often face challenges in terms of healthcare facilities, skilled personnel, and transportation, making maternal care less accessible. In south America, Countries like Chile and Argentina have well-established healthcare systems and a strong infrastructure for maternal delivery. Women have access to modern hospitals and clinics with skilled medical professionals. Countries like Mexico and Brazil have a mix of well-developed urban healthcare infrastructure and disparities in rural areas. In urban centers, maternal delivery infrastructure is generally good, but in rural and remote areas, access can be limited.

In Kenya, the government investment in good infrastructure since 2013 have resulted to accessibility to health facilities by the citizens. Upgrade of level four and five hospitals in major county headquarters and urban areas have seen the trend of hospital delivery rise to over 73% nationally .

Good infrastructure is a good enabler for women to get to health facility on time. Linda mama service currently can only be accessed in a health facility in Kenya. Therefore, through the county government, the government should help Kajiado north sub-county have health facilities that are within 5 km as recommended . By doing so, we expect the rate to be more than average to subscribing to Linda mama.

Infrastructure was more of a challenge as 1 in 5 mothers, almost no mothers agreed that the facility was less than 5 kilometers. The nearer a facility is, the more likely to utilization of facilities. WHO recommends health facilities to be within five-kilometer radius. This data therefore was an indication that the distance of more than five kilometers was a barrier.

Lack of diagnostic facilities like X-RAY and others (ultra sound) was a barrier. 1 in 5 mothers acknowledged to access diagnostic facilities. (X-ray here was used as a proxy for ultra sound because that was how was understood by the participants).

4.5.4 Finance

As per the finance parameter in table 4.6, 28.8% of the mothers with card paid zero-dollar amount for child related birth expenses while 42.1% of mothers without card paid zero shillings. 44.2% of mothers with card paid cash for registration during PNC checkup while mothers without card were 51.7%. 44.7% of mothers with card paid cash for their child welfare clinic while 57.2% of mothers without card paid. 40.4% of mothers with card paid cash for their last delivery while 44.1% of mothers without card did pay for their last delivery in cash.

Out-of-pocket payments for maternal health services can be a significant barrier to accessing quality healthcare for pregnant women and can have serious implications for maternal and child health outcomes. In Asia and Latin America health services are not always fully covered by government health insurance or other social protection mechanisms. As a result, individuals are often required to pay for maternal health services out of their own pockets . High out-of-pocket expenses can deter pregnant women from seeking essential maternal health services, including prenatal care, skilled attendance at birth, and postnatal care. This can lead to delayed or inadequate care, which increases the risk of maternal and neonatal mortality.

In Kenya, some mothers had to pay out-of-pocket for the Free Maternity Programme, even if it was free on paper. Mothers who had a normal delivery paid an average of 9.50 USD (SD 8.20 USD) for out-of-pocket expenses, whereas those who had a caesarean section (CS) paid an average of 10.88 USD (SD 15.16 USD). Transport, inadequate supply of commodities (drugs/medication and services like lab tests), unclear policies among healthcare providers, neglecting to notify the NHIF office of customers who were available in the facilities, and

ultrasound scan services were the primary causes of expense/out of pocket payments. Some women felt that the OOP payments were a barrier to care since they had to use their savings or sell assets to cover the costs, even if the payments were not considered catastrophic. No patient variables were linked to out-of-pocket costs.

4.5.5 Information

According to the data, 69% of women who had cards and 65% of mothers who didn't knew about the Linda Mama Initiative Scheme were aware of it before becoming pregnant. It was mentioned by 28% of mothers without a card and 19% of mothers with one that information on Linda Mama insurance is easily accessible on TV, radio, and even Chief's Baraza. Social media channels were cited by 73% of mothers who had cards and 82% of mothers who did not as a means of finding out about the Linda Mama Initiative. 41% of mothers without a card and 19% of mothers with one said that Linda Mama has embraced technology, using email and cell phones to connect with clients and customers. Mothers who have cards and those who don't note that very little paperwork is needed to enroll in the Linda Mama Initiative program (42% of mothers with cards and 42% of mothers without cards). 39% of mothers with card and 46% of mothers without card acknowledged that Linda mama initiative does not cover the entire family but only expectant mother and the baby up to 11 months.

Less than a third of mothers heard of Linda mama on TV and Chief's Baraza. This seems that the platform is not ideal for information dissemination. On the other hand, most mothers, 73% of mothers with card and 82.1% without card heard about Linda mama on social media. This suggests that this could be the preferred approach to information dissemination. Mobile phones were used for information dissemination with regards to Linda mama registration. However, it appears that 1 in every 5 mothers with a card and 4 in 10 mothers without a card agreed or

appear to acknowledge the use of mobile phones for information dissemination by the Linda mama initiative. This could imply that mobile phones are not ideal for information dissemination to this particular group

Communication of maternal health information to citizens in Asia and Latin America is vital for raising awareness, promoting healthy behaviors, and ensuring that pregnant women have access to essential maternal health services. The methods and strategies for disseminating this information vary between countries and regions. Both regions use television, radio, and print media to broadcast maternal health messages and educational content. This includes public service announcements, documentaries, and interviews with healthcare professionals. Increasingly, countries in both regions are using social media platforms, websites, and mobile apps to share maternal health information. These platforms provide an interactive way to engage with the public and answer questions. Trained community health workers play a crucial role in disseminating maternal health information at the local level. They can visit households, hold community meetings, and provide one-on-one guidance to pregnant women and their families.

In Kenya, nationwide campaigns through radio, television, chief barazas with social media campaign being used widely as it is affordable have been used widely to disseminate the information. The counties of Nairobi, Nakuru, Kisumu and Eldoret access to smart phones have seen the information get to many expectant mothers. Arid and semi-arid areas with counties with large vast of lands rely on radio and CHWs especially when the mothers visit the facilities to disseminate the information.

Information is power and the more mothers are informed the more subscription for the service will take place. We can actually observe this from the information Nairobi County posted

whereby more than 90% of mothers had hospital delivery and 95% of them used Linda mama service .

4.5.6 Commodities

As per the parameter concerning commodities, tests and the rest, 32.7% of mothers with card and 41.4% of women without card noted that blood pressure measurements were taken. 44.2% of women with card and 42.1% of women without card noted that tetanus injection was administered to them. 42.3 % of mothers with card and 49.7% of mothers without card were administered Iron/Folic tablets or syrup. 34.6 of mothers with card and 40.7% of mothers without card were given anti-malarial drugs. 34.6 of mothers with card and 40.7% of mothers without card were counseled or given information on VCT for HIV/AIDS. 21.2% of mothers with card and 34.2% of mothers without card were assisted to calculate the expected date of delivery. 48.1% of mothers with card and 35.8% of mothers without card were subjected to urine testing. 48.1% of mothers with card and 46.9% of mothers without card were asked history of previous delivery, complications and health conditions. 59.6% of mothers with card and 41.4% of mothers without card noted that Blood tests for ANC (blood grouping, VDRL, HIV) were administered to them.

The variable of commodities could be related to other factors. Lack of commodities, financial challenges affect the anticipated coverage or utilization of services. Below 50 (1 in 3 almost 1 in 2 mothers) is able to access any of the services. This is the trend except for blood tests. Barriers compounded by various factors like hours of operation, responsiveness and competence of the personnel, infrastructure, availability of the services when required.

In general, health system factors appear to hinder the uptake of ANC, CWC, PNC, and delivery services and this cut across whether the mother had Linda mama card or not.

In both Latin America and Asia, various tests and screenings are conducted for expectant mothers during their prenatal care to monitor their health and the health of the developing fetus. These tests aim to identify and address any potential risks or complications early in pregnancy to ensure a safe and healthy pregnancy and childbirth. The specific tests can vary from one country to another. It's essential to note that the specific tests and their timing may vary by country, healthcare facility, and the individual needs of the pregnant woman. Prenatal care is an ongoing process that involves a series of visits and assessments to monitor the health of both the mother and the fetus, provide education and support, and address any emerging concerns or complications. The healthcare provider will tailor the tests and screenings to the specific needs of each expectant mother. In Kenya, the tests are administered with a slight variation with the needs of the mother. Private hospitals will insist on all the tests and sometimes more tests depending on the condition of the mother. The fact that Linda mama service covers for most of these tests, the need to be more informed is actually a reason for subscription.

Table 4.12

Health System chi-square Tests

Health system factors			
	x^2	df	p-value
Health personnel	0.999	1	0.397
Health service provision	0.7	1	0.403
infrastructure	0.725	1	0.395
Finance	0.22	1	0.639
information	2.21	1	0.32
Commodities (drugs, lab tests, and other inputs)	5.535	2	**0.006**

t-Test: Two-Sample Assuming Equal Variances		
	% of total	*% of total*
Mean	35.34054	37.24054
Variance	266.8364	204.8441
Observations	37	37
Pooled Variance	235.8403	
Hypothesized Mean Difference	0	
df	72	
t Stat	-0.53215	
P(T<=t) one-tail	0.298132	
t Critical one-tail	1.666294	
P(T<=t) two-tail	0.596263	
t Critical two-tail	1.993464	

As per table 4.14, Commodities parameter had a p-value of less than 0.05 that is **0.006**, meaning that we cannot reject the null hypothesis of stating that there is no association between commodities variable with uptake and utilization of Linda mama service for maternal mothers at Kajiado-north subcounty. A p-value of 0.006 suggests that the observed findings are unlikely to have occurred by random chance alone, and there is evidence to support the existence of a association between commodities and the uptake of Linda mama services by expectant mothers.

Health personnel, health service provision, infrastructure, finance and information had P-values of more than 0.05 hence rejecting the null hypothesis. This indicates a statistically significant association between the categorical variables being studied at the 0.05 significance level.

P(T<=t) two-tail result was 0.596 which is greater than 0.05 to indicate that whether the mother had a Linda mama card or not, there were no barriers for the categories to enjoy access to the service.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The results of the study on the barriers to Linda Mama Initiative adoption and use among women in Kajiado North Sub-County, Kenya, who are between the ages of 15 and 49, are summarized in this chapter. Therefrom, the conclusions and suggestions are derived. The chapter is organized as follows: a synopsis of the results, conclusions, suggestions, and areas that warrant additional investigation.

5.2 Summary of Findings

The study's main goal was to identify the obstacles that Kajiado North Sub-County, Kenya, women of reproductive age (15–49 years old) face in adopting and using the Linda Mama Initiative. The conclusions of the specific objectives are addressed below:

At the time of study, the recommended antenatal care contacts were 4 focused ANC visits. However, the Kenyan government through the ministry of health adopted the 8 antenatal care visits through a memo dated 7th August 2023.

5.2.1 Uptake and Utilization of Linda Mama Initiative

According to the report, a moderate percentage of mothers gave birth in medical facilities with the assistance of medical professionals. Few people who received Linda Mama cards also used Linda Mama during their most recent birth. According to the study, most mothers who had cards attended four ANC visits, and most of them were aware of Linda Mama before they began visiting ANC, using the Linda Mama card most of the time. Furthermore, the survey

discovered that, with regard to post-natal clinic attendance, the majority of clients showed their Linda Mama card at registration for their check-up, and that none of the clients ever paid for their PNC check-up. Ultimately, the survey discovered that the consumers showed their Linda Mama card at the clinic and did not pay with cash for their child welfare services. In Kajiado North Sub-County, Kenya, we can conclude that Kajiado county's subscription to Linda mama of 26.4% was below the national goal of 100%. The hospital delivery rate of 45.6% was below the national average of 57%.

About 65-70 per cent of deliveries in Kenya take place through Linda Mama, with over 1.1 million mothers registering for the programme each year NHIF 2022.Therefore, Kajiado north subcounty is low as compared to the national average.

This rate was still low and from the observation, out of health facility delivery (caused majorly by health facilities being situated far from the mothers) contributed significantly to the low rate

5.2.2 Socio-demographic factors and Uptake and Utilization of Linda Mama Initiative

The sociodemographic factors were; age, marital status, religion, education level, occupation, level of income, number of children, financial dependence on spouse, spouse role in decision making. Socio-demographic factors play a significant role in influencing maternal health. These factors encompass a wide range of social and demographic characteristics that can impact a woman's access to and the quality of maternal healthcare, as well as her overall health during pregnancy and childbirth.

In Kajiado-north county, Low-income individuals or families faced financial barriers to accessing maternity services even if they are advertised as free. Costs related to transportation, informal payments, or additional expenses not covered by the "free" services deterred utilization. Those with higher socioeconomic status are generally better positioned to overcome such barriers.

Education played a significant role in understanding the importance of maternity care and navigating the healthcare system. Women with lower levels of education had less knowledge about available services.

Social Support: Inadequate support system, including family and community networks, can negatively impact the uptake of Linda services. Individuals with robust support systems were on the advantaged side as depicted with the high rate of mothers with form certificate in the collected data.

As per the t-test: two-Sample Assuming Equal Variances measurement, we found a p-value of $6.03x10^{\wedge-13}$ which is less than 0.05. Statistically, socio-demographic factors had little association with regards to uptake and utilization of Linda mama for the two categories (mothers with Linda mama card and those without). It could imply that socio demographics factors are not a determinant in the uptake of Linda mama.

5.2.3 Knowledge & Awareness and Uptake and Utilization of Linda Mama Initiative

Knowledge and information play a crucial role in influencing the uptake of maternal health services and improving maternal health outcomes. As per the study, mothers seem well informed (had a positive correlation). TV and Chiefs Baraza, nevertheless, don't seem to be the go-to sources for information. Social media platforms appear to be highly regarded as information sources. A quarter of mothers said that signing up for the Linda mama program was easy and straightforward. Additionally, the survey discovered that the clientele (76.9% of mothers with cards and 66.2% of mothers without cards) were aware of the Linda Mama Initiative Scheme prior to becoming pregnant.

The study discovered that the Linda Mama Initiative was being used in private, faith-based, and public healthcare settings. Not to mention, the investigation discovered that Linda Mama had embraced technology, using mobile phones to interact with clients and customers among other things.

5.2.4 Health System Factors and Uptake and Utilization of Linda Mama Initiative

With regards to this, infrastructure appears to have been rated lowly not only for mothers with card but also mothers without card. There also appears a challenge to access commodities with only 1 in 5 mothers able to utilize the services and goods under Linda mama initiative.

Financing is a challenge as one in every two mothers on average still had to make out of pocket payments and this impacts on the attractiveness of the interventions and ability to utilize the services provided through the interventions.

On matters operational hours and access, 1 in every 3 mothers stated that the facilities are not operational on normal working hours (8am to 5 pm) and also 5 days a week. About 60% of mothers rated health personnel as friendly however 1 in 2 mothers rated the personnel, birth attendants as skilled.

According to the survey, the Linda Mama Initiative was open to all pregnant women and women with children under one year old. Registration for the program was also found to be easy and straightforward. Additionally, it was discovered that very little paperwork was needed in order to participate in the Linda Mama Initiative Scheme, and that enrollment could be completed online or at health facilities, NHIF service centers, and Huduma centers.

The study discovered that few local health facilities were open twenty-four hours a day, seven days a week, and that even fewer had maternity wings with recovery and delivery rooms. It

also discovered that most local health facilities were not located within a five-kilometer radius and that only a small percentage of local health facilities had operational utility vehicles for emergencies.

The survey also discovered that medical staff members at nearby healthcare facilities urged patients to sign up for and utilize the Linda Mama Initiative Scheme. According to the survey, healthcare professionals always encouraged pregnant women to use their Linda Mama insurance card and gave them the opportunity to ask questions about how to use the Linda Mama Initiative.

5.3 Conclusions

The key factors affecting uptake and utilization were; infrastructure, commodities (availability of services and goods). Health system factors seem to have had a higher impact on uptake and utilization of Linda mama as compared to knowledge and perceptions and sociodemographic factors.

1. From research finding number one on proportion of uptake of Linda Mama programme and utilization of services offered under the initiative among pregnant women in Kajiado North Sub-County, Kenya, we can conclude that Kajiado county's subscription to Linda mama of 26.4% was below the national goal of 100%. The hospital delivery rate of 45.6% was below the national average of 57%.

2. From research finding number two on how socio-demographic factors affect the uptake of the Linda Mama Initiative and utilization of services offered under the initiative among pregnant women in Kajiado North Sub-County, Kenya, we found out that

several socio-demographic factors ranging from age, religion, education, level of income among the other factors are not a determinant in the uptake of Linda mama.

3. As per research objective number three, knowledge and perceptions, the study concluded that the Linda Mama Initiative scheme was for all women who were expectant or have a baby less than one-year-old and that registration into Linda Mama Initiative scheme was simple and straight forward, little documentation was required before enrollment into Linda Mama Initiative Scheme and that utilization of Linda Mama services was only in health facilities. It also concluded that information concerning Linda Mama Insurance is readily available over the radio, television and even Chief's Baraza and that they were able to access information about Linda Mama Initiative via social media platforms also. Knowledge and perception positively influence uptake and utilization of Linda mama service.

4. Based on research objective number four, the study concluded that the Linda Mama Initiative's utilization in Kajiado North Sub-County is influenced by health system-related factors. Specifically, the study found that some local health facilities lacked a sufficient maternity wing that included recovery and delivery rooms, and that the local health facilities were not open twenty-four hours a day. Not to mention, the survey found that several local health facilities lacked a functional utility vehicle for emergencies and that the closest medical facilities were more than five kilometers away. The study concluded that health workers in their local health facilities encouraged them to join and use the Linda Mama Initiative Scheme and that they treated patients well whenever they visited the health facility. These characteristics of health workers influence the utilization of Linda Mama Initiative services in Kajiado North Sub-

County. Health workers in their local health facilities always talked well of Linda Mama Initiative and explained to clients how Linda Mama Initiative worked.

5.4 Recommendations

1. The participants should;

    a) utilize the services under Linda mama initiative as its free and is meant for the wellbeing of themselves and their newborns.

2. The policy makers should;

    a) Improve on infrastructure especially with regards to the distance to facilities as all the mothers do not live within a radius of 5 kilometers.
    b) look into health system factors and implement health system strengthening activities in all the pillars of health system. This will make uptake and utilization of Linda mama reach the desired target.
    c) Consider increasing Linda mama funds since the initial allocation provided per mother for Linda mama services appeared to be inadequate.

3. The implementers should;

    a) Embrace use of social media as it proved to be a good resource for information dissemination.
    b) Increase insurance coverage and access to care and partner with private sector to avail these services nearer to the mother.
    c) Encourage eligible mothers should be encouraged to enroll and utilize the services.
    d) Involve local leaders and influencers in awareness campaigns to enhance the credibility of the information and fostering trust among the pregnant women. This participatory

approach will contribute to increased knowledge levels and improved uptake of services.

e) Recommend adoption of the WHO recommended eight (8) antenatal care contacts (MOH 2023).

5.5 Suggestions for Further Research

The researcher discovered areas that require more research in order to achieve the goal of this study. Since this study was carried out in a multicultural society, a comparable investigation should be carried out and the results compared in an area where one ethnic community predominates.

The researcher also recommends studies on the intervention tailored to addressing the needs of this community where health facilities are further than the recommended five-kilometer radius distance of walking (more than one hour walking time) e.g. mobile health clinics

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APPENDICES

Appendix 1: Consent Form

I am Lydia Kendagor, a Masters of public health student at Kenya Methodist University. I am carrying out a study on to investigate the barriers to uptake of the Linda Mama initiative and utilization of services offered under the initiative with special focus on pregnant women of reproductive age (15-49 years) in Kajiado North Sub-County, Kenya. I am going to give you information and invite you to be part of this research. You do not have to decide today whether or not you will participate in the research.

Numerous studies have documented the utilization of health services among women; however, there has been limited research documenting the uptake of the Linda Mama initiative and utilization of services offered under the initiative. The research will involve you filling in a questionnaire and help will be administered if need be. Please feel free to ask questions as we go through the information and I will take time to explain. If you have questions later, you can ask.

Your participation in this research is entirely voluntary; there will be no monetary reimbursement for participation. It is your choice whether to participate or not. Whether you choose to participate or not. (You may change your mind later and stop participating even if you agreed earlier.) If you wish to ask questions later, you may contact any of the following: [name, address/telephone number/e-mail]

1. Lydia Kendagor (0727-757-471) lkendagor@gmail.com (Researcher)
2. Dr. Eunice Nyavanga (0722626240) Eunice.nyavanga@kemu.ac.ke
3. Dr. Consolata M'Mayi (0722733112) Consolata.mmayi@kemu.ac.ke

This proposal has been reviewed and approved by the KEMU ethics board, which is a committee whose task it is to make sure that research participants are protected from harm. The

knowledge that we get from doing this research will be shared with you. Confidential information will not be shared anywhere. Your participation in this research is highly valued and appreciated.

Part 2: Certificate of Consent

I have read the foregoing information and I consent voluntarily to be a participant in this study.

Print Name of Participant ……..

Signature of Participant ……..

Date ……..

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands about the study and what is required of them.

Print Name of Participant ……..

Signature of Participant ……..

Date ……..

Appendix II: Questionnaire For Expectant Mothers/Mothers With Babies Under 1 Year

Name of Health Facility……

TOPIC: BARRIERS TO UPTAKE AND UTILIZATION OF LINDA MAMA INITIATIVE AMONG WOMEN OF REPRODUCTIVE AGE (15-49 YEARS) IN KAJIADO NORTH SUB-COUNTY, KENYA

SECTION A: SOCIO-DEMOGRAPHIC DATA

1. Please indicate your age:

15-19 years	[1]	20-24 years	[2]
25-29 years	[3]	30-34 years	[4]
35-39 years	[5]	40-44 years	[6]
45-49 years	[7]		

2. Marital status:

Never married	[1]	Married	[2]
Separated	[3]	Widowed	[4]

3. Religion

Roman Catholic	[1]	Protestants/Other Christians	[2]
Muslim	[3]	No religion	[4]

4. Please indicate your present occupation?

Self-employed	[1]	Employed	[2]
Not employed	[3]		

5. Highest certificate / diploma held

None	[1]	Certificate of primary	[2]
Form four	[3]	College certificate	[4]
College diploma	[5]	Degree	[6]

Masters	[7]	PhD	[8]

6. What is the level of income per month in your family (Kenya shillings)?

Less than 10,000	[1]	11,000-15,000	[2]
16,000-20,000	[3]	21,000 – 25,000	[4]
26,000 and above	[5]		

7. How many children do you have?

None	[1]	One	[2]
Two	[3]	Three	[4]
Four	[5]	Five	[6]
More than six	[7]		

8. Please indicate the trimester you are in

First trimester	[1]	Second Trimester	[2]
Third Trimester	[3]		

SECTION B: UPTAKE OF LINDA MAMA SERVICES

9. Do you have the Linda mama services card?

Yes	[1]	No	[2]

SECTION C: BARRIERS TO UPTAKE OF LINDA MAMA

10. Please answer the Likerts scale questions to the best of your knowledge. All answers will be treated with confidentiality and used only for learning purposes. Do not write your name. Indicate your answer by tick (✓)

KEY: 5-Strongly Agree; 4-Agree; 3-Neutral; 2-Disagree; 1–Strongly Disagree

	Socio-Economic Factors	**1**	**2**	**3**	**4**	**5**
	My monthly source of income is always reliable and I don't need Linda mama Initiative	[1]	[2]	[3]	[4]	[5]
	Women in this area cannot autonomously make such decisions as uptake of Linda Mama Initiative and utilization of free maternal healthcare services.	[1]	[2]	[3]	[4]	[5]
	My financial dependence on my husband hinders me from going for Linda Mama Initiative and utilization of free maternal healthcare services.	[1]	[2]	[3]	[4]	[5]
	Women in this region seek their husbands' approval before taking up free maternal healthcare services.	[1]	[2]	[3]	[4]	[5]
	My level of education hinders me from accessing free maternal healthcare.	[1]	[2]	[3]	[4]	[5]

11. Please answer the Likerts scale questions to the best of your knowledge. All answers will be treated with confidentiality and used only for learning purposes. Do not write your name. Indicate your answer by tick (✓)

KEY: 5-Strongly Agree; 4-Agree; 3-Neutral; 2-Disagree; 1–Strongly Disagree

	Cultural Factors	**1**	**2**	**3**	**4**	**5**

	Enrollment into Linda Mama Initiative is invitation of complications during delivery.	[1]	[2]	[3]	[4]	[5]
	Early preparation for the unborn child like enrollment into Linda Mama Initiative is prohibited by my culture.	[1]	[2]	[3]	[4]	[5]
	In this region, women culturally only seek skilled care during childbirth for complications if local or herbal, remedies and prayer are defeated.	[1]	[2]	[3]	[4]	[5]
	Lack of only female midwives at the public hospitals hinders Muslim women from accessing free maternal health care services that is related to Linda Mama Initiative.	[1]	[2]	[3]	[4]	[5]
	In our culture, a mother who chooses to use Prevention of Mother To Child Transmission (PMTCT) to ensure the safety of herself and the baby, often faces the possibility of abandonment by her spouse and relatives.	[1]	[2]	[3]	[4]	[5]

12. Please answer the Likerts scale questions to the best of your knowledge. All answers will be treated with confidentiality and used only for learning purposes. Do not write your name. Indicate your answer by tick (✓)

KEY: 5-Strongly Agree; 4-Agree; 3-Neutral; 2-Disagree; 1–Strongly Disagree

	Religious Factors	**1**	**2**	**3**	**4**	**5**

	I always trust in God Almighty for divine protection more than insurance	[1]	[2]	[3]	[4]	[5]
	I do not believe in ANC insurance cover but I believe in God Almighty for divine protection	[1]	[2]	[3]	[4]	[5]
	God Almighty gives divine protection against every eventuality so there is no need for Linda Mama insurance	[1]	[2]	[3]	[4]	[5]
	God Almighty is in full control of the future so there is no need for Linda Mama insurance	[1]	[2]	[3]	[4]	[5]

13. Please answer the Likerts scale questions to the best of your knowledge. All answers will be treated with confidentiality and used only for learning purposes. Do not write your name. Indicate your answer by tick (✓)

KEY: 5-Strongly Agree; 4-Agree; 3-Neutral; 2-Disagree; 1–Strongly Disagree

	NHIF SCHEME CHARACTERISTICS					
	Channels of communication to clients	[1]	[2]	[3]	[4]	[5]
	Information concerning Linda Mama insurance is readily available over the radio T.V and even Chief's Baraza.	[1]	[2]	[3]	[4]	[5]
	Linda Mama insurance has an effective client feedback system of complains and complements.	[1]	[2]	[3]	[4]	[5]

	I am able to access information about Linda Mama Initiative via social media platforms.	[1]	[2]	[3]	[4]	[5]
	Linda Mama has embraced use of technology which include use of mobile phones and emails to communicate with clients/customers.	[1]	[2]	[3]	[4]	[5]
	Linda Mama Initiative implementation					
	Registration into Linda Mama Initiative scheme is simple and straight forward.	[1]	[2]	[3]	[4]	[5]
	Enrollment into Linda Mama Initiative Scheme takes place only in health facilities.	[1]	[2]	[3]	[4]	[5]
	Very little documentation is required before enrollment into Linda Mama Initiative Scheme.	[1]	[2]	[3]	[4]	[5]
	Linda Mama Initiative is being implemented both in public health facilities and faith based and private health facilities.	[1]	[2]	[3]	[4]	[5]
	Knowledge about Linda Mama Initiative					
	I knew about the existence of Linda Mama Initiative Scheme before I became expectant.	[1]	[2]	[3]	[4]	[5]
	I know that Linda Mama Initiative scheme is for all Kenyan women who are expectant or have a baby less than one year old.	[1]	[2]	[3]	[4]	[5]

	I know that Linda Mama Initiative is for free.	[1]	[2]	[3]	[4]	[5]
	Linda Mama Initiative does not cover the entire family but only an expectant mother and the baby up to 11 months.	[1]	[2]	[3]	[4]	[5]

14. Please answer the Likerts scale questions to the best of your knowledge. All answers will be treated with confidentiality and used only for learning purposes. Do not write your name. Indicate your answer by tick (✓)

KEY: 5-Strongly Agree; 4-Agree; 3-Neutral; 2-Disagree; 1–Strongly Disagree

	HEALTH FACILITY FACTORS	**1**	**2**	**3**	**4**	**5**
	Accessibility to the Health Facility					
	My nearest health facility is less than 5km away.	[1]	[2]	[3]	[4]	[5]
	I do not pay anything to access services relevant to child birth in my local health facility.	[1]	[2]	[3]	[4]	[5]
	It takes me less than one hour to be served in my local health facility.	[1]	[2]	[3]	[4]	[5]
	There are no religious or cultural barriers that can hinter me from accessing Linda Mama services in my local health facility.	[1]	[2]	[3]	[4]	[5]
	Operation hours of the Health Facility					
	My local health facility is operational 24 hours seven days/week.	[1]	[2]	[3]	[4]	[5]

	In my local health facility post natal clinic is operational from 8.00 am to 5.00 pm 5 days per week.	[1]	[2]	[3]	[4]	[5]
	In my local health facility, one does not need an appointment to be seen for 1st ANC.	[1]	[2]	[3]	[4]	[5]
	In my local health facility ANC and CWC are operational from 8.00 am to 5.00 pm 5 days per week.	[1]	[2]	[3]	[4]	[5]
	Infrastructure of the Health Facility					
	My local health facility has enough clean toilets and bath rooms.	[1]	[2]	[3]	[4]	[5]
	My local health facility has maternity wing which has a delivery room and a recovery room.	[1]	[2]	[3]	[4]	[5]
	My local health facility has enough medical equipment like X-ray and others.	[1]	[2]	[3]	[4]	[5]
	My local health facility has a functioning utility vehicle for emergency.	[1]	[2]	[3]	[4]	[5]

15. Please answer the Likert's scale questions to the best of your knowledge. All answers will be treated with confidentiality and used only for learning purposes. Do not write your name. Indicate your answer by tick (✓)

KEY: 5-Strongly Agree; 4-Agree; 3-Neutral; 2-Disagree; 1–Strongly Disagree

	HEALTH WORKER'S CHARACTERISTICS					
	Attitude towards Linda Mama Initiative Scheme	**1**	**2**	**3**	**4**	**5**
	All Health workers in my local health facility usually receive me well whenever I visit the health facility.	[1]	[2]	[3]	[4]	[5]
	The health workers in my local health facility always talk well of Linda Mama Initiative.	[1]	[2]	[3]	[4]	[5]
	Heath workers in my local health facility encouraged me to join Linda Mama Initiative Scheme.	[1]	[2]	[3]	[4]	[5]
	Health workers in my local health facility explained to me how Linda Mama Initiative.	[1]	[2]	[3]	[4]	[5]
	Health workers in my local health facility advised me to be using Linda Mama insurance card whenever I'm expectant.	[1]	[2]	[3]	[4]	[5]
	The health workers in my local health facility always allow me to ask any question concerning use of Linda Mama Initiative.	[1]	[2]	[3]	[4]	[5]
	Health workers in my local health facility are always friendly to me whenever I visit the health facility.	[1]	[2]	[3]	[4]	[5]

16. Please answer the Likert's scale questions to the best of your knowledge. All answers will be treated with confidentiality and used only for learning purposes. Do not write your name. Indicate your answer by tick (✓)

KEY: 5-Strongly Agree; 4-Agree; 3-Neutral; 2-Disagree; 1–Strongly Disagree

	Quality of services					
	The lack of skilled birth attendance at public hospitals hinders women from accessing free maternal health care services	[1]	[2]	[3]	[4]	[5]
	Lack of quality emergency obstetrical care at the public hospitals hinders women from accessing free maternal health care services.	[1]	[2]	[3]	[4]	[5]
	Lack of quality reproductive health care at the public hospitals hinders women from accessing free maternal health care services.	[1]	[2]	[3]	[4]	[5]
	Cases of abuse and mistreatment at the public hospitals hinders women from accessing free maternal health care services.	[1]	[2]	[3]	[4]	[5]
	Cases of negligence of patients at the hands of staff at the Public hospitals hinders women from accessing free maternal health care services.	[1]	[2]	[3]	[4]	[5]

	Poor supervision and understaffing at the public hospitals hinders women from accessing free maternal health care services.	[1]	[2]	[3]	[4]	[5]

17. How would you describe the quality of services with regard to maternal healthcare at the public hospital?

……

……

……

SECTION D: UTILIZATION OF SERVICES UNDER LINDA MAMA INITIATIVE

1. Are you enrolled in Linda Mama Initiative? Yes/No
2. If yes in 1 above, please tick where necessary.

	True	False
I was encouraged to enroll for Linda mama by spouse	[1]	[2]
I was encouraged to enroll for Linda mama by parents/guardian	[1]	[2]
I was encouraged to enroll for Linda mama by friends	[1]	[2]
I was encouraged to enroll for Linda mama by relatives	[1]	[2]
I was encouraged to enroll for Linda mama by media TV, radio etc	[1]	[2]
I encouraged myself to enroll for Linda mama	[1]	[2]
I was encouraged to enroll for Linda mama by community health workers	[1]	[2]

I was encouraged to enroll for Linda mama by health workers		

3. How many ANC visits have you made?

   None [1] Less than four [2]

   Five and above [3]

4. At what stage of your pregnancy did you begin ANC visits? (show card)

   First trimester (Month 1, 2, 3)[1]

   Second trimester (Month 4, 5, 6) [2]

   Third trimester (Month 7, 8, 9) [3]

5. Did your health care provider make you aware of the ANC services offered at the health facility?

   Yes [1] No [2]

6. During the ANC visits, were any of the following done to you at least once?

		Yes	No	Don't know
	Asked history of previous delivery, complications and health condition?	[1]	[2]	[3]
	Asked history of current pregnancy?	[1]	[2]	[3]
	Was your blood pressure measured?	[1]	[2]	[3]
	Did you give urine sample?	[1]	[2]	[3]
	Did you give blood sample?	[1]	[2]	[3]

	Were you given an injection in the arm to prevent the baby from getting **tetanus** (convulsions) after birth? **If yes, how many times?**	[1] [……]	[2]	[3]
	Were you given or told to buy **Iron/Folic** tablets or iron syrup? **How many times did you take the syrup?**	[1] [……]	[2]	[3]
	Did you take any drugs to prevent you from getting malaria? **How many times did you take anti-malarial tablets?**	[1] [……]	[2]	[3]
	Were you given an appointment for a return ANC visit?	[1]	[2]	[3]
	Were you assisted to calculate the expected date of delivery?	[1]	[2]	[3]
	Were you advised on diet, rest and exercise?	[1]	[2]	[3]
	Were you counseled or given information on VCT for HIV/AIDS?	[1]	[2]	[3]
	Were you counseled on PMTCT for HIV/AIDS?	[1]	[2]	[3]
	Were you counseled on prevention of STIs and HIV?	[1]	[2]	[3]
	Were you counseled on family planning methods?	[1]	[2]	[3]
	Were you counseled on the use of drugs during pregnancy?	[1]	[2]	[3]
	Were you given information or counseled about breastfeeding?	[1]	[2]	[3]

	Were you told about danger signs/complications in pregnancy?	[1]	[2]	[3]
	Were you told where to go in-case of these complications?	[1]	[2]	[3]
	Were you told of complications/danger signs during delivery or child birth or soon after?	[1]	[2]	[3]
	Were you told how to plan for childbirth and where to deliver?	[1]	[2]	[3]
	Were you advised on practices of personal hygiene and on harmful habits such as smoking, alcoholism or drug abuse?	[1]	[2]	[3]

7. How many times in total did you receive ANC in the entire pregnancy period?
8. Did you pay for ANC services?

   Yes [1] No [2]

9. (If answer on 13 above is yes) Was it affordable to you?

   Yes [1] No [2]

10. How would you rate these services based on a four point Likert scale (1-4) where fully satisfied = 4, satisfied = 3, somewhat dissatisfied = 2 and dissatisfied = 1. For each aspect please tick the appropriate box on the right.

Rating	Fully satisfied	Satisfied	Somewhat dissatisfied	Dissatisfied
Initial directions given	[1]	[2]	[3]	[4]
Replies to queries/doubts	[1]	[2]	[3]	[4]

Courtesy of healthcare workers	[1]	[2]	[3]	[4]

11. How long did it take to be attended in the admission desk?

Rating	0-10 min	11-20 min	21-30 min	Over 30 min
Nurse	[1]	[2]	[3]	[4]
Doctor	[1]	[2]	[3]	[4]

12. How long would you rate the service in the labour ward?

Rating	Fully satisfied	Satisfied	Somewhat dissatisfied	Dissatisfied
During labour	[1]	[2]	[3]	[4]
During delivery	[1]	[2]	[3]	[4]
After delivery	[1]	[2]	[3]	[4]

13. Physical environment

Rating	Fully satisfied	Satisfied	Somewhat dissatisfied	Dissatisfied
Cleanliness of the ward	[1]	[2]	[3]	[4]

Availability of ward	[1]	[2]	[3]	[4]
Availability of wards and linen	[1]	[2]	[3]	[4]
State of the sanitary facilities in the ward	[1]	[2]	[3]	[4]
Privacy	[1]	[2]	[3]	[4]
Confidentiality	[1]	[2]	[3]	[4]

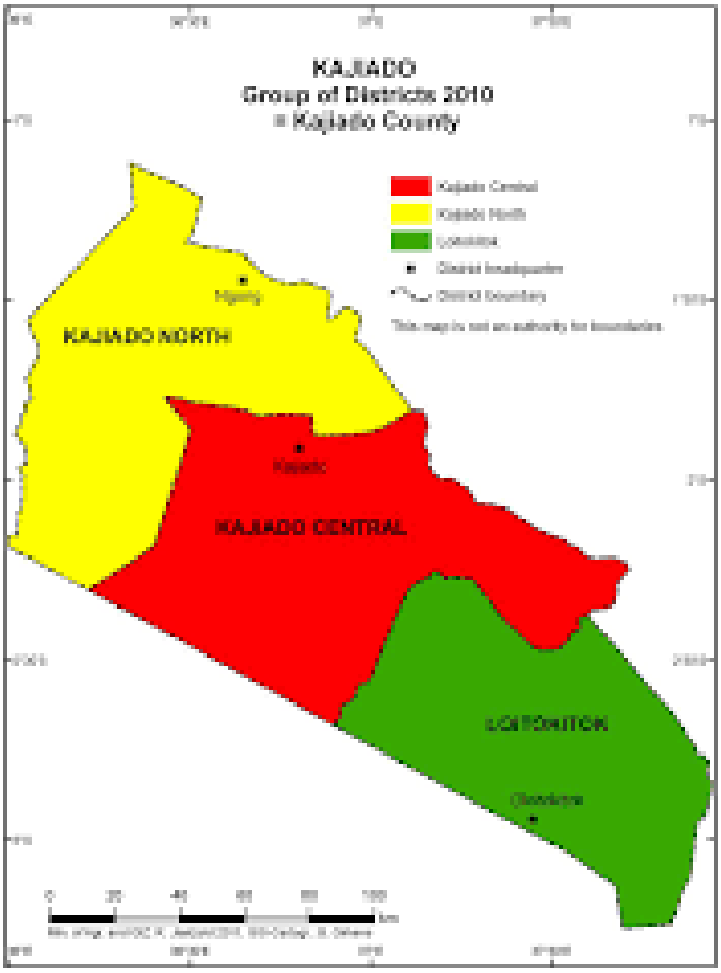
SECTION F: UPTAKE AND UTILIZATION (DEPENDANT VARIABLES)

QUESTIONS

	Hospital delivery	Yes	No
	I delivered in a health facility. If yes move to Q F	[1]	[2]
	If no to question G, were you delivered by a health worker?	[1]	[2]
	I used Linda Mama during my last delivery	[1]	[2]
	I have a Linda Mama card	[1]	[2]
	I paid cash for my last delivery	[1]	[2]
	ANC attendance		

	I attended 4 ANC visits	[1]	[2]
	Did you know about Linda Mama before you started attending ANC?	[1]	[2]
	Did you use Linda Mama card during ANC visits?	[1]	[2]
	Post Natal Clinic attendance		
	I paid cash for registration during my PNC checkup	[1]	[2]
	I presented my Linda Mama card during registration for my Post Natal clinic check up	[1]	[2]
	I paid cash for my child welfare clinic	[1]	[2]
	I presented my Linda Mama card during visits	[1]	[2]

Appendix III: Map of Kajiado County



Appendix IV: Research Permit from Nacosti

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **295334**

Date of Issue: **25/May/2021**

RESEARCH LICENSE

This is to Certify that Ms.. Lydia cheruiyot Kendagor of Kenya Methodist University, has been licensed to conduct research in Kajiado on the topic: BARRIERS TO UPTAKE AND UTILIZATION OF LINDA MAMA INITIATIVE AMONG WOMEN OF REPRODUCTIVE AGE (15-49 YEARS) IN KAJIADO NORTH SUB-COUNTY, KENYA. for the period ending : 25/May/2022.

License No: **NACOSTI/P/21/10670**

295334

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.

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 KeMU SERC.

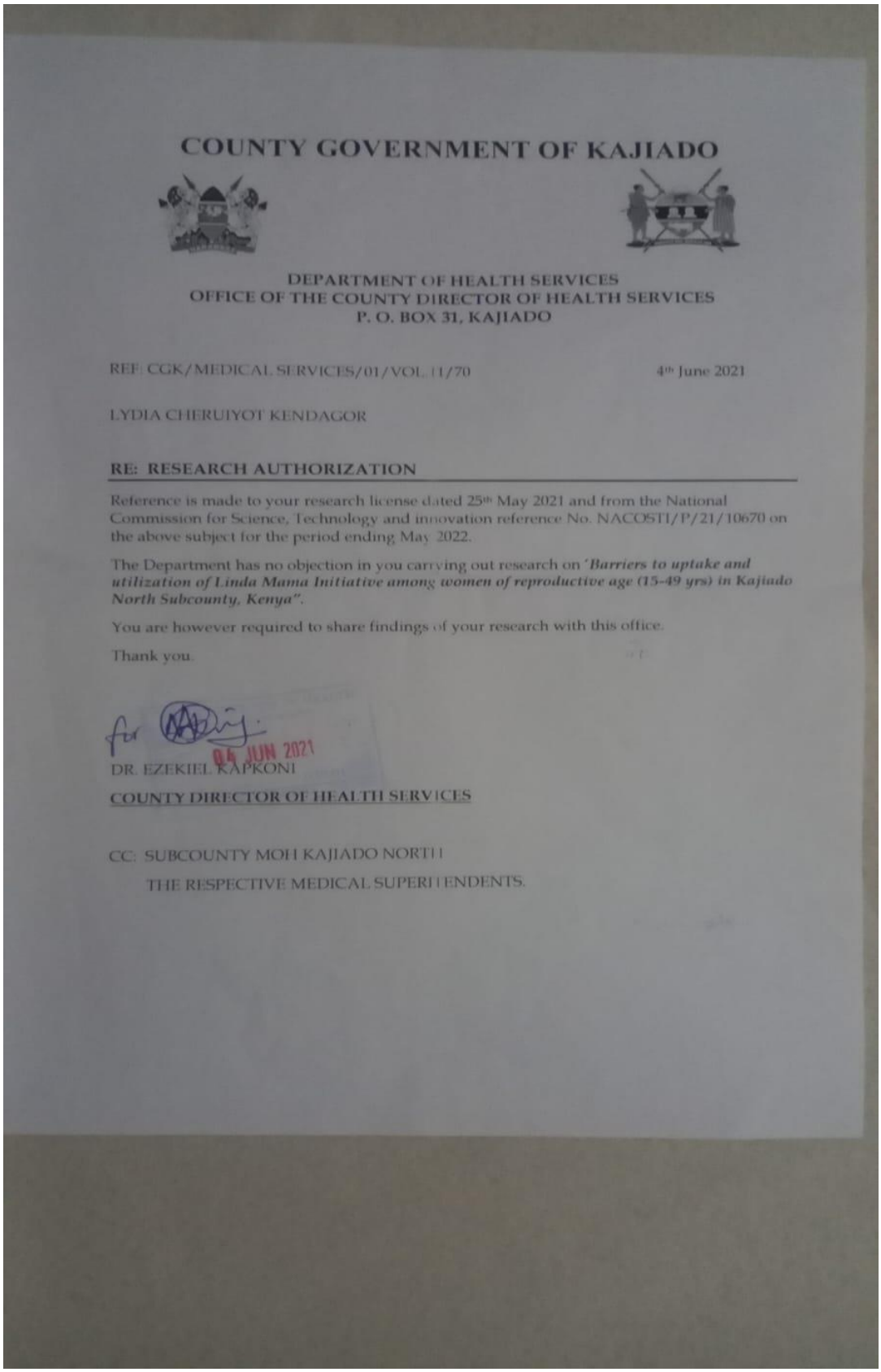
Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://oris.nacosti.go.ke and also obtain other clearances needed.

Yours sincerely,

METHODIST UNIVERSITY KEMU, SERC P.O. Box 267 - 60200, MERU

Dr. A. WAMACHI
Chair, SERC

Appendix V:Approval from County Government of Kajiado



COUNTY GOVERNMENT OF KAJIADO

DEPARTMENT OF HEALTH SERVICES
OFFICE OF THE COUNTY DIRECTOR OF HEALTH SERVICES
P. O. BOX 31, KAJIADO

REF: CGK/MEDICAL SERVICES/01/VOL. 11/70 4th June 2021

LYDIA CHERUIYOT KENDAGOR

RE: RESEARCH AUTHORIZATION

Reference is made to your research license dated 25th May 2021 and from the National Commission for Science, Technology and innovation reference No. NACOSTI/P/21/10670 on the above subject for the period ending May 2022.

The Department has no objection in you carrying out research on '***Barriers to uptake and utilization of Linda Mama Initiative among women of reproductive age (15-49 yrs) in Kajiado North Subcounty, Kenya***".

You are however required to share findings of your research with this office.

Thank you.

for 04 JUN 2021

DR. EZEKIEL KAPKONI
COUNTY DIRECTOR OF HEALTH SERVICES

CC: SUBCOUNTY MOH KAJIADO NORTH
THE RESPECTIVE MEDICAL SUPERINTENDENTS.

Appendix VI: Ethical Approval

KENYA METHODIST UNIVERSITY
P. O. BOX 267 MERU - 60200, KENYA FAX: 254-64-30162
TEL: 254-064-30301/31229/30367/31171 EMAIL: serc@kemu.ac.ke

April 26, 2021 KeMU/SERC/PHT/16/2021

Lydia Kendagor
Kenya Methodist University

Dear Lydia,

SUBJECT: BARRIERS TO UPTAKE AND UTILIZATION OF LINDA MAMA INITIATIVE AMONG WOMEN OF REPRODUCTIVE AGE (15-49 YEARS) IN KAJIADO NORTH SUB COUNTY, KENYA

This is to inform you that Kenya Methodist University Scientific Ethics and Review Committee has reviewed and approved your above research proposal. Your application approval number is KeMU /SERC/PHT/16/2021. The approval period is 26th April 2021 – 26th April 2022.

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 Kenya Methodist University Scientific Ethics and Review committee.

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 KeMU SERC within 72 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 KeMU SERC within 72 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 KeMU SERC.

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,

METHODIST UNIVERSITY KEMU, SERC P.O. Box 267 - 60200, MERU

Dr. A. WAMACHI
Chair, SERC

Appendix VII: Adoption of 8 Antenatal care contacts memo (MOH Kenya)

MINISTRY OF HEALTH

OFFICE OF THE DIRECTOR GENERAL FOR HEALTH

Telephone: Nairobi 254-020-2717077
Fax: 254-2719008
Email: dg@health.go.ke

AFYA HOUSE
CATHEDRAL ROAD
P. O Box 30016-00100
NAIROBI

When replying please quote:

MOH/ADM/1/1/2

7th August 2023

All County Executive Committee Members of Health
All County Directors of Health
All Health Facility In-charges

COUNCIL OF GOVERNORS
RECORDS MANAGEMENT OFFICE
09 AUG 2023
RECEIVED
P. O. Box 40401-00100, NAIROBI

Thro'

The Chief Executive Officer
Council of Governors
Delta House-Westlands
P.O. Box 40401
NAIROBI

RE: ADOPTION OF THE WHO RECOMMENDED EIGHT (8) ANTENATAL CARE CONTACTS

On 7th November, 2016, the World Health Organization (WHO) released its comprehensive recommendations on routine Ante-Natal Care (ANC) for pregnant women and adolescent girls and this model entailed 8 contacts. The justification of the recommended 2016 ANC Model included the following;

- Evidence suggesting increased perinatal deaths in 4-visit ANC model.
- Evidence supporting improved safety during pregnancy through increased frequency of maternal and fetal assessment to detect complications.
- Evidence indicating that more contact between pregnant women and respectful, knowledgeable health care workers is more likely to lead to a positive pregnancy experience.
- Evidence from HIC studies indicating no important differences in maternal and perinatal health outcomes between ANC models that included at least eight contacts and ANC models that included 11 to 15 contacts.

The Ministry of Health through the Division of Reproductive and Maternal Health revised the National Guidelines for Quality Obstetrics and Perinatal care in 2022 to align with the WHO ANC recommendations. Antenatal care models with a minimum of eight contacts are recommended to reduce perinatal mortality and improve women's experience of care.

The purpose of this letter is to bring to your attention of the WHO ANC recommendations and request you to **immediately** start implementing the **eight (8) Antenatal Care contacts** while offering maternal new born health care services in all the health facilities.

Thank you for your continued support.

Dr. Patrick Amoth, EBS
Ag. DIRECTOR GENERAL FOR HEALTH

Copy to: **Faith Based Organizations**
Private Health Facilities