

**EVALUATION OF FACTORS ASSOCIATED WITH UTILIZATION OF
POSTNATAL CARE SERVICES AT KAJIADO COUNTY: NHIF LINDA MAMA
PROGRAMME**

NYAGA DAISY CATHERINE WAWIRA

**A THESIS SUBMITTED TO THE SCHOOL OF MEDICINE AND HEALTH
SCIENCES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
CONFERMENT OF THE DEGREE OF MASTER OF SCIENCE IN PUBLIC
HEALTH OF KENYA METHODIST UNIVERSITY**

SEPTEMBER, 2024

DECLARATION AND RECOMMENDATION

Declaration

I declare this thesis is my original work that has never been presented in any other university for award of any degree or diploma.

Sign:

Date:13/09/2024.....

Nyaga Daisy Catherine Wawira

PHT/3/1879/3/2017

Recommendations

This thesis has been recommended by the university supervisors for the examination purposes.

Sign:

Date:

Dr. Job Mapesa, PhD

Department of Public Health Human Nutrition and Dietetics,

School of Medicine and Health Sciences

Kenya Methodist University

Sign:

Date:

Emily Muchina

Department of Nursing,

School of Medicine and Health Sciences

Kenya Methodist University

COPYRIGHT

© Nyaga Daisy Catherine Wawira

All rights reserved. No part of this thesis may be reproduced, stored in any retrieval system or transmitted in any form or by any means, electronically, mechanically, by photocopying or otherwise, without prior written permission of the author or Kenya Methodist University, on that behalf.

DEDICATION

I dedicate this thesis to my husband Jackson Mogeni Machogu and my children, Lakeisha, Latoya and Leroy. To my late father, Nyaga, I hope this achievement realizes the dream you envisioned for me.

ACKNOWLEDGEMENT

I wish to express my utmost gratitude to the Almighty God for the abundant blessings and grace to undertake this academic journey. Additionally, am thankful to my supervisors Dr. Job Mapesa, PhD and Emily Muchina, for the invaluable guidance and encouragement throughout the process. I cannot forget my immediate family members for their continuous encouragement when things got tough especially through the Covid 19 pandemic. Further, the immense contribution that my work colleagues and classmates cannot be taken for granted. They provided a conducive environment that allowed my personal and professional growth. Am also grateful to KeMU for providing a health science course and competent lecturers that would propel me into the making significant contributions to my field through research. Every respondent that took part to answer the research instruments are also hereby appreciated and it was through them that this study became successful. I would also like to appreciate other parties that took part into the study such as NACOSTI who issued permit, department of health sciences-office of the county director of health sciences, Kajiado County and KeMU library department for their guidance to APA adherence.

ABSTRACT

Post-natal care has been demonstrated as an integral component in the continuum of care, as it greatly helps in reducing maternal and infant morbidity and mortality. However, the uptake of the post-natal services has been low despite the fact that these services are offered for free by the government through the Linda Mama program. The general objective was to evaluate factors associated with the utilization of post-natal care services in Kajiado County. The study examined socio-demographic characteristics of mothers, perception of mothers on Linda Mama PNC, knowledge and attitudes, and the availability of healthcare facility infrastructure. This is because there was low PNC utilization which was linked to upsurge of post-maternal deaths in Kajiado county. The study adopted Anderson behavioral model for health services utilization. A cross-sectional study using both qualitative and quantitative data collection methods. A target population of 6,322 mothers who had deliveries 1st April 2019 to 30th sept. 2019 in Kajiado County was considered. Additionally, there Key Interview Informants selected included a representation of the mothers receiving care at the facility, government official (local administration), a community elder, a sub county nursing officer, and a disease surveillance officer, were included in the study. The sample size of the mothers was determined using Heinisch formular to have 363 mothers that were selected using simple random method. The mothers answered questionnaires while the Key Informants were interviewed. The research instruments were pretested in nearby facilities in Machakos County as part of the Linda Mama program. Three types of validity such as content, criterion, and construct were examined and Cronbach Alpha was used in measuring reliability. Authority to carry out the research was sought from the KeMU university, NACOSTI and from the office of the county director of health sciences, Kajiado County. The findings on the perception of mothers were that, majority of them were not aware of the existence of free PNC services offered through the Linda mama program. The study findings further point out that only 12(4%) of the mothers knew that there were free PNC services offered under Linda mama program. It was also discovered that only 3(1%) of the mothers had actually utilized the PNC free services of the program. The study's conclusion on socio-demographic characteristics of the mothers is that most mothers lacked money to buy nutritious food, so as to have more supply of breast milk and also pay for any emerging post-delivery complications related to the baby or their health. On the perception of mothers is that, majority of them were not aware of the existence of free PNC services offered through the Linda mama program. On knowledge and attitudes is that mothers made assumption that since they had prior experience in child bearing, they did not require the PNC services. On availability of infrastructure is that hospital did not have a proper documentation of the Linda mama PNC services. The study recommends that the hospital management should recruit added number of CHVs, nurses and nutritionists to offer mobile PNC services. Their services should involve offering vigorous sensitization trainings of Linda mama program services such as on the importance of PNC services. To ensure a smooth flow, the hospital management should empower work policies that allow frequent spot check audits of PNC service documentation.

TABLE OF CONTENTS

DECLARATION AND RECOMMENDATION	i
COPYRIGHT	ii
DEDICATION.....	iii
ACKNOWLEDGEMENT.....	iv
ABSTRACT.....	v
LIST OF TABLES	viii
LIST OF FIGURES	ix
ABBREVIATIONS AND ACRONYMS.....	x
CHAPTER ONE	11
INTRODUCTION.....	11
1.1 Background of the Study	11
1.2 Statement of the Problem.....	15
1.3 General Objective	16
1.4 Specific Objectives	16
1.5 Research Questions.....	17
1.6 Justification of the Study	17
1.7 Significance of the Study	19
1.8 Scope of the Study	20
1.9 Limitations of the Study.....	20
1.10 Delimitations of the Study	20
1.11 Assumptions of the Study	21
1.12 Operational Definition of Terms.....	21
CHAPTER TWO	23
LITERATURE REVIEW	23
2.1 Introduction.....	23
2.2 Post-natal Care	23
2.3 Factors Associated with the Utilization of Post-Natal Services	25
2.4 Summary of Gaps	30
2.5 Theoretical Review	33

2.6 Conceptual Framework.....	35
CHAPTER THREE	38
RESEARCH METHODOLOGY	38
3.1 Introduction.....	38
3.2 Research Design.....	38
3.3 Target Population.....	38
3.4 Sampling Technique and Sample Size.....	40
3.5 Data Collection Instruments	42
3.6 Pre-Testing.....	42
3.7 Data Collection Procedure	45
3.8 Data Analysis and Presentation	45
3.9 Ethical Considerations	45
CHAPTER FOUR.....	47
RESULTS AND DISCUSSION	47
4.1 Introduction.....	47
4.2 Response Rate	47
4.3 Socio-demographic Characteristics of the mothers and Utilization of PNC	48
4.4 Perception of Mothers on the Linda Mama Post-Natal Services.....	54
4.5 Knowledge and Attitude, and Utilization of PNC Services in Kajiado County.....	63
4.6 Availability of Infrastructure and Utilization of PNC services.....	69
4.7 Utilization of PNC services	74
CHAPTER FIVE	82
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	82
5.1 Introduction.....	82
5.2 Summary of Results.....	82
5.3 Conclusions of the Study	88
5.4 Recommendations of the Study	89
5.5 Suggestion for Future Studies.....	91
REFERENCES.....	92
APPENDICIES	103

LIST OF TABLES

Table 3.1: Sampling Frame Showing Samples from each NHIF Branch Jurisdiction	41
Table 3.2: Reliability Results.....	44
Table 4.1: Socio-demographic Characteristics of mothers	48
Table 4.2: Maternal Health Service Utilization	50
Table 4.3: Chi-square Test on Socio-demographic Characteristics of the mothers.....	53
Table 4.4: Perception of Mothers on the Linda Mama Post-natal Services.....	55
Table 4.5: Perceptions and Attitudes Towards Post-Natal Services.....	58
Table 4.6: Chi-square Test on Perception of mothers on the Linda Mama PNC	62
Table 4.7: Binary Logistic Analysis of Perception of mothers on the Linda Mama PNC	63
Table 4.8: Knowledge and Attitudes and Utilization of PNC Services	64
Table 4.9: Chi-square Test on Knowledge and Attitude and the Utilization of PNC	68
Table 4.10: Availability of Infrastructure and Utilization of PNC Services.....	70
Table 4.11: Chi-square Test on Availability of Infrastructure and Utilization of PNC...	73
Table 4.12: Utilization of PNC Services.....	75
Table 4.13: Previous Birth Experiences.....	77
Table 4.14: Chi-Square Results of Factors Associated with Utilization of PNC	81

LIST OF FIGURES

Figure 2.1: Conceptual Framework	36
---	----

ABBREVIATIONS AND ACRONYMS

ANC	Antenatal Care
GoK	Government of Kenya
HCI	Health Care Infrastructure
ID	Identification Card
KDHS	Kenya Demographic and Health Survey
KII	Key Informant Interviews
MOH	Ministry of Health
MPHS	Ministry of Public Health and Sanitation
NGO	Non-Governmental Organizations
NHIF	National Health Insurance Fund
PNC	Post-natal care/services
TBA	Traditional Birth Attendant
TCA	To Come Again
UNDP	United Nations Development Programme
UTIs	Urinary Tract Infections
WHO	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Maternal and child health has had a great improvement in the recent past, and this can be owed to the United Nations Sustainable development goals (Ndaruhutse, 2023). Child deaths that are preventable dropped by more than half and maternal mortality went down by a similar margin (Kikuchi et al., 2018). Considerably, some numbers though have remained high like 6 million children succumbing every year before they attained the age of five years, out of these, 40% die within the first 28 days of life, (during the neonatal period) (Javadi et al., 2023). Mothers and babies are at high risk of acquiring infections, like neonatal sepsis and other complications like post-partum hemorrhage which may lead to health complications and also death, in the first days after birth (Kokedo & Chepchirchir, 2023). Notably, 830 women globally lose their lives every day resulting from the two conditions that are preventable (Burnett-Zieman et al., 2021). These include post-partum hemorrhage and post-partum infections which are encountered during the post-natal period and are preventable if optimal post-partum care is given (World Health Organization [WHO], 2020a).

The absence of a well-defined postnatal care package is noted as a significant gap, which may contribute to a discontinuity between maternal and child health programs. (Kerber et al., 2007). These deaths are preventable if the post-natal services availed by the government through the NHIF ‘Linda mama’ program, are utilized properly. The

postnatal period according to WHO is defined as that period from an hour after the delivery of the placenta and it also encompasses the six weeks that follows. When referring to the mother alone, the period is known as postpartum period, and is referred to as postnatal when it includes both the mother and the child. The services offered during this time are known as post-natal care (PNC) services.

The WHO recommends that after a simple and uneventful vaginal birth conducted in a health facility, the mothers and their newborn children should be taken care of in the healthcare facility for a minimum of 24 hours after birth (Spector et al., 2012). However, most of the mothers delivering in the health facilities are discharged in less than the stipulated period after delivery. The Ministry of Health (MoH) has designed the post-natal care to have four (4) targeted assessments with the recommended timings for mother and baby; within 48 hours after birth, 1-2 weeks, 4-6 weeks and within 4-6 months (The Ministry of Health [MOH], 2011).

In Kenya it is recorded that 53% of women do not get any postnatal care and only less than a fifth get the postnatal care within 41 days after delivery Kenya Demographic and Health Survey [KDHS] (2022). The situation improved as explained in the (KDHS 2022), where 53% of mothers received postnatal care services within the important period of two days' following delivery, 43% of the mothers did not get any postnatal checkup during the first six weeks after delivery (KDHS, 2022). Maternal mortality ratio in Kenya has stayed high at 362 deaths per 100,000 live births, (KDHS, 2022). This is despite measures and programs being in place to address maternal health care. This does not suggest a failure in these interventions, but a possible existence of gaps in service delivery

and utilization-like quality of care provided; completing the continuum of care from the focused antenatal visits; delivery by a skilled health worker and attending the prerequisite post-natal visits; and people's attitudes and knowledge towards these services. Kajiado County has a total population of 687,312 whereby 342,169 of which are women. According to a report done by the World Bank (2020) indicated that 39.7% of deliveries in Kajiado were delivered in a health center, which was higher than the national target of 37.5%. Considerably, 39.8% of these deliveries were conducted by qualified medical personnel, (doctors, midwives, nurses) which was also slightly higher than the country's target of 37.6%.

Three of the sustainable development goals are geared towards the reduction of maternal mortality and morbidity (United Nations Development Programme [UNDP], 2024). In the first goal related to the alleviation of poverty, ensured that poverty does not prevent the mothers from seeking services in terms of being able to pay for the services and also affording to pay for transport to the health centers where the maternal services are offered. In the third goal related to strive for healthy lives, and fifth goal that seeks to achieve gender equality. In this regard, the former president through a presidential declaration, in 2013, announced that the fees payable by mothers seeking maternity services in public health facilities in Kenya would be abolished. This led to launch of the free maternity care program. The program entailed the tailoring of a benefit package that included care during the pregnancy, (antenatal care) delivery and care of both the mother and the child after delivery (postnatal care) services.

In July 2016, the free maternity program was handed over to National Health Insurance Fund and it was rebranded to 'Linda Mama'. NHIF is a government entity under the ministry of health that is mandated to offer sustainable, accessible and equitable health services to members. It is a social health insurance that has a mandatory contributory scheme by all persons in the formal sector, a voluntary membership in the informal sector is also included. The program was implemented in three phases where in 2017, NHIF paid for deliveries only, in private and faith-based healthcare facilities. Phase two included the GoK healthcare facilities. Phase three entailed the comprehensive package that included antenatal and post-natal care. The program is designed to provide a package of basic health services to be accessed by the targeted population (all pregnant women), on need basis and not on their paying ability. This program is publicly funded and ensures all pregnant women and infants are able to access quality and affordable health services.

The program's goal is to "Achieve universal access to maternal and child health services and contribute to the country's progress towards UHC". The antenatal care package includes: Antenatal profile, preventive services (Tetanus toxoid injections, Malaria prophylaxis, deworming, Iron and folate administration and prevention of mother to child Transmission (PMTCT). The services are spread into four (4) focused visits before the delivery of the baby. The post-natal care package is designed to take care of the mother and the newborn for up to 6months after delivery. It encompasses a minimum of four focused and personalized visits/assessments, in the first 48 hours after birth, 1-2 weeks after birth, 4-6 weeks after birth and within 4-6 months after birth.

The availability of these services and their being offered for free through Linda Mama' have contributed to a reduction of the maternal and child deaths, but the rates are still at 362 deaths per every 100,000 live births (Gitobu et al., 2018; Owuor & Amolo, 2019). The possible gap existing in the utilization of the post-natal services includes studies such as those of Mwangi et al. (2018) & Gee et al. (2019). Mwangi et al. (2018) explored on the need to have skilled staff attending to mothers but did not assess the perception of the mothers towards accepting and utilizing the PNC services in Kenya. Further Gee et al. (2019) evaluated the sociocultural context but not socio-economic factors affecting the utilization of PNC services among the Somali refugees in UNHCR Kenyan camps. Therefore, this is closely attributed to the utilization of the post-natal services in the reduction of maternal and neonatal deaths caused by conditions like post-partum hemorrhage, post-partum depression and sepsis (Gee et al., 2019; Mwangi et al., 2018). Seeking maternal services including post-natal care services is determined by several factors that includes the knowledge of the availability of the services, accessibility of the services, socio demographic factors and cultural factors (Akunga, et al., 2014).

1.2 Statement of the Problem

Since July 2017, 2,240,898 mothers had registered with the Linda Mama program under NHIF countrywide. In Kajiado County, 37,918 mothers had been registered under the same program. The utilization of the services was on the rise where, 6,322 deliveries were conducted in the contracted facilities, and the claims paid to the respective facilities. 21,403 outpatient visits had been recorded, of these, 16,422 were ANC visits and 3,779 were PNC visits.

The numbers throughout the continuum of care ought to be consistent, in that the number of mothers seeking antenatal services needed to translate into deliveries assisted by skilled health professional and also similar numbers ought to continue to the post-natal services up to six (6) months after delivery. This was because when there was low PNC utilization, various post-delivery complications like postpartum hemorrhage, postpartum depression, infection in the umbilical cord, and puerperal sepsis led to high mortality rates among mothers and their babies.

In Kajiado county, Kokedo and Chepchirchir (2023) pointed out that there was low PNC utilization which was linked to upsurge of post-maternal deaths in the region. The disparities signified an existing gap that needed to be addressed to reduce the number of mothers and infants that were exposed to dangers when they failed to seek the available services (Mwangi et al., 2018). The study explored the factors affecting the uptake of postnatal services under the Linda Mama program in Kajiado County.

1.3 General Objective

To evaluate the factors associated with the utilization of post-natal care services in Kajiado County.

1.4 Specific Objectives

- i. To determine the association of socio-demographic characteristics of the mothers with the utilization of PNC services in Kajiado County.
- ii. To assess the perception of mothers on the Linda Mama Post-Natal services in Kajiado County.

- iii. To establish the association of knowledge and attitudes with the utilization of PNC services in Kajiado County.
- iv. To determine if availability of healthcare facility infrastructure plays a role in the utilization of PNC services in Kajiado County.

1.5 Research Questions

- i. How do socio-demographic characteristics of the mothers' associate with the utilization of PNC services in Kajiado County?
- ii. What is the perception of mothers on the Linda mama post-natal services by the mothers in Kajiado County?
- iii. How does knowledge and attitudes associate with the utilization of PNC Services in Kajiado County?
- iv. How does availability of healthcare facility infrastructure affect the utilization of PNC services in Kajiado County?

1.6 Justification of the Study

Maternal and child mortality have been decreasing with the utilization of maternal health services. Postnatal care in particular has prevented most of the maternal and child illness and death. The care given to the mothers and their newborns during the post-natal period has helped the healthcare providers to identify any postpartum complications and give timely managements and interventions. Around 60% and 30% maternal and neonatal deaths respectively occur over the small period between the beginning of labor and the first 24 hours post-delivery (Lawn, et al.,2011).

The study aimed at examining the perception of the Linda Mama program by the mothers, sociodemographic characteristics, knowledge and attitudes and the availability of infrastructure and their association with the uptake of PNC services in Kajiado County. The study was important as there were concerted efforts to reduce the maternal and child health outcomes not only in Kenya but also on a global scale. From the number of mothers attending ANC care, and those having deliveries conducted by a skilled health worker, it is expected that a similar number would translate to those seeking PNC, but this has not been the case, signifying a gap which needed to be addressed either on policy level or implementation of existing policies (Mwangi, et al., 2018).

In Kajiado County, 37,918 mothers were registered under the same program. The utilization of the services has been on the rise where, 6,322 deliveries have been conducted in the contracted facilities, and the claims paid to the respective facilities. Notably, 21,403 outpatient visits have been recorded, of these, 16,422 were ANC visits and 3,779 are PNC visits. (NHIF payment system). This showed that the utilization of PNC was very low as compared to the other available services such as ANC services. This is in despite the increased number of births as deliveries conducted by a skilled health worker in Kajiado County health facilities increased by 88% in 2018 after 4,724 mothers delivered in hospitals, as compared to 2,513 women the previous year (County Government of Kajiado [CGK], 2018). Despite the tremendous increase, there was no substantial drop in the maternal and child mortality rates, signifying a gap in the delivery of services.

1.7 Significance of the Study

It was estimated that 289,000 mothers lost their lives in the world from complications associated with pregnancy, childbirth or the postnatal period (WHO, 2014). Alarming, two thirds of these deaths were reported to happen after delivery (Ronsmans & Graham, 2006). Further, 99% of the maternal and neonatal deaths that happened worldwide, occurred in low- and middle-income countries, like Kenya. Post-natal care coverage tended to be below par as compared with other maternal and infant health services (Fort, 2012). The use of PNC services was low at 47% although the determinants for its uptake could be acted upon (Akunga, et al., 2014). Strengthening of services throughout the continuum of care was to be done to enhance uptake of all the services.

The study results were expected to inform the Kajiado County governments department of health on the areas that required intervention so as to make better the overall maternal and child health outcomes especially in the reduction of maternal and neonatal mortality and morbidity. It would also inform the policy makers in NHIF in the areas of improvement in order to make the program have a greater impact in the Maternal and Child health countrywide. Research on post-natal care was limited in developing countries, as most of the researches on maternal health programs were centered on the ante-natal care and institutional delivery. Therefore, the study evaluated the factors that were related to the use of the post-natal care services offered through the NHIF's Linda Mama program.

1.8 Scope of the Study

The study was done in Kajiado County and majored on the factors associated with the utilization of post-natal care services in the region. The various factors considered included socio-demographic characteristics of the mothers, perception of mothers, knowledge and attitudes, and availability of infrastructure on the utilization of PNC services in Kajiado County. The study included mothers who had delivered in the period between 1st April 2019 and 30th September 2019 and were registered in the Linda Mama program. The key informants selected included a representation of the mothers receiving care at the facility, government official (local administration), a community elder, a sub county nursing officer, and a disease surveillance officer, were included in the study. The mothers answered a structured questionnaire while the key informants were interviewed. However, the m others who delivered in the same period and were not registered for the Linda Mama program were excluded from the study.

1.9 Limitations of the Study

The study was carried out in sample population across Kajiado County which was vast and some places quite remote. Limited time and financial resources also limited the areas to be reached in the county. Recall bias was also a limitation of the study as the questions asked depended on the situation and the condition of the mother at the point of delivery.

1.10 Delimitations of the Study

The study hence consulted the services of research assistants from Kajiado county who were well versed with the terrain of the region. Additionally, there was use of motorcycles to access the remote areas especially when vehicles would not access the place. The study

also allocated adequate budget and timelines to ensure that the data collection within the county was effectively done and with few hitches. Further, the study consulted new mothers who has regained their strength from the process of childbirth. Therefore, they were mainly asked questions related, availability of infrastructure, knowledge and attitudes and the perception of the Linda Mama program.

1.11 Assumptions of the Study

The study was carried out with the assumption that the mothers were willing to volunteer and give information when required.

1.12 Operational Definition of Terms

Post-partum period. - Period after delivery when it refers to the mother alone.

Post- natal care- Care given to both the mother and the child within the first hour after the placenta is delivered and it spans into the following six weeks.

Post -natal period- Days following childbirth up to six months.

Post- partum hemorrhage- Bleeding of any amount from or into the genital area following the delivery of a baby, up to the end of puerperium, which may adversely affect the general condition of the patient, rising in pulse rate and falling blood pressure are the indicators.

Puerperium: This is the period that follows childbirth during which the body tissues, especially the pelvic organs, revert back almost to the pre-pregnancy state, both anatomically and physiologically. It should last for approximately six weeks.

Continuum of care – Is defined by at least four visits of antenatal care, delivery conducted by a skilled birth attendant (Doctors, midwives or nurses in health center or hospital), and at least one visit of post-natal care.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter contains the literature review related to PNC, sociodemographic characteristics, perceptions associated with Linda mama program, knowledge and attitudes, and availability of health facility infrastructure. Thereafter, the model of the study is presented and as well as the conceptual framework.

2.2 Post-natal Care

Globally, a study was carried out in Cambodia Kikuchi et al. (2018) on the adherence of mothers across the continuum of care, depicted the same trend, where most mothers attended ANC services, delivered in Health facilities but majority did not attend PNC services. Thirty-two percent (32.6%) attended at least four visits, 40.1% delivered by a skilled birth attendant, 16.2% PNC at least one visit and 18.8% did not get any care at all. In the concept of continuum of care, at least four focused antenatal care visits are recommended, and most recently WHO increased the recommendations to eight visits, so as to reduce perinatal mortality and women's experience of care. (WHO, 2020b). Another study reported that if implementation of all care from ante natal to post-natal could be adhered to, there would be a reduction on neonatal mortality by 36-67% (Darmstadt, et al., 2005).

Regionally, studies conducted in Nigeria have shown that 58% of women did not utilize healthcare services during the postnatal period (NPC/Nigeria & International, 2014). It was also evidenced that post-natal services had the lowest uptake when compared with

other maternal, neonatal and child health services. Notably, 61% of women utilized ANC services, out of which 51% had at least the recommended four encounters during pregnancy. Thirty-six (36%) had facility delivery by skilled birth attendants and only 42% of the women had PNC services received within the recommended six weeks after delivery (Iyanda, 2017).

Locally as per the study by Mwangi et al. (2018), the days following childbirth are known as the postnatal period. It is an important period for mothers and their newborn babies. Most of the maternal and infant fatalities happen in this phase, and this is the period that is most ignored in the provision of quality care (WHO, 2016). If appropriate care is not given during this period, the results would be substantial ill health and even death. Provision of trained care after childbirth was documented as low compared to care given before and during childbirth. Most maternal and infant deaths occurred during this time (WHO, 2013).

It was estimated that 289,000 women lost their lives in the whole world from complications associated with pregnancy, the birth of the child or the post delivery period (WHO, 2014). Additionally, two thirds of these deaths were reported to occur after delivery (Ronsmans & Graham, 2006). Considerably, 99% of the maternal and neonatal deaths that arise globally, happen in low and middle-income countries like Kenya. Notably, 40% of women in the low-income countries, developed complications after delivery, 15% of these were estimated that their complications may be life threatening. To decrease the mortality of the mothers and the neonates in low- and middle-income countries, post-natal care services was an important element in the continuum of care,

which included ante natal care, skilled delivery and post-natal care. Post-natal care coverage tended to have a poor uptake when compared with other maternal and child health services (Fort, 2012).

2.3 Factors Associated with the Utilization of Post-Natal Services

2.3.1 Socio-demographic Characteristics of the mothers

Globally, Tao et al. (2011) observed that many women in developing countries had low education levels which limited them to understand the need of PNC when their babies were progressing well. This therefore, created a reason of not finding it necessary to attend post-natal checkups. (Tao, et al., 2011). Adams and Smith (2018) carried out a study on the factors that affect the use of post- partum care services in emerging countries and established that due to high poverty rates, mothers failed to fully attend all PNC visits since they could not afford transport fare, and other basic consultation charges such as buying of medicine when the child was ill. In the long-run, it led to increased cases of infant ill-health and unmonitored malnourishment.

Regionally, Akibu et al. (2018) evaluated how Ethiopia's women utilized PNC services and what made the usage prevalent. According to the study, 48.8% of the women in the said study did not complete the post-natal visits due various issues like limited money to cater for costs related to consistent transport charges (Akibu et al.,2018). On further explanation offered by the study, the mothers' inability to afford the required financial resources was mainly caused by lack of reliable income especially during the weaning period. As a result, some of them relied on their spouses, others on relatives and others

on friends and well-wishers. Therefore, when the disposable income was low especially to cater for most expenditures such as food and other basic needs, other aspects such as transport fee to attend PNC was not considered.

Locally, Harun et al. (2013) noted that a majority of the inhabitants of Kajiado County were of the Maasai community, and they were known to have early marriages for the young girls as young as nine years. This meant that the girls had no basic education levels to understand the need for PNC visits. Additionally, most of them were less than 18 years hence unable to get employment, making them be fully reliant to their spouses (Harun et al., 2013). Therefore, when the spouses did not see the need for PNC visits, the young mothers were forced to agree with them. However, the current study assessed women who were 18 years and above to ascertain their education levels and awareness on PNC services.

2.3.2 Perceptions Associated with Linda Mama Program

Globally, the satisfaction of patients with the quality of healthcare services offered, is often measured by the healthcare providers' ability to meet the goals and expectations of the patient as the degree to which the patients' expectations and goals are met by the healthcare service providers. To this effect, reproductive health services like the Linda Mama program satisfies the mothers' needs as this has an impact on their health; the successive utilization of the reproductive health services; and also, the reference of the same services to their peers (Tafa, 2014).

Regionally, the transfer of the Free Maternity Services (FMS) from the ministry of health to NHIF, gave a perception that the services were no longer free. This was because, for

members to enjoy services through the national health insurer, the member had to have paid certain premiums. The ultimate goal of the transfer was to eliminate peoples' reliance on free services, and encourage them to take responsibility of their health (Abuya et al., 2018). The fact that the Linda Mama program is being implemented majorly by public facilities, also give a negative perception on the program. Studies have identified many forms of mistreatment occurring to women while seeking maternal services, they include; physical abuse, verbal abuse and even sexual abuse (Oluoch-Aridi et al., 2018). These forms of mistreatment make some mothers not visit any health facility for delivery and hence may have no information on the added services like PNC offered through the program.

Locally, the availability of free delivery services does not promise that women would utilize them, it does not also guarantee favorable outcomes of the pregnancies nor the satisfaction of the services offered is also not guaranteed (Gitobu et al., 2018). The free maternal health policy implementation in Kenya has been faced with countless challenges, shortage of drugs, and shortage of skilled healthcare workers being some of them (Lang'at et al., 2019).

2.3.3 Knowledge and Attitudes

Globally, minimal or no exposure to the mass media where most of the information about post-natal services is given out was cited as a reason why the mothers did not attend post-natal services (Adams & Smith, 2018). The assumption that post-natal services are for the child to receive vaccinations were also reasons given by mothers as cited by Warren

et al. (2010). That is, the mothers only attended the clinics when the babies' vaccinations were due (Warren, et al., 2010).

Regionally, it was also common for women who had a number of previous deliveries not to attend post-natal services since they believed that they had a wealth of experience and could do without the post –natal services (Somefun & Ibisomi, 2016). The level of education of the mother and to some extent that of the spouse was also a factor in the determination of whether or not to attend post-natal services. This was because the education equipped the mothers with better knowledge which helped them shun unhealthy traditional practices which posed health risks to the mother and the newborn (Akinyemi, et al., 2018). Cultural beliefs and practices also hindered mothers from seeking post-natal services in health facilities. Low uptake of post-natal services in Ethiopia has been attributed lack of awareness of the post-natal services and thinking that the services are not important (Shukure, et al.,2018).

Locally, mothers who had received information about post-natal care or had been taught about post-natal services during the ante-natal clinics were more likely to utilize the post-natal care services (Ongera, et al., 2018). This is because they would have more knowledge of the advantages of attending the post-natal clinics. The attitude of the clinicians or the health workers towards the mothers was also a factor that would discourage or encourage the mothers to attend post-natal services after delivery (Mwangi, et al., 2018).

A study carried out by Harun et al. (2013) on the persistent use of traditional birth attendants among the Maasai women showed that, cultural beliefs like babies who were

cute and big were hidden from other people to avoid the ‘bad eye’. This therefore caused the mothers and their babies not to be permitted to leave the house for around one to two months after delivery (Harun, et al., 2013). Such practices put the children at risk of infections and the mothers at risk of problems like venous thrombosis. The children were also denied services offered during the post-natal period like immunizations and growth monitoring. Religious beliefs also played a part in the determination of whether a mother utilized post- natal services or not. There were those who did not believe in conventional medicines e.g. Kavonokia in Kenya. Additionally, Muslim women were only allowed to go to hospital in the company of their husbands or other male members of the family (Sakala, et al., 2018).

2.3.4 Availability of Infrastructure

Globally, there are two perspectives of Infrastructure which are the essential facilities and systems that serve a country or a region. These are the services and facilities essential for the proper functioning of the economy such as roads, bridges, telecommunications and internet connectivity. Infrastructure in healthcare comprises of both medical and non-medical equipment that is required for healthcare delivery at different levels such as medical equipment, furniture, ICT equipment and ambulatory systems. Components of a satisfactory healthcare infrastructure includes physical facilities, consistent supplies of pharmaceutical and other materials and staff who are adequately trained. It is able to provide preventative, diagnostic and curative care, as per the needs of the people being served (Health Care Infrastructure [HCI], 2019)

Locally, poor accessibility to services due to the location of where to access them, long distances to the location, poor infrastructure and transport all result in the low uptake of post-natal services. Mothers are encouraged to use Traditional Birth Attendants [TBAs] who are readily available since they live within the mothers in the community (Harun et al., 2013). Accessibility to healthcare covers the cost of accessing the healthcare and the ease of reaching the facility. The maternal and neonatal child services are essentially free in Kenya. This is where ANC, delivery and PNC services are free through the governments 'Linda Mama' Program and the free treatment for all children under 5, in the government facilities (Harun et al., 2013). There are some indirect costs incurred in the provision of these services like travelling to and from the health facility and paying for some services like tests and prescribed medication which were reported as barriers to accessing care. The distance to the facility was also a very important aspect in the influencing the decision to seek maternal services (Titaley, et al., 2010). The opportunity costs lost due to travel to the health facility, waiting time at the facility due to few health workers especially for those who depend on daily wages was also a major factor when a decision is being made on whether to seek the PNC services or not.

2.4 Summary of Gaps

2.4.1 Socio-demographic characteristics of the mothers

Akibu et al. (2018) failed to indicate how the hospital reached out to the mothers who had missed the PNC services especially post-delivery due to low income. Wudineh et al. (2018) did not provide the counseling programs and maternal education given to mothers who had still births as an encouragement towards attending PNC service in future. Tao et

al. (2011) did not indicate the social support the mothers who had delivered were given by the society to motivate them to attend PNC clinics. Adams and Smith (2018) did not provide the various incentives mothers received during PNC such as diapers for the babies, and other baby receiving sets, among others, to ease the burden of cost and motivate them to become consistent in PNC attendance. Taffa and Matthews (2011) did not consider the fears related to how they would take care of the babies since most of them were unemployed.

2.4.2 Perceptions associated with Linda Mama program

Gitobu et al. (2018) did not reveal the training that the mothers had received to improve their perception towards utilization of PNC. Lang'at et al. (2019) failed to indicate the adherence of policy implementation towards sorting the shortage of healthcare providers on PNC services. Tafa (2014) did not ascertain the methods used by the hospitals towards improving the awareness of PNC services. Abuya et al. (2018) did not provide justification of the maternal education program that mothers had received in regards to PNC services incorporation at Linda mama. Oluoch-Aridi et al. (2018) failed to provide the methods that the hospital used to protect mothers from various abuses from healthcare providers especially during PNC.

2.4.3 Knowledge and Attitudes

Warren et al. (2010) did not consider the economic factors such as availability of finances, to cater for transport expenses and knowledge they had on the importance of PNC. Ongera et al. (2018) did not provide the specific training/information or training manual used to pass knowledge to mothers during PNC that could be adopted to other hospitals. Mwangi

et al. (2018) failed to incorporate the feedback of healthcare worker's managers to substantiate the underlying reasons as to why healthcare workers had negative attitude when training the mothers during PNC clinics. Somefun and Ibisomi (2016) did not provide the exact number of past deliveries that mothers had to justify that they were all-knowing and did not need PNC services. Akinyemi et al. (2018) considered on the influence of close family members such as spouse and not others like parents, sibling and family friends, had towards encouraging the mothers to shun traditional practices that were against attending PNC clinics. Harun et al. (2013) considered traditional mid-wives from Masai communities and not any other communities. It would be encouraging to consider others so as to justify the extent of the myths effect on post-delivery complications. Sakala et al. (2018) failed to include who was responsible to take mothers to hospitals specially to get PNC services from other religions such as Christianity, Hindus but not only the ones from Muslim religion.

2.4.4 Availability of Infrastructure

Titaley et al., 2010) did not include a mode of transport such as through air or water but only considered those of land such as cars, buses, motorbikes and walking. HCI (2019) did not mention palliative care that mothers whose complication was high and leading to premature deaths. Ronsmans and Graham, (2006) did not provide the PNC services that were administered to justify the high number of deaths of the mother. Fort (2012) failed to provide the reasons for low PNC use among the mothers after delivery. National Population Commission (NPC 2014) did not mention the government interventions present to ensure that mothers increased their utilization of various healthcare services

such as PNC. Iyanda (2017) did not reveal the major reasons why only 58% of the mothers failed to show up during PNC services. Kikuchi et al. (2018) did not explore a factor such as the attitude of the healthcare provider as a major impediment of the mothers in accessing PNC services. Darmstadt et al. (2005) concentrated on only ANC but did not include PNC service among mothers.

2.5 Theoretical Review

Anderson behavioral model for health services utilization (Andersen, 1995), gives an overview of the determinants that influence the uptake and utilization of post-natal services. The model was used to explain how the outlined determinants affected the utilization of PNC services in Kajiado. The framework categorized the factors into four; external factors, predisposing factors, enabling and need factors, need factors and how they are interrelated in the PNC services utilization.

The external factors were the socio-economic and living environment of the mothers and their households. These factors were critical in determining on how easy it would be for the mother to access various PNC services. This is in terms of financial capability to afford quality medical healthcare, logistics funds, appropriate nutritious meal and quality house that protected the mother and the baby from harsh weather. Additionally, other socio-economic aspects like their education and employment status were of essence. In this study, majority of the mothers had secondary education and did not have a source of employment. That is, there were 144(54%) mothers with secondary education and 45(17%) with tertiary education. Further, 178(67%) were not employed, 41(15%) were self-employed and 48(18%) were formally employed.

The predisposing factors, were those factors associated with the socio-cultural environment or characteristics of the mother, which included the social organization, health principles, knowledge, religion and culture. For instance, in this study most mothers had knowledge of Linda mama and were Christians. That is, 252(94%) mothers attested that they were aware of Linda mama program, while 15(6%) did not. In regards to religion, the study established that 204(76%) mothers were Christians, 53(20%) were Muslims and 10(4%) did not have any religion. This shows the kind of impact that religion played in the lives of the mothers and hence the decisions made were closely related to the underlying religious principles in place.

Further, a predisposing factor such as culture was an important element since the cultural elements could limit or enable the mothers to continually access various PNC services. A good example would be when a culture insisted of using traditional herbs for protection of the newborn especially when the baby fell ill. Depending on the state of the baby's health, traditional applications were life-threatening especially if it was critical. Therefore, the mother had to make a decision on whether they would become defiant of the tradition and save the life of their baby or adhere the tradition and expect any outcome.

Enabling factors were those aspect that facilitated the easiness in accessing PNC services. These factors were associated with the family, personal perception or community elements. It was these elements that motivated the mothers to seek health services and so dictated their perception on whether they would subscribe to the Linda mama PNC services or not. If a mother was interested in the program, it was every easy get information through asking their friends, relatives, online or simply visiting the hospitals

which had the services for awareness creation. Additionally, once awareness was created among the mothers, getting finances or insurance to cater for the cost of the services was also very important. This was because, if a mother did not see any value in the program, it was hard to commit themselves into paying monthly insurance packages or set aside funds to cater for the cost.

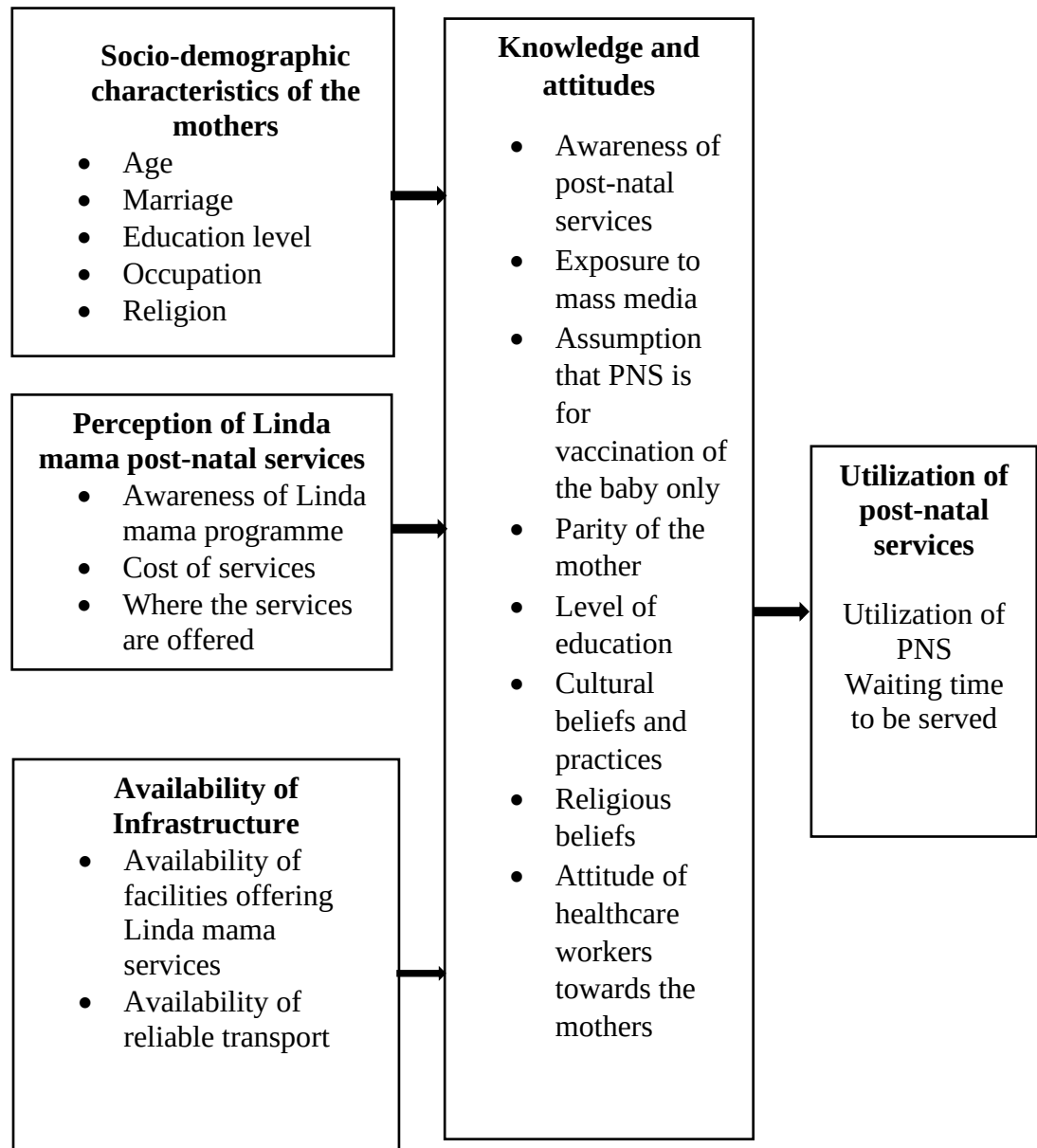
The need factors were the causes of health care utilization and included health problems that necessitated the use of health care services and the perception of the health system. They were categorized into perceived and evaluated needs. Perceived needs were how well one was able to judge the urgency and the level of the health concern of a person, while evaluated needs were those that had been necessitated by a diagnosis or a physical exam to seek health care services. For instance, most mothers sought PNC services especially when they were unwell or when the baby was unwell, and when in need of vaccinations. That is, 21(8%) mother sought medical services since they were unwell, 62(23%) due to the fact that the baby was unwell, and 21(8%) since the baby needed vaccinations.

2.6 Conceptual Framework

A conceptual framework is mainly a representation of the variables of the study to show the relationship that exists. In the study, the utilization of post-natal Services is the dependent variable with an indicator of waiting time to be served. Notably, perceptions associated with Linda mama program, socio-demographic characteristics of the mothers, knowledge and attitudes, and availability of infrastructure were the independent variables. Figure 2.1 indicates the conceptual framework.

Figure 2.1

Conceptual Framework



Independent variables.

Dependent variable

As per Figure 2.1, The socio-demographic characteristics of the mothers had indicators like age, marriage, education level, occupation, and religion. The second variable which was perception associated with Linda mama program, had indicators like awareness of Linda mama programme, cost of services and where the services are offered. The third variable which was knowledge and attitudes, the indicators were lack of awareness of post-natal services, lack of exposure to mass media, assumption that PNS is for vaccination of the baby only, parity of the mother, level of education, cultural beliefs and practices, religious beliefs and attitude of healthcare workers towards the mothers. The fourth variable which was availability of infrastructure had indicators such as availability of facilities offering Linda mama services, and availability of reliable transport.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter contains the design of the research, the targeted population, population sampling, and preparation of data collection, instrumentation, data collection and methods of analyzing the data.

3.2 Research Design

The study was a cross-sectional study, where quantitative as well as qualitative methods of data collection and analysis were used. Structured questionnaires were used to collect the quantitative data, and they were interviewer administered due to low literacy levels of Kajiado. Questionnaires captured data on the demographics and the socio-economic levels of the population under study. Key Informant Interviews [KII] were used to collect the qualitative data. The KII was able to capture the actual picture from the selected members of the community.

3.3 Target Population

The study was carried out in Kajiado County which neighbors the capital city of Kenya, Nairobi County, Kiambu and Nakuru Counties in the north, Machakos, Makueni and, Taita -Taveta Counties to the east, Narok County to the west and Tanzania to the south. Kajiado County comprises of the following administrative wards; Kajiado Central, Kajiado North, Kajiado East, Kajiado West and Kajiado South. The County has a population of 687,312 of which 342,169 are women, (KDHS, 2014). Kajiado County's

population structure is a mixture of child rich and transitional population. Kajiado north has 66% of the working population and 60% in Kajiado east. This was explained by the high migration of people into Ngong, Ongata Rongai and Kitengela as most people working in neighboring Nairobi County lived in these towns. Kajiado County has 31% of the residents with no formal education, 32% have primary education (Kenya National Bureau of Statistics [KNBS], 2013).

Notably, 37,918 women were registered under the NHIF's Linda Mama program in Kajiado county. Kajiado County is served by four (4) NHIF branches; Kitengela, Kajiado, Ongata Rongai and Loitoktok. Notably, 11,200 mothers were registered under Kitengela branch; 11,398 registered under Kajiado Branch; 14,320 registered under Rongai Branch; and under 1000 registered under Loitoktok office as at 30th Sept.2019. Of these, only 3,779 had accessed the PNC services and the hospitals reimbursed for the same. Further, 6,322 deliveries were conducted in the contracted health facilities within Kajiado from 1st April 2019 to 30th sept.2019.

3.3.1 Inclusion Criteria

Mothers who had delivered in the period between 1st April 2019 and 30th September 2019 and were registered in the Linda Mama program. The Key Informants selected included a representation of the mothers receiving care at the facility, government official (local administration), a community elder, a sub county nursing officer, and a disease surveillance officer, were included in the study.

3.3.2 Exclusion Criteria

Mothers who were registered and did not give the consent to participate in the study were also excluded from participating in the study.

3.4 Sampling Technique and Sample Size

Sampling was done randomly from the delivery records whereby the respondents were drawn from the delivery registers in the facilities contracted by NHIF to offer the Linda Mama services within Kajiado Count (Kitengela, Ongata Rongai, Kajiado and Loitoktok). The data for Loitoktok was consolidated with that for Kajiado as the latter was a satellite office of Kajiado and the claims processing was centralized at the mother branch.

The KII who included a representation of the mothers receiving care at the facility, government official (local administration), a community elder, a sub county nursing officer, and a disease surveillance officer, were included in the study were sampled using purposive method.

3.4.1 Sample Size

Cochran developed the equation to give a representative sample for proportions of large sample (Heinisch, 1965)

$$n = Z^2 p q / d^2$$

Where:

n=desired sample size

z= standard normal deviate usually set at 1.96 and corresponds to the 95% confidence interval.

p = proportion in the target population estimated to have a specific characteristic. $q=1.0-p$

d = The degree of accuracy desired, set at the 0.05 level. (Acceptable margin error) The target population is approximately 6,322

$$1.962(0.50) (1-0.50)/0.052 = 384$$

Table 3.1

Sampling Frame Showing Samples from each NHIF Branch Jurisdiction

Location/office	No. of Registered Mothers	No. of Deliveries	Sample
Ongata Rongai	14,320	2,407	137
Kitengela	11,200	1,539	108
Kajiado & Loitoktok	12,398	2,376	139
Total	37, 918	6322	384

3.4.2 Sampling Frame for The Key Informants Interviewees

Kajiado County was divided into five (5) sub counties:

- a) Kajiado Central- covering Kajiado town, Ilbisil and Namanga.
- b) Kajiado East- covering Kitengela and Isinya.
- c) Kajiado South-covering Loitoktok.
- d) Kajiado West- covering Kiserian, Kibiko and Magadi.
- e) Kajiado North- covering Ngong, Rongai and Karen.

There was a committee in place in each sub county, which dealt with emerging health issues in the sub county. Members of this committee included a representation of the mothers receiving care at the facility, government official (local administration), a community elder, a sub county nursing officer, and a disease surveillance officer. Therefore, in the five sub-counties, there was a total sample of 5 groups of key informants comprising of 25 members included in the study.

3.5 Data Collection Instruments

The research data was collected from the mothers through a structured questionnaire, which was interviewer administered. The key informants interview also had a guide. The construction of the instruments was guided and based on the study objectives, literature review and variables' indicators.

3.6 Pre-Testing

Pretesting of the research instruments was done in the nearby facilities in Machakos County under the Linda Mama program. This ensured the reliability and suitability of the questionnaire. The pretest also assisted in checking the interpretation of the questions by the respondent and was also used in the training of the research assistants who were involved in the actual research. Mugenda and Mugenda (2003) advised that a pre-test population of 10% of the sample size would be adequate enough. Therefore, in this regard, the study's pre-test study were 36 women and 1 committee whereby 1 sub county nurse, 1 records officer, 1 disease surveillance officer, 1 health promotion officer and a community strategist were included in nearby facilities in Machakos County

3.6.1 Validity

The study ascertained three types of validities which were content, criterion and construct validity. The main reason was to ensure that the questionnaires and interviews measured the intended purpose. In regards to content validity, the researcher ensured that the questions asked accurately related and measured utilization of post-natal services, perceptions associated with Linda mama program, socio-demographic characteristics of the mothers, knowledge and attitudes, and availability of infrastructure. In regards to criterion validity, the study compared its results with past findings while on construct validity, the study ascertained the influence of socio-demographic characteristics of the mothers, perceptions associated with Linda mama program, knowledge and attitudes, and availability of infrastructure on utilization of post-natal services separately.

3.6.2 Reliability

The study measured reliability through Cronbach Alpha to ensure that the questionnaires and interviews could stand a chance of being re-used again. Therefore, in this regard, the study assessed the range at which each variable lied between 0-1. According to Nikmard et al. (2023), when the range was above 0.7, it indicated reliability while anything less than that showed unreliability. Table 3.2 provides the reliability results.

Table 3.2***Reliability Results***

	Variables	Cronbach Alpha	Number of Items
Questionnaire	Socio-demographic characteristics of the mothers	0.944	7
	Perceptions associated with Linda mama program	0.863	11
	Knowledge and attitudes	0.928	7
	Availability of infrastructure	0.820	5
	Average	0.889	
Interview Guide	Socio-demographic characteristics of the mothers	0.822	3
	Perceptions associated with Linda mama program	0.871	3
	Knowledge and attitudes	0.901	2
	Availability of infrastructure	0.719	2
	Average	0.828	

According to Table 3.2, questionnaire tools had an average of 0.889 while the interview guide had an average of 0.828. The two results show that their Cronbach Alpha

coefficients were more than 0.7 hence an indication that they were reliable and would articulately gather the needed information from the respondents in relation to PNC.

3.7 Data Collection Procedure

Structured questionnaires were used to collect quantitative data whereby they were administered by the interviewer. The data included the socio demographic data, predisposing factors, enabling factors, need factors and the external factors. The data was transferred to excel and SPSS for further analysis.

Qualitative data was collected through key informant interviews. The key informants included a representation of the mothers receiving care at the facility, government official (local administration), a community elder, a sub county nursing officer, and a disease surveillance officer. Further, consent was also sought from the individual respondents.

3.8 Data Analysis and Presentation

The data was cleaned and coded into an excel software (Microsoft excel 2010) while the analysis was done using SPSS. Pearson's Chi square was used to test the association between the dependent and the independent variables. A 5- point Likert scale was used to analyze the questions on knowledge and attitudes. In regards to interview questions, the study used thematic method to interpret the results.

3.9 Ethical Considerations

The study ensured that respondents had a research/assistant who administered the questionnaires to them in language they understood better. Authority to carry out the

research was sought from the KeMU university (KeMU/SERC/PHT/28/2020), National Commission of Science, Technology and Innovation (NACOSTI/P/21/8168), and from the office of the county director of health sciences, Kajiado County. The research assistants were trained on communication skills to facilitate effective process of data collection. The study also ensured that the mother' identities as well as those of the interviewees were confidential. In regards to a direct quote of interviews, the study coded them with KII01, KII02, KII03 and so on. Further, the study ensured that all cited work was referenced to acknowledge the sources of information of the study.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

The study was set to evaluate the factors associated with the utilization of post-natal care services in Kajiado County. The specific factors considered included perception of mothers on the Linda Mama Post-Natal services, sociodemographic characteristics, knowledge, and availability of infrastructure on the utilization of PNC services in Kajiado County. The respondent's demographic information is provided followed by descriptive statistics and interview results that include answers to the research questions. Further, the bivariate analysis done using Chi-square are provided and an interpretation is done on the same.

4.2 Response Rate

The study issued 363 questionnaires to women and purposed to interview the five committees sampled from five Kajiado sub-counties. In regards to the response rate of the questionnaires 267(74%) mothers returned complete questionnaires. This is whereby 93(35%) were from Kajiado, 70(26%) were from Kitengela, 39(15%) were from Loitoktok, and 65(24%) were from Rongai. In regards to the interview responses, four committees agreed to be interviewed. The committees were from Ngong (Kajiado North), Nagatataek (Kajiado Central), Magadi (Kajiado West) and Kitengela (Kajiado East). This meant that 20 (80%) KII agreed to be interviewed. Therefore, the response rate was

adequate as supported by Mugenda and Mugenda (2003) who indicated that response rates above 70% were considered very good.

4.3 Socio-demographic Characteristics of the mothers and Utilization of Post-natal Services Among Women in Kajiado County

The study inquired the mothers' socio-demographic information related to various aspects such as their age, marital status, education level, occupation, and religion. Their feedback is described in Table 4.1.

Table 4.1

Socio-demographic Characteristics of mothers (n=267)

Age	Frequency	Percent
Above 30 years	62	23
19-30 years	205	77
Marital Status		
Married	241	90
Not married	26	10
Level of Education		
Tertiary	45	17
Secondary	144	54
Basic Education	78	29
Occupation		
Formally Employed	48	18
Self Employed	41	15
Unemployed	178	67
Religion		
Christianity	204	76
Islam	53	20
None	10	4

The results provided by Table 4.1 indicate that majority of the mothers who were 205(77%) mothers ages were between 19-30 years and 62(23%) were above 30 years.

This shows that the women who were delivering in hospitals were mature enough both physically and psychologically to take full responsibility on seeking PNC services. Additionally, 241(90%) mothers were married, 204(76%) professed Christianity religion, and 144(54%) had acquired secondary education. This implies that there was a high chance that the mothers' pregnancies were from a person they had established an intimate relation. Therefore, they hence had high chances of receiving support from their spouses and also comfort from their Christian religion inclination especially on having faith in God.

Also notably, they had basic education to understand the implication of PNC on their health and that of their baby. The results also pointed out that 178(67%) mothers were unemployed with only 48(18%) employed and other 41(15%) were self-employed. This meant that they required financial support from other people such as close family members and extended relatives especially after delivery period.

These results imply that most of the mothers were mature, had basic education level, married and believed in Christian religion. Therefore, the chances of considering PNC services and post-delivery was high. This was because they had basic learning and adequate support system from close family members and religious doctrinarians. Regrettably, it was noted that most of them had no employment which meant that their sources of income were limited.

Therefore, it became hard to implement some of the obstetrician and nutritionists' recommendations related to eating balanced diet to regain strength and improve on quality of milk after delivery process for the mother. Balanced diet involved buying of

healthy food and fruits which required availability of funds. Further, the mothers who did not have any sources of income had no funds to cater for post-delivery complications. In support with the findings, Adams and Smith (2018) considered income levels of the mothers as part of the elements that had an influence on the ability of women in developing nations, to seek the services related to postpartum care. Additionally, Akibu et al. (2018) also noted that for a complete PNC utilization and implementation, money was required. Therefore, the employability status of the mothers was of essence since it dictated their financial independence to support PNC utilization.

The study also asked other background information of the number of children, awareness of Linda mama, preceding place of delivery, reasons for their choices. Table 4.2 describes the results.

Table 4.2

Maternal Health Service Utilization and Awareness Among Women in Kajiado

County (n=267)

	Characteristics	Frequency	Percent
Number of Children	5-10 children	19	7
	1-4 children	248	93
Linda Mama Program	Yes	252	94
Awareness	No	15	6
Preceding Place of Delivery	Hospitals	262	98
	Others	5	2
Reasons for Delivery at Hospital	I developed complications	7	3

I had insurance (Linda Mama)	235	88
I was advised during Ante-natal visits	25	9

The results in Table 4.2 indicate that 248(93%) mothers had 1-4 children whereas only 19(7%) had 5-10 children. Further 252(94%) mothers admitted that they were aware of the Linda mama which was the main reason as to why 262(98%) had their previous deliveries (births) done in a hospital. That is 235(88%) of the mothers delivered in hospitals since they had Linda mama insurance. The results imply that the effort made by hospital facilities of creating awareness on PNC services and Linda mama insurance utilization among mothers, was impactful. Additionally, the PNC trainings offered to mothers on the importance of subscribing to family planning methods turned effective as most mothers indicated they had 1-4 children. In support of the findings Lang'at et al. (2019) revealed that the prevalence of free maternal services policy framework has enabled mothers get access to information and insurance services that would cater for PNC services at a cheaper perspective. Comparatively, Owuor and Amolo (2019) established that mothers were able to get various services such as PNC due to the availability of Linda mama insurance cover.

The study also conducted interviews on KIIs and in regards to delivery (birth) outcomes, the study had two questions. On the first question, the committee were tasked to explain the challenges they encountered when implementing Linda Mama program. The committee mentioned several challenges such as most parents did not have the necessary requirements for registering Linda mama such as Identification Card [ID] and illiteracy, A committee member KII07 was quoted saying,

“It is rather discouraging that most mothers are illiterate and do not get why an ID is important especially in registering for PNC services.”

The findings were consistent with Abuya et al. (2018) results which indicated that the major set-back facing free maternal services such as PNC utilization was high illiteracy among women. This caused the mothers lack basic requirements needed such as national IDs which were crucial when registering. Failure to register on time disqualified them from benefiting from PNC services after delivery.

On the second question, the committee were tasked to elaborate on how best the challenges could be tackled. They mentioned that there was need to create more awareness among women of reproductive age on the benefits of the program; mothers were advised to always carry their ID card whenever they visited the ANC. Comparatively, Lang’at et al. (2019) mentioned that awareness among mothers was the main action that was needed to be undertaken to reduce the interruption of post-delivery services such as PNC in Kenya.

4.3.2 Chi-Square Results of Socio-demographic Characteristics of the mothers and the Utilization of PNC Services

Chi-square test was conducted at 95% of confidence to ascertain the relationship that existed between delivery (birth) outcomes and the utilization of PNC services. Table 4.3 presents the results.

Table 4.3***Chi-square Test on Socio-demographic Characteristics of the mothers and the Utilization of PNC services***

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	326.792	90	.017
Likelihood Ratio	215.877	90	.037
Linear-by-Linear Association	59.595	1	.040
N of Valid Cases	267		

0 cells (0.0%) have expected count less than 5. The minimum expected count is 4.27.

The results presented in Table 4.3 indicate that $\chi^2 (1, N = 267) = 326.792, p < 0.05$. That is the Pearson Chi-Square was 326.792 at a p-value of 0.017. Therefore, since the Pearson Chi-Square was above 3.841 and the p-value is less than 0.05, the study deduced that there was a significant relationship between socio-demographic characteristics of the mothers and the utilization of PNC services.

The results implied that a mother partly sought PNC services when the delivery process was successful such that the baby was alive and healthy. However, the ability to attend PNC services within the 2 weeks required timelines was mostly not met since most mothers had disregarded themselves as all their attention is with the newborn baby. Notably, Kikuchi et al. (2018) also noted that in as much as the timelines to attend PNC services differed, the ability to ensure that the health of the baby is stable, pushed the mothers to follow PNC services so as to get exclusive breastfeeding training, seek solutions to breastfeeding problems, check on the welfare and ensure all vaccination

doses have been administered to the baby. In agreement, Akunga et al. (2014) found out that PNC care was mainly attributed to baby's health check-ups and vaccination.

4.4 Perception of Mothers on the Linda Mama Post-Natal Services

Perception of mothers on the Linda mama post-natal services was the first variable and had indicators such as awareness of Linda mama program, cost of services and where the services are offered. It was measured using dichotomous and multiple rating scale as presented in Table 4.4.

Table 4.4

Perception of Mothers on the Linda Mama Post-natal Services (n=267)

	Characteristics	Frequency	Percent
Awareness of the Linda mama program	Yes	263	99
	No	4	1
Source of information of Linda mama program	Media	11	4
	Health facility during ante-natal visits	178	67
	From a friend	78	29
Knowledge on the services offered under the Linda mama program	Yes	210	79
	No	57	21
What Services do you know that are offered under Linda mama program?	Free Ante-natal care	13	5
	Free delivery	242	91
	Free post-natal care	12	4
Which services have you previously utilized Linda mama Program?	Ante-natal services	4	2
	Delivery	260	97
	Post-natal services	3	1
Reasons for lack of utilization of the service under Linda mama program for PNC services	Not aware the services exist	10	4
	I thought I have to pay to join the program like the normal NHIF program	162	61
	Culture prohibits me from attending health facilities	46	17
	I have delivered other babies at home before	15	6
	The program is run in government facilities; I was afraid of poor quality of service.	34	13

As per Table 4.4, 263(99%) of the mothers acknowledged that they were aware of Linda mama program's existence. In the same line of thought, 178(67%) indicated that they knew the existence of Linda mama from health facility during ante-natal visits and 78(29%) from a friend. The study findings further point out that only 12(4%) of the mothers knew that there were free PNC services offered under Linda mama program. It was also discovered that only 3(1%) of the mothers had actually utilized the PNC free services of the program. The major reasons given by 162(61%) mothers in regards to their lack of utilization, revealed that they thought that they had to pay to join the program like the normal NHIF.

These results indicate that though the mothers were aware of the existence of Linda mama program, only a handful of them actually knew that there were any other free services offered under the program especially after delivering their babies. It was even discouraging to note that only 3 out of 267 mothers that participated in the study, had actually used the PNC services. The main reason for the low utilization, was that the mothers thought they needed to pay for the services just like the monthly payments submitted to the NHIF.

The findings agree with Kokedo and Chepchirchir (2023) that in the Kenyan context, PNC service utilization was low despite even having programs such as Linda mama. This was due to the unwillingness of the healthcare workers to provide information and educate the mothers on other services they could get for free covered under the program. Therefore, most mothers were only aware that the cover ends when they delivered and not anything past that.

Contrary to that opinion, Tessema (2020) argued that there was general lack of adequate utilization of PNC services due to lack of policy support while Ongera et al. (2018) pointed out that the choice to use PNC services, had to do a lot more on the knowledge of the mother of what programs such as Linda mama had to offer regarding their health and that of the baby. This knowledge necessarily did not have to come from hospitals but also through access of online data due to increased availability of cheap internet and smartphones.

These results therefore support the Anderson behavioral model for health services utilization from the perspective that the perception that the mothers was closely linked to the enabling and external factors. This was because on the one hand, most mothers had fear that PNC services offered through Linda mama program were payable hence did not bother to even inquire what they were due to their low-income capabilities. On the other end, the external factors such as lack of healthcare staff failing to let the mothers know about the PNC services made the situation worser leading to low utilization of PNC services.

Further on, the study asked more questions inform of an Ordinal Likert Scale as described in Table 4.5.

Table 4.5***Perceptions and Attitudes Towards Post-Natal Services Among Women in Kajiado******County***

Statements N=267	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
Post-natal services are useful to the health of the mother	36 (13%)	32 (12%)	37 (14%)	51 (19%)	111 (42%)
Post-natal services are useful to the health of the child	7 (2%)	23 (9%)	8 (3%)	50 (19%)	179 (67%)
Would you attend post-natal services in future	9 (3%)	14 (5%)	8 (3%)	53 (20%)	183 (69%)
Would you recommend post-natal services to other mothers	37 (14%)	7 (3%)	6 (2%)	110 (41%)	107 (40%)
Post-natal services are free and easily accessible	13 (5%)	118 (44%)	12 (5%)	99 (37%)	25 (9%)

According to Table 4.5, 111(42%) of the mother strongly agreed and 51(19%) agreed respectively on the usefulness of PNC to a mother's health. Further, 179(67%) strongly agreed and 50(19%) agreed on the usefulness of PNC to a child's health. Additionally, 183(69%) strongly agreed and 53(20%) agreed that they would attend PNC in future,

while at the same time, 110 (41%) agreed and 107(40%) strongly agreed that they would offer recommendations of the service to other mothers. However, 13(5%) strongly disagreed and 118(44%) disagreed that PNC were free and easily accessible.

The results imply that mothers acknowledged that PNC services were important to not only their baby's health but also their health hence they confirmed they would consider using the services and also recommend them to other mothers. The results are similar to the ones established by Burnett-Zieman et al. (2021) who revealed that mothers were so much willing to consistently follow the PNC services guidelines such that they even allowed community health workers to visit their homes when they failed to attend. This was mainly because PNC gave the mothers and their babies a chance to access quality healthcare at affordable rates and in other cases free for minor check-up.

Further, even in other international nations such as Nigeria, Olajubu et al. (2022) also revealed that there were positive experiences as a result on incorporation of mHealth interventions that consistently provided reminders to mothers on the importance of PNC services. To their expectations, the actual services offered provided included knowledge on how to take care of the baby, breastfeeding, handling breast feeding concerns such as milk duct blockage and general hygiene for both the mother and child to avoid post-delivery infections.

However, majority of the mothers in Kajiado County confirmed that they did not know that the PNC services were free and easily accessible. Sharing the same sentiments, Mwangi et al. (2018) indicated that most mothers were not conversant with PNC services while others indicated that PNC covered only the consultations fee. Therefore, the

mothers incurred other costs associated with laboratory charges on examination of Urinary Tract Infections [UTIs] and blood tests in cases of post-delivery complications discovered during their PNC visit.

The study also conducted interviews on KIIs and in regards to perception of mothers on the Linda mama PNC services, the study had two questions. On the first question, the committee were to indicate the awareness levels of the Linda Mama program in the County. Their feedback was grouped into two themes that related to dissemination of information through health facilities and dissemination of information through other agents. In regards to dissemination of information through health facilities, they indicated that health dialogue days enabled the hospital staff speak to masses on the importance of ANC and PNC services. In regards to dissemination of information through agents, various parties such as the area chiefs were empowered on the same and were disseminating the information during chief barazas. Additionally, Community Health Volunteers [CHVs] had been informing women in the community and also through hospital morning health talks to patients about the existence of ANC and PNC services. Further, the mothers were also encouraging each other to utilize the services in hospitals. A committee member KII09 was quoted saying,

“Linda mama sensitization has reached to the interior part of the county whereby even the illiterate mothers have an idea about it due to peer-to-peer talks.”

Another committee member KII013 was also quoted saying that,

“Linda mama is well known in Kitengela and its surrounding in community level due to awareness creation by the CHVs.”

In support with the findings, Wudine et al. (2018) mentioned that hospital staff, volunteers and mothers that have ever utilized PNC services were the major awareness raisers in Ethiopia.

On the second question, the committee were to explain the level of utilization of the Linda mama program in the County. The respondents indicated that they had made sure everybody that came for ANC was able to register for Linda mama. This was because it not only benefitted the women during delivery but most importantly after delivery. Notably, they also said that in Kitengela area and its surrounding, Linda mama was fully utilized especially by mothers who earned low-income bracket or medium level in their pre but not so much post-delivery.

Notably, Gitobu et al., (2018) proclaimed that the reason as to why maternal healthcare policies such as Linda mama were thriving was majorly due to free delivery services rather than ANC and PNC services offered in public facilities. This was thus a major concern as far as this study was concern since the intended goal of ensuring that mothers used the services after delivery was not being realized. An enlightenment by Finlayson et al. (2023) revealed that the perception of mothers towards their decision to attend PNC, apart from income levels, was mainly affected by the people close to them such as fathers, partners and other members of the family.

4.4.1 Chi-Square Results for Perception of mothers on the Linda Mama Post-Natal Services and its Utilization

Chi-square test was conducted at 95% of confidence to ascertain the relationship that existed between the perception of mothers on the Linda mama PNC services and its utilization. Table 4.6 presents the results.

Table 4.6

Chi-square Test on Perception of mothers on the Linda Mama Post-Natal services

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	301.171 ^a	40	.001
Likelihood Ratio	248.799	40	.034
Linear-by-Linear Association	96.852	1	.000
N of Valid Cases	267		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.03.

b. Computed only for a 2x2 table

The results presented in Table 4.6 indicate that $\chi^2 (1, N = 267) = 301.171$, $p < 0.05$. That is the Pearson Chi-Square was 301.171 at a p-value of 0.001. Therefore, since the Pearson Chi-Square was above 3.841 and the p-value is less than 0.05, the study deduced that there was a significant relationship between perception of mothers on the Linda mama post-natal services and its utilization. The results imply that the perception of the mothers which was facilitated through getting awareness on the existence of Linda mama, affordable costs and availability of services at manageable proximity enabled them to utilize the PNC services. In support with the findings, Wudineh et al. (2018) also found out that Ethiopian women's perceptions determined a lot to do with the utilization of PNC

services. Additionally, Gitobu et al. (2018) noted that mothers' perception seeking delivery services at public hospitals, was mainly affected by how these facilities implemented free maternal health care policies.

4.4.2 Binary Logistic Analysis for Perception of mothers on the Linda Mama Post-Natal Services and its Utilization

The study conducted binary logistic and the results are presented in Table 4.7.

Table 4.7

Binary Logistic Analysis of Perception of mothers on the Linda Mama Post-Natal services

Variable	B	S.E.	Odds Ratio	P-Value	R²
Perception	1.922	0.533	1.000 2.347	0.024	.051

Table 4.7 reveals that the Beta is 1.922; Standard Error is 0.533; R² is 0.051; and P-value is 0.024 (see appendix IX). Therefore, since the p-value of perception was 0.024 hence less than 0.05, it is interpreted that there was a significant positive association of perception of mothers on Linda mama PNS.

4.5 Knowledge and Attitude, and Utilization of PNC Services in Kajiado County

Knowledge and attitude was the third variable and had indicators such as awareness of post-natal services, exposure to mass media, assumption that PNS is for vaccination of the baby only, parity of the mother, level of education, cultural beliefs and practices, religious beliefs, and attitude of healthcare workers towards the mothers. It was measured using dichotomous and multiple rating scale as presented in Table 4.8.

Table 4.8***Knowledge and Attitudes and Utilization of PNC Services (n=267)***

	Characteristics	Frequency	Percentage
How often do you hear of Linda Mama program?	Very often	23	9
	Often	95	36
	Fairly often	117	44
	Sometimes	15	5
	Never	17	6
Do other mothers speak of the services offered by the Linda Mama?	Very often	54	20
	Often	24	9
	Fairly often	75	28
	Sometimes	93	35
	Never	21	8
Have you sought any maternal health service from a health facility?	Very often	37	14
	Often	63	24
	Fairly often	69	26
	Sometimes	82	31
	Never	16	5
You access post-natal services for free	Very often	10	4
	Often	101	38
	Fairly often	84	31
	Sometimes	13	5
	Never	59	22
My culture prohibits seeking services from medical facilities	Very often	0	0
	Often	1	0.5
	Fairly often	0	0
	Sometimes	1	0.5
	Never	265	99
My religion prohibits seeking services from medical facilities	Very often	0	0
	Often	2	1
	Fairly often	0	0
	Sometimes	0	0
	Never	265	99
The attitude of the healthcare workers discourages one from seeking services	Very often	0	0
	Often	0	0
	Fairly often	1	1
	Sometimes	2	1
	Never	264	98

The results on Table 4.8 indicate that 117(44%) had heard about Linda mama program fairly often while other 95(36%) heard the same of often basis. In regards to whether other mothers spoke of the services offered by the Linda Mama Program, 93(35%) indicated that it was done sometimes while 75(28%) fairly often. Further when asked whether they had sought any maternal health service from a health facility, 82(31%) said they did so sometimes, 69(26%) did so fairly often and 63(24%) on often basis. Table 4.6 also notes that 101(38%) sought free post-natal services often whereas 84(31%) did so fairly often. In regards to whether culture and religion prohibited them to access medical facilities, 265(99%) indicated that they never prohibited them subsequent to each other. On the attitude of workers as a source of discouragement to access medical facilities, 264(98%) rejected by saying it never discouraged them.

The results imply that most mothers had knowledge about Linda mama program and spoke to each other about the same but on average basis. Notably, mothers also made attempt to seek medical services and also access to free post-natal services. However, a substantive number of mothers 82(31%) were reluctant to use PNC services at a health facility. This could be attributed to a belief system where they believed they had amassed enough experience in taking care of the children based on the number of children they had (Somefun & Ibisomi, 2016). It was also noted that mother's culture and religion did not play a part in limiting them to access PNC services and so as the attitude of the healthcare workers in the hospital facilities. The results contradict studies such as Jonas et al. (2017), on the basis of negative attitude of hospital staff as the main cause of women failing to seek reproductive health services such as PNC at the public hospitals.

However, the current study's results provide unique set of revelation on the light of upgraded healthcare systems in Kenyan public hospitals. The system seeks to provide fair, equal and quality healthcare to people regardless of their background. Oluoch-Aridi et al. (2018) also contradicted the study by pointing out that there were increased cases of mistreatment among mothers who sought delivery service mainly due to lack of adequate finances to cater for consultation costs pre-and post-delivery. However, the current study established that the hospitals had established monitoring and evaluation systems of the services their staff deliver to the public in the aim of reducing complaints.

The findings concur with Anderson behavioral model for health services utilization on the perspective of predisposing and enabling factors. This is whereby social cultural elements did not limit the behaviors of women to seek PNC services. Additionally, the community association related to religion did not also limit the mothers to access the PNC services.

The study also conducted interviews on KIIs and in regards to knowledge and attitudes, the study had two questions. On the first question, the committee were to explain the most attended PNC visit and its justification among the recommended four visits of the Linda mama program. The responses were grouped into 3 themes which related to baby's vaccination, umbilical cord healing check-up and family planning education to the mothers.

In regards to baby's vaccination, the committee members stated that the first to third visits were the most attended. The reason was that the mothers wanted to have their baby's vaccination on the initial immunization schedule. In regards to umbilical cord healing

check-up, the committee members indicated that the most attended visits were on the 2nd week visits since the mothers wanted a check-up on the baby's well-being especially on the umbilical cord healing and also CS wound healing.

In regards to family planning education, the respondents mentioned that during the 6th week, the mothers attended health education on family planning apart from their children getting vaccinated. Similar sentiments were also addressed by Kikuchi et al. (2018) who argued that the first visit was mostly attended due to issues to do with baby vaccination, umbilical cord healing and CS wounds check-ups in Ratanakiri, Cambodia. However, thereafter, the visits subsidized based on how fast the healing took place.

On the second question, the committee were to highlight reasons as to why other visits were not attended and how that showed the mother's knowledge and attitudes towards the utilization of PNC Services. The committee's responses were grouped into three themes such as low awareness on the need for visits, environmental factors, and the tendency to disregard (negative attitude) the visits. In relation to low awareness, the committee indicated that most women thought that the first vaccination was enough for the baby hence illiteracy and lack of awareness took a toll on them. A committee members KII04 was quoted saying,

"The mothers are not fully sensitized on the importance of the other visits".

On environmental factors, the committee mentioned that drought had affected most pastoralists therefore hindering them from keeping their appointments. The mothers were therefore struggling to remain alive let alone even thinking of PNC services. On disregarding the visits, most mothers did not attend other visits since there was no major

examination being done to the mother most probably since the scar had already healed and their baby's cord was dry. Also notably, a committee member KII009 was quoted saying,

“A number of the women are always already pregnant by the time they are coming for the measles vaccination at 9 months of age due to disregarding the need of PNC services related to family planning.”

Comparatively, Kerber et al. (2007) provided that one of the major impediments towards maternal health services related to negative attitude that the mothers had. That is, they felt as long as the baby was vaccinated, alive and healthy, there was no need to seek further medical healthcare from the hospitals.

4.5.1 Chi-Square Results of Knowledge and Attitude and the Utilization of PNC Services

Chi-square test was conducted at 95% of confidence to ascertain the relationship that existed between knowledge and attitude and the utilization of PNC services. Table 4.9 presents the results.

Table 4.9

Chi-square Test on Knowledge and Attitude and the Utilization of PNC Services

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	148.145	80	.028
Likelihood Ratio	131.164	80	.007
Linear-by-Linear Association	17.318	1	.031
N of Valid Cases	267		

0 cells (0.0%) have expected count less than 5. The minimum expected count is 3.51.

The results presented in Table 4.9 indicate that $\chi^2 (1, N = 267) = 148.145, p < 0.05$. That is the Pearson Chi-Square was 148.145 at a p-value of 0.028. Therefore, since the Pearson Chi-Square was above 3.841 and the p-value is less than 0.05, the study deduced that there was a significant relationship between knowledge and attitude and the utilization of PNC services. The results imply the knowledge and attitude that mothers possessed was great determinant on whether they would seek PNC services or not. That includes knowledge on various PNC services they expect to be given, exposure to information through social and main stream media, parity of the mother and their education level, cultural and religious beliefs, and how the health workers treat the mothers when serving them.

All these factors when combined have a great influence on impacting knowledge to the mothers which enables them make decisions of utilization of PNC services. In agreement Lang'at et al. (2019) established that decision to seek PNC services by a mother especially anchored on free maternity policy, was based on the information they possessed and the experiences they've had with the healthcare staff. The more they understood what they were to be offered, their background limitations related to culture and religion, education level and how the services were offered, dictated a lot on whether they would continue or discontinue with the PNC services at a facility.

4.6 Availability of Infrastructure and Utilization of PNC services in Kajiado County

Availability of infrastructure was the fourth variable and had indicators such as availability of facilities offering Linda mama services, distance to the nearest facility,

availability of reliable transport, and availability of healthcare personnel. It was measured using dichotomous and multiple rating scale as presented in Table 4.10.

Table 4.10

Availability of Infrastructure and Utilization of PNC Services (n=267)

	Characteristics	Frequency	Percentage
How far is the nearest health facility offering Linda Mama services? Distance in KM	More than 5 Kms	176	66
	Less than 5 Kms	91	34
How do you get there?	Car	132	49
	Motorbike	17	6
	Foot	118	44
How much do you pay for transport? Ksh	800-2000	5	2
	500-799	13	5
	200-499	71	27
	1-199	111	41
	0	67	25
Does the distance to the health facility and the cost affect your attendance?	Yes	72	27
	No	195	73
Are there medical personnel in the health facility?	Yes	266	99
	No	1	1

Table 4.10 indicate that 176(66%) of the mothers indicated that the nearest health facility offering Linda mama services was more than 5 kilometers. Additionally, 132(49%) used cars while 118(44%) used foot to access the health facilities. In regards to the amount they paid as transport fare, 111(41%) paid less than 200 while 71(27%) paid 200-499. Therefore, 195(73%) admitted that the distance to the health facility and the cost did not

affect their attendance. Notably, 266(99%) also admitted that there were medical personnel in the health facilities.

These results mean that in as much as health facilities were widely located in Kajiado county, they had medical staff present to serve the region. Apart from that the mothers had easy access to the facilities due to availability of cars, motor bicycles, improved road networks and low cost of transport. Comparatively, Onger et al. (2018) also noted that as a result of improved road network and availability of healthcare providers in Kisii hospital, most mothers attended PNC appointments consistently. Further, Sakala et al. (2018) also noted that when mothers lived in a far place from health facility, their chances of attending PNC in a hospital were low.

The findings concur with the Andersons behavioral model on the perspective of external and enabling factors. In regards to external factors, the ability of the mothers to afford logistic costs while at the same time availability of transport facilities and quality road networks was a determinant towards their utilization of PNC.

The study also conducted interviews on KIIs and in regards to utilization of PNC services, the study had two questions. On the first question, the committee members were asked to elaborate the perception of the mothers on the utilization of post-natal services as part of the services offered under the program. The responses were grouped into two themes related to timelines on the utilization of the program to both the mothers and the children and subscription of mothers to Linda mama program.

In regards to the timelines, the committee mentioned that the mothers were be able to use Linda mama for 3 months after delivery and the child for one year. Therefore, its

utilization rate was very high due to positive perception although most of the facilities in the county did not document Linda mama services. In regards to subscription, the committee mentioned that due to the positive perception that mothers had, majority of them who delivered in the health facilities had the Linda mama cover. After delivery they were to present their cards during service delivery to access PNC services. A committee member KII02 was quoted saying,

“Even if not all women remember to carry their cards especially after delivery, they ensured to utilize both ANC and PNC but of course ANC was utilized more as compared to the latter.”

On the second question, the committee members were to indicate the measures put in place to encourage mothers who have delivered to utilize the PNC service under Linda Mama. The responses were grouped into two themes which included sensitization and support services. On sensitization, the committee members indicated that they ensured that there was health education and implementation of ‘To Come Again’ [TCA] whereby it was given both the mother and the child for checkup. Further, the mothers were encouraged to undertake family planning methods to facilitate effective and uninterrupted exclusive breastfeeding pattern. These two measures were implemented to enable mothers maximize on the benefits of the PNC program. A committee member KII07 was quoted saying,

“The value that PNC has on mothers goes beyond normal health check-ups to sensitization on the importance of exclusive breastfeeding to their babies”.

This means that during the PNC visits, mothers got a chance to be trained and monitored on their commitment to exclusive breastfeeding. This is because with daily pressures to earn a living, it has become very difficult for mothers to offer pure breastmilk exclusively for the first 6 months of the baby. That is, without necessarily introducing solid food or other fluids to the babies so that they could acquire important nutrients that enable their bodies to be immune to various diseases.

On support services, the committee mentioned that there was issuance of baby mother pack after delivery and other basic services such as photocopying of documents for mothers at subsidized costs. In agreement, Adams and Smith (2018) pointed that when mothers received gifts such as ‘receiving set’ for their newborn babies, it motivated them to utilize postpartum care services.

4.6.1 Chi-Square Results of Availability of Infrastructure and the Utilization of PNC Services

Chi-square test was conducted at 95% of confidence to ascertain the relationship that existed between availability of infrastructure and the utilization of PNC services. Table 4.11 presents the results.

Table 4.11

Chi-square Test on Availability of Infrastructure and the Utilization of PNC Services

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	190.317	45	.000
Likelihood Ratio	153.168	45	.000
Linear-by-Linear Association	.016	1	.009
N of Valid Cases	267		

0 cells (0.0%) have expected count less than 5. The minimum expected count is 4.23

The results presented in Table 4.11 indicate that $\chi^2 (1, N = 267) = 190.317, p < 0.05$. That is the Pearson Chi-Square was 190.317 at a p-value of 0.00. Therefore, since the Pearson Chi-Square was above 3.841 and the p-value is less than 0.05, the study deduced that there was a significant relationship between availability of infrastructure and the utilization of PNC services.

These results imply that mothers were only able to access PNC service only if the facilities were available and they had the means to access the facilities. Therefore, if a facility was offering Linda mama services and the distance to the facility was manageable, the mothers made effort. Additionally, the reliability of transport and availability of healthcare staff when they visited the hospitals was a key determinant in utilizing the PNC services. Comparatively, Mwangi et al. (2018) also found out that when the mothers were able to access facilities with skilled staff, they were likely to faithfully attend the PNC services with less cases of non-attendance.

4.7 Utilization of PNC services

Utilization of PNC services was the dependent variable and its results are provided in Table 4.12 relating to dichotomous and multiple rating scales.

Table 4.12***Utilization of PNC Services (n=267)***

	Characteristics	Frequency	Percent
Did you go to hospital after delivery	Yes	203	76
	No	64	24
If yes, after how many days	1-7 days	36	14
	1-3 weeks	52	19
	4-6 weeks	174	65
	7-8 weeks	5	2
Subsequent visit to hospital	1-3 weeks	43	16
	4-6 weeks	129	48
	7-8 weeks	95	36
How many times altogether did you go to hospital in the first six (6) weeks?	Within 4-6 weeks after delivery	124	46
Why did you go to hospital after delivery?	Within 1-2 weeks after delivery	102	39
	None	41	15
	I was unwell.	21	8
	Baby was unwell	62	23
	The doctor told me I should go	83	31
	I wanted to make sure I was okay (normal health check)	53	20
	I wanted to make sure the baby was okay (normal health check)	27	10
Why did you not attend Clinic after delivery?	I was told the baby needed vaccinations	21	8
	I was not aware the services are available	5	2
	I was feeling okay	3	1
	The baby was okay	104	39
	I had no child to take to hospital	2	1
	I was afraid of the cost	153	57

Table 4.12 indicate 203(76%) of the mothers admitted to have gone to the hospital after delivery. In regards to post-delivery visit to hospital, 174(65%) indicated that they went

after 4-6 weeks, whereas 52(19%) went after 1-3 weeks and 36(14%) went after 1-7 days. The results further indicate that 129(48%) of the women said that they still went to hospital 4-6 week later while 95(36%) went 7-8 weeks later after their first visit.

Additionally, Table 4.15 shows that 124(46%) of the women went to the hospital 4-6 weeks after delivery and 102(39%) went within 1-2 weeks after delivery in total. Notably, 83(31%) indicated that they went to hospital after delivery since they were advised by the doctors to go, 62(23%) went because the baby was unwell, 53(20%) went since they wanted to make sure that they were okay. Further, those that did not go back to hospital after delivery mainly indicated that 153(57%) were afraid of the cost and 10(39%) mothers felt no need since they baby was okay.

The results imply that, mothers majorly attended post-delivery clinics within a range of 1 day to 6 weeks. Notably, the reason for the visit was mainly because the doctors advised them so and also to ensure that the health of the baby was checked when unwell and the mother's check-up as well. Those that did not manage to go back after delivery were mainly affected by the cost related concerns and lacked a reason since the baby was fine. This shows that Linda mama's insurance to provide affordable PNC services was still low among women. However, Spector (2012) insisted that improving post delivery services for the mother and the baby have to go a long way in addressing indirect costs. Therefore, Owuor and Amolo (2019), Spector (2012) and Gee et al. (2019) advocated for mobile post-delivery services whereby the healthcare providers should move to households as a means of ensuring that the mother and baby's health is checked at

probably zero cost to the family. This is at the same time shifting the cost burden to the health facilities for effectiveness of post-delivery services.

The mothers were also asked to indicate various previous birth experiences as presented in Table 4.13.

Table 4.13

Previous Birth Experiences (n=267)

	Characteristics	Frequency	Percent
Outcome of previous delivery	Alive	265	99
	Dead	2	1
Where did you deliver your child	Hospital	261	98
	Else where	6	2
Timing of PNS attendance	Appropriate time- 1-2 weeks	122	46
	Inappropriate time- more than two weeks	145	54

The results in Table 4.13 revealed that the previous deliveries that the mothers had experienced led to 265 (99%) alive babies which were mainly delivered in hospitals, which was attested by 261(98%) mothers. Additionally, the results also indicate that 145(54%) had inappropriate timing of PNC attendance which was generally more than 2 weeks after delivery. Therefore, the results provide a rather interesting twist whereby the ability of the mothers to have given birth to alive babies was closely linked to delivering in hospitals. Ideally, this could have been a motivating factor to ensure that they attended PNC services within the required timelines of 1-2 weeks post-delivery. However, contrary to this expectation, their attendance to PNC services occurred after the lapse of 2 weeks.

This outcome was also discovered by Nyondo-Mipando et al. (2023) who revealed that when mothers were able to give birth to alive babies, their attention was mainly focused on monitoring child's health and not their own. This therefore led to their decline in attending PNC services in the required timelines. Another study by Javadi et al. (2023) justified that one of the reasons as to why mothers hardly adhered to the correct timing of PNC visits was mainly attributed to post-partum depression and embarrassment.

According to Javadi et al. (2023), the post-partum depression experienced after delivery and embarrassment had mostly to do with unexpected pregnancy or if the pregnancy was as a result of promiscuous sexual activity. However, this was from the perspective of adolescent mothers. For other more mature mothers, Ndaruhutse (2023) revealed that they missed PNC services due to post-partum depression that developed when their spouses rejected the baby (especially if the gender of the baby was not what was desired). They therefore, lost the desire to even take care of their health nor that of their babies, since they viewed themselves as failures.

The findings support the Anderson behavioral model for health services utilization as based on the enabling factors such as their perception and family's influence. If the mothers had less disregards for their health especially when their attention was fully dedicated to their babies, it discouraged attendance of PNC services. Additionally, of the family members such as spouses, parents, siblings failed to acknowledge and support the new mother in accepting the baby, it negatively affected their desire to attend PNC services as well.

The study also conducted interviews on KIIs and in regards to utilization of PNC services, the study had two questions. On the first question, the committee members were asked to elaborate the perception of the mothers on the utilization of post-natal services as part of the services offered under the program. The responses were grouped into two themes related to timelines on the utilization of the program to both the mothers and the children and subscription of mothers to Linda mama program.

In regards to the timelines, the committee mentioned that the mothers were be able to use Linda mama for 3 months after delivery and the child for one year. Therefore, its utilization rate was very high due to positive perception although most of the facilities in the county did not document Linda mama services. In regards to subscription, the committee mentioned that due to the positive perception that mothers had, all women who delivered in the health facilities had the Linda mama cover. After delivery they were to present their cards during service delivery to access PNC services. A committee member KII02 was quoted saying,

“Even if not all women remember to carry their cards especially after delivery, they ensured to utilize both ANC and PNC but of course ANC was utilized more as compared to the latter.”

On the second question, the committee members were to indicate the measures put in place to encourage mothers who have delivered to utilize the PNC service under Linda Mama. The responses were grouped into two themes which included sensitization and support services. On sensitization, the committee members indicated that they ensured that there was health education and implementation of ‘To Come Again’ [TCA] whereby

it was given both the mother and the child for checkup. Further, the mothers were encouraged to undertake family planning methods to facilitate effective and uninterrupted exclusive breastfeeding pattern. These two measures were implemented to enable mothers maximize on the benefits of the PNC program. A committee member KII07 was quoted saying,

“The value that PNC has on mothers goes beyond normal health check-ups to sensitization on the importance of exclusive breastfeeding to their babies”.

This means that during the PNC visits, mothers got a chance to be trained and monitored on their commitment to exclusive breastfeeding. This is because with daily pressures to earn a living, it has become very difficult for mothers to offer pure breastmilk exclusively for the first 6 months of the baby. That is, without necessarily introducing solid food or other fluids to the babies so that they could acquire important nutrients that enable their bodies to be immune to various diseases.

On support services, the committee mentioned that there was issuance of baby mother pack after delivery and other basic services such as photocopying of documents for mothers at subsidized costs. In agreement, Adams and Smith (2018) pointed that when mothers received gifts such as ‘receiving set’ for their newborn babies, it motivated them to utilize postpartum care services.

4.8.1 Chi-Square Results of Factors Associated with Utilization of Postnatal Care Services

Chi-square test was conducted at 95% of confidence to ascertain the relationship of factors associated with the utilization of PNC services. Table 4.14 presents the results.

Table 4.14

Chi-Square Results of Factors Associated with Utilization of Postnatal Care Services (n=267)

Variable	Sample Size	χ	Df	P-value
Socio-demographic characteristics of the mothers	267	326.792a	90	0.017
Perception of mothers	267	301.171a	40	0.001
Knowledge and attitudes	267	148.145a	80	0.028
Availability of infrastructure	267	190.317a	45	0.000

The results provided in Table 4.14 indicate that the Pearson Chi-Square of Socio-demographic characteristics of the mothers was 326.792 at a p-value of 0.017; Pearson Chi-Square of perception of mothers was 301.171 at a p-value of 0.001; Pearson Chi-Square of knowledge and attitudes was 148.145 at a p-value of 0.028; Pearson Chi-Square of availability of infrastructure outcomes was 190.317 at a p-value of 0.000. Therefore, since all these mentioned factors had p-values that were less than 0.05, the study concluded that all the factors had a positive influence towards the utilization of post-natal care services in Kajiado County.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary of the results as established after data collection. The summary is based per objective and thereafter the conclusions and recommendations are also provided.

5.2 Summary of Results

The general objective was to evaluate the factors associated with the utilization of post-natal care services in Kajiado County. The factors explored were the socio-demographic characteristics of the mothers, perception of mothers on the Linda Mama Post-Natal services, knowledge and attitudes of the mothers and availability of infrastructure. A cross-sectional study where qualitative and quantitative methods of data collection were done among mothers who were randomly selected from delivery records from the facilities contracted to offer Linda Mama services by NHIF within Kajiado County. Questionnaires and Key Informant Interviews were used to collect data.

5.2.1 Association of Socio-demographic Characteristics of the mothers with Utilization of Post-natal Services Among Women in Kajiado County

The first objective was to determine the association of socio-demographic characteristics of the mothers with the utilization of PNC services in Kajiado County. Areas such as mother's age, marriage, education level, occupation, and religion, were addressed. The sample size for the questionnaires was 363 and had a response rate of 267(74%).

Additionally, 3 out of 5 committee were interviewed. The questionnaire results indicated that majority of the mothers who were 205(77%) mothers ages were between 19-30 years and 62(23%) were above 30 years. Further, 241(90%) mothers were married, 204(76%) professed Christianity religion, and 144(54%) had acquired secondary education. The results also pointed out that 178(67%) mothers were unemployed with only 48(18%) employed and other 41(15%) were self-employed. Additionally, 248(93%) mothers had 1-4 children whereas only 19(7%) had 5-10 children. Further 252(94%) mothers admitted that they were aware of the Linda mama which was the main reason as to why 262(98%) had their previous deliveries (births) done in a hospital. That is 235(88%) of the mothers delivered in hospitals since they had Linda mama insurance.

The interview results provided that the challenges they encountered when implementing Linda Mama program were lack of necessary requirements for registering Linda mama such as Identification Card [ID] and illiteracy, The interviews respondents pointed out that to solve the issues, there was need to create more awareness among women of reproductive age on the benefits of the Linda mama program; mothers were advised to always carry their ID card whenever they visited the ANC for easier registration to the Linda mama program.

The chi-square results were that $\chi^2 (1, N = 267) = 326.792, p < 0.05$. That is the Pearson Chi-Square was 326.792 at a p-value of 0.017. Therefore, since the Pearson Chi-Square was above 3.841 and the p-value is less than 0.05, the study deduced that there was a significant relationship between socio-demographic characteristics of the mothers and the utilization of PNC services.

5.2.1 Perception of Mothers on the Linda Mama Post-Natal services in Kajiado County

The first objective was to assess the perception of mothers on the Linda Mama Post-Natal services in Kajiado County. Areas such as awareness of Linda mama program, cost of services, and where the services were offered were addressed. The sample size for the questionnaires was 363 and had a response rate of 267(74%). Additionally, 3 out of 5 committee members were interviewed. The questionnaire results provided that 263(99%) of the mothers acknowledged that they were aware of Linda mama program's existence. In the same line of thought, 178(67%) indicated that they knew the existence of Linda mama from health facility during ante-natal visits and 78(29%) from a friend. The study findings further point out that only 12(4%) of the mothers knew that there were free PNC services offered under Linda mama program. It was also discovered that only 3(1%) of the mothers had actually utilized the PNC free services of the program. The major reasons given by 162(61%) mothers in regards to their lack of utilization, revealed that they thought that they had to pay to join the program like the normal NHIF.

It was noted that 111(42%) of the mother strongly agreed and 51(19%) agreed respectively on the usefulness of PNC to a mother's health. Further, 179(67%) strongly agreed and 50(19%) agreed on the usefulness of PNC to a child's health. Additionally, 183(69%) strongly agreed and 53(20%) agreed that they would attend PNC in future, while at the same time, 110 (41%) agreed and 107(40%) strongly agreed that they would offer recommendations of the service to other mothers. However, 13(5%) strongly disagreed and 118(44%) disagreed that PNC were free and easily accessible.

The interview results provided that awareness levels of the Linda Mama program in the County was through health facilities and other agents. Further the level of utilization of the Linda mama program was enhanced through registration of women to the program. However, most mothers used Linda mama program for only delivery and not during post-delivery. The chi-square results were that $\chi^2 (1, N = 267) = 301.171, p < 0.05$. That is the Pearson Chi-Square was 301.171 at a p-value of 0.001. Therefore, since the Pearson Chi-Square was above 3.841 and the p-value is less than 0.05, the study deduced that there was a significant relationship between perception of mothers on the Linda mama post-natal services and its utilization. The binary logistic analysis indicated Beta was 1.922; Standard Error was 0.533; R^2 was 0.051; and P-value was 0.024 (see appendix IX). Therefore, since the p-value of perception was 0.024 hence less than 0.05, it is interpreted that there was a significant positive association of perception of mothers on Linda mama PNS.

5.2.3 Association of Knowledge and Attitudes with the Utilization of PNC Services in Kajiado County

The third objective was to establish the association of knowledge and attitudes with the utilization of PNC services in Kajiado County. Areas such as lack of awareness of post-natal services, lack of exposure to mass media, assumption that PNS is for vaccination of the baby only, parity of the mother, level of education, cultural beliefs and practices, religious beliefs, and attitude of healthcare workers towards the mothers were addressed. The sample size for the questionnaires was 363 and had a response rate of 267(74%). Additionally, 3 out of 5 committee were interviewed.

The questionnaire results indicated that 117(44%) had heard about Linda mama program fairly often while other 95(36%) heard the same of often basis. In regards to whether other mothers spoke of the services offered by the Linda Mama Program, 93(35%) indicated that it was done sometimes while 75(28%) fairly often. Further when asked whether they had sought any maternal health service from a health facility, 82(31%) said they did so sometimes, 69(26%) did so fairly often and 63(24%) on often basis. Table 4.6 also notes that 101(38%) sought free post-natal services often whereas 84(31%) did so fairly often. In regards to whether culture and religion prohibited them to access medical facilities, 265(99%) indicated that they never prohibited them subsequent to each other. On the attitude of workers as a source of discouragement to access medical facilities, 264(98%) rejected by saying it never discouraged them.

The interview results revealed that the most attended PNC visits were baby's vaccination, umbilical cord healing check-up and family planning education to the mothers. The reasons as to why other visits were not attended was due low awareness on the need for visits, environmental factors, and the tendency to disregard (negative attitude) the visits. The chi-square results were that $\chi^2 (1, N = 267) = 148.145, p < 0.05$. That is the Pearson Chi-Square was 148.145 at a p-value of 0.028. Therefore, since the Pearson Chi-Square was above 3.841 and the p-value is less than 0.05, the study deduced that there was a significant relationship between knowledge and attitude and the utilization of PNC services.

5.2.4 Availability of Infrastructure Plays a Role in the Utilization of PNC Services in Kajiado County

The fourth objective was to determine if availability of infrastructure plays a role in the utilization of PNC services in Kajiado County. Areas such as availability of facilities offering Linda mama services, distance to the nearest facility, availability of reliable transport, availability of healthcare personnel, were addressed. The sample size for the questionnaires was 363 and had a response rate of 267(74%). Additionally, 3 out of 5 committee were interviewed.

The questionnaire results indicated that 176(66%) of the mothers indicated that the nearest health facility offering Linda mama services was more than 5 kilometers. Additionally, 132(49%) used cars while 118(44%) used foot to access the health facilities. In regards to the amount they paid as transport fare, 111(41%) paid less than 200 while 71(27%) paid 200-499. Therefore, 195(73%) admitted that the distance to the health facility and the cost did not affect their attendance. Notably, 266(99%) also admitted that there were medical personnel in the health facilities.

The interview results indicated that the mothers were be able to use Linda mama for 3 months after delivery and the child for one year. Therefore, its utilization rate was very high due to positive perception although most of the facilities in the county did not document Linda mama services. It was established that majority of the mothers who delivered in the health facilities had the Linda mama cover. After delivery they were to present their cards during service delivery to access PNC services. The mothers also underwent the health education and implementation of 'To Come Again' [TCA] whereby

it was given both the mother and the child for checkup. There was the issuance of baby mother pack after delivery and other basic services such as photocopying of documents for mothers at subsidized costs.

The chi-square results were that $\chi^2 (1, N = 267) = 190.317, p < 0.05$. That is the Pearson Chi-Square was 190.317 at a p-value of 0.00. Therefore, since the Pearson Chi-Square was above 3.841 and the p-value is less than 0.05, the study deduced that there was a significant relationship between availability of infrastructure and the utilization of PNC services.

5.3 Conclusions of the Study

The conclusion derived on socio-demographic characteristics of the mothers is that 67% of the mothers had no employment which directly affected their ability to generate income. Therefore, they lacked money needed to pay for highly nutritious food, so as to have more supply of breast milk and also pay for any emerging post-delivery complications related to the baby or their health. Additionally, the study also concluded that mothers failed to show up at PNC clinics since they had not priory registered for Linda mama program, due to lack of IDs and illiteracy. Failure to register on time disqualified them from benefiting from PNC services after delivery.

In regards to the perception of mothers, 96% of them were not aware of the existence of free PNC services offered through the Linda mama program. This led to a very low turn-out of mothers in the process of utilization of PNC. Additionally, mothers presumed that the Linda mama PNC services were paid just like the NHIF system hence since most of

them were unemployed, they had fear of even inquiring on the same. Further, most mothers knew that the Linda mama program was meant for the delivery process and not post-delivery services.

It can be concluded on knowledge and attitudes that, mothers made assumption that since they had prior experience in child bearing, they did not require the PNC services. Therefore, this led to low utilization of PNC services especially for mothers who had given birth to other children. It was also concluded that there was general lack of awareness and high illiteracy among mothers which limited on the need to attend PNC and the relevance of the recommended visits. This was because most of the mothers thought that as long as the baby was vaccinated on the first visit and there were no major examinations, there was no need of other consecutive PNC visits.

In regards to availability of infrastructure, the conclusion is that most hospital facilities did not have a proper documentation of the Linda mama PNC services. This proved that it was very hard for a new medical staff to follow through a PNC service case of a mother. Therefore, the lack of seriousness in the matter, made the mothers disregard consistent visits.

5.4 Recommendations of the Study

The recommendations on socio-demographic characteristics of the mothers are that the hospital management should recruit added number of CHVs, nurses and nutritionists to offer mobile PNC services so as to assist as many mothers as possible in educating them and checking on them. Therefore, this means that there should be increased budget to

cater for hardship allowances especially when they have to cover large distances to look for the mothers who have failed to show up at the PNC clinics after a period of 2 weeks after delivery. Therefore, the hospital management should liaise with donors and sponsored on this special mandate for provision of financial and non-financial resources. Some of the resources should be used to buy fortified food, supplements, and baby shopping among others. The clinical implication is that, hospital staff in charge of ANC visits should encourage the mothers to begin looking for valuable documents such as IDs that will be used during the registration of Linda mama program.

Further the perception of the mothers on Linda mama program's recommendation are that the hospital management should conduct vigorous sensitization trainings through the help of health workers and charts, to create awareness among the mothers on the kind of services offered under Linda mama program. The clinical implications are that, health workers should also go an extra mile in demystifying the presumption that Linda mama is payable just like NHIF. The hospital management should ensure that they provide a friendly environment whereby mothers would be free to ask questions related to PNC services without fear, irrespective of their income level. The questions should be answered promptly by any medical health practitioner without any harshness.

In regards to knowledge and attitude, the study recommends that healthcare workers should provide even more avenues for training mothers on the importance of PNC services. These avenues could include public speaking in breastfeeding support group and other women meetings. The clinical implication is that, the hospital management should develop more policies that promote effective knowledge awareness such as

provision of charts and motion pictures describing the relevance of PNC services among mothers. The greater number of times mothers are exposed to these written charts and screens, the higher the effectiveness and consistency of PNC service attendance.

Considerably, the availability of infrastructure's recommendations is that the hospital management should empower work policies that allow frequent spot check audits of PNC service documentation. The clinical implication is that effective monitoring and evaluation of the work done by the medical health specialists would be more complacent to achieve in relation to attendance to mothers during their PNC visits

5.5 Suggestion for Future Studies

The study examined the factors associated with the utilization of post-natal care services in Kajiado County. Future studies should expand the study and assess other services related to maternal health such as ANC and delivery in other counties.

The study used questionnaires and interview guides hence future studies could use observational guides and access mother's health records to note the frequency at which the mothers were attending PNC services.

Additionally, the study conducted used a cross-sectional approach when collecting data hence future studies should consider longitudinal approaches since PNC is a long-term activity that cannot be effectively studied at a retrospective study.

REFERENCES

- Abuya, T., Obare, F., Matanda, D., Dennis, M. L., & Bellows, B. (2018). Stakeholder perspectives regarding transfer of free maternity services to National Health Insurance Fund in Kenya: Implications for universal health coverage. *The International Journal of Health Planning and Management*, 33(2), 648–662. <https://doi.org/10.1002/hpm.2515>
- Adams, Y. J., & Smith, B. A. (2018). Integrative review of factors that affect the use of postpartum care services in developing countries. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 47(3), 371–384. <https://doi.org/10.1016/j.jogn.2018.02.006>
- Akibu, M., Tsegaye, W., Megersa, T., & Nurgi, S. (2018). Prevalence and determinants of complete postnatal care service utilization in Northern Shoa, Ethiopia. *Journal of Pregnancy*, 2018(8625437), 1-7. <https://doi.org/10.1155/2018/8625437>
- Akinyemi, J. O., Bolajoko, I., & Gbadebo, B. M. (2018). Death of preceding child and maternal healthcare services utilization in Nigeria: Investigation using lagged logit models. *Journal of Health, Population, and Nutrition*, 37(18), 1-17. <https://doi.org/10.1186/s41043-018-0154-0>

- Akunga, D., Menya, D., & Kabue, M. (2014). Determinants of postnatal care use in Kenya. *African Population Studies*, 28(3), 1447–1459. <https://doi.org/10.11564/28-3-638>
- Andersen, R. M. (1995). Revisiting the behavioral model and access to medical care: Does it matter? *Journal of Health and Social Behavior*, 36(1), 1–10. <https://doi.org/10.2307/2137284>
- Burnett-Zieman, B., Abuya, T., Mwanga, D., Wanyugu, J., Warren, C.E., & Sripad, P. (2021). Community-based postnatal care services for women and newborns in Kenya: an opportunity to improve quality and access. *Journal of Global Health*, 11(07006), 1-10. <https://doi.org/10.7189/jogh.11.07006>.
- County Government of Kajiado. (2018, November 16). *Kajiado emerges top among counties with highest shift to government health facilities: County Government of Kajiado*. <https://www.kajiado.go.ke/news/kajiado-emerges-top-among-counties-with-highest-shift-to-government-health-facilities/>
- Darmstadt, G. L., Bhutta, Z. A., Cousens, S., Adam, T., Walker, N., & Bernis, L. de. (2005). Evidence-based, cost-effective interventions: How many newborn babies can we save? *The Lancet*, 365(9463), 977–988. [https://doi.org/10.1016/S0140-6736\(05\)71088-6](https://doi.org/10.1016/S0140-6736(05)71088-6)

- Finlayson, K, Sacks, E, Brizuela, V., Crossland, N., Cordey, S., Ziegler, D., Langlois, E.V., Javadi, D., Comrie-Thomson, L., Downe, S. & Bonet, M. (2023). Factors that influence the uptake of postnatal care from the perspective of fathers, partners and other family members: A qualitative evidence synthesis. *BMJ Global Health*, 8(1), 1-18. <https://doi.org/10.1136/bmjgh-2022-011086>
- Fort, A. L. (2012). Coverage of post-partum and post-natal care in Egypt in 2005–2008 and Bangladesh in 2004–2007: Levels, trends and unmet need. *Reproductive Health Matters*, 20(39), 81–92. [https://doi.org/10.1016/S0968-8080\(12\)39600-6](https://doi.org/10.1016/S0968-8080(12)39600-6)
- Gee, S., Vargas, J., & Foster, A. M. (2019). The more children you have, the more praise you get from the community: Exploring the role of sociocultural context and perceptions of care on maternal and newborn health among Somali refugees in UNHCR supported camps in Kenya. *Conflict and Health*, 13(1), 11. <https://doi.org/10.1186/s13031-019-0195-z>
- Gitobu, C. M., Gichangi, P. B., & Mwanda, W. O. (2018). The effect of Kenya’s free maternal health care policy on the utilization of health facility delivery services and maternal and neonatal mortality in public health facilities. *BMC Pregnancy and Childbirth*, 18(1), 77-87. <https://doi.org/10.1186/s12884-018-1708-2>
- Harun, K., Shelmith, M., & Muia, D. (2013). Persistent utilization of unskilled birth attendants’ services among Maasai Women in Kajiado County, Kenya. *Public Health Research*, 2(6), 213–220. <https://doi.org/10.5923/j.phr.20120206.07>

Health Care Infrastructure (2019). *Izumi*. <http://izumi.org/about/how-we-work/health-care-infrastructure/>

Heinisch, O. (1965). Cochran, W. G.: Sampling Techniques, 2. Aufl. John Wiley and Sons, New York, London 1963. Preis s. *Biometrische Zeitschrift*, 7(3), 203–203. <https://doi.org/10.1002/bimj.19650070312>

Iyanda, H. I. (2017) *Determinants of utilization of postnatal care services in Nigeria*. https://bibalex.org/baifa/Attachment/Documents/BGct4B5LmS_20180404151219943.pdf

Javadi, D., Sacks, E., Brizuela, V., Finlayson, K., Crossland, N., Langlois, E.V., Ziegler, D., Chandra-Mouli, V., & Bonet, M. (2023). Factors that influence the uptake of postnatal care among adolescent girls: A qualitative evidence synthesis. *BMJ Global Health*, 8(011560), 1-15. <https://doi.org/10.1136/bmjgh-2022-011560>

Jonas, K., Crutzen, R., van den Borne, B., & Reddy, P. (2017) Healthcare workers' behaviors and personal determinants associated with providing adequate sexual and reproductive healthcare services in sub-Saharan Africa: A systematic review. *BMC Pregnancy Childbirth*, 17(1), 1-19. <https://doi.org/10.1186/s12884-017-1268-x>.

Kenya National Bureau of Statistics (2013). *Exploring Kenya's inequality: Pullin apart or pooling together*. <http://inequalities.sidint.net/kenya/wp-content/uploads/sites/2/2013/09/Kajiado.pdf>

Kenya National Bureau of Statistics (2014). *Kenya demographic and health survey*.

<https://www.knbs.or.ke/download/2014-kenya-demographic-and-health-survey/>

Kerber, K. J., Graft-Johnson, J. E. de, Bhutta, Z. A., Okong, P., Starrs, A., & Lawn, J.

E. (2007). Continuum of care for maternal, newborn, and child health: From slog to service delivery. *The Lancet*, 370(9595), 1358–1369.

[https://doi.org/10.1016/S0140-6736\(07\)61578-5](https://doi.org/10.1016/S0140-6736(07)61578-5)

Kikuchi, K., Yasuoka, J., Nanishi, K., Ahmed, A., Nohara, Y., Nishikitani, M., Yokota,

F., Mizutani, T., & Nakashima, N. (2018). Postnatal care could be the key to improving the continuum of care in maternal and child health in Ratanakiri,

Cambodia. *PLOS ONE*, 13(6), 1-10.

<https://doi.org/10.1371/journal.pone.0198829>

Kokedo, R.N., & Chepchirchir, A. (2023). Factors influencing uptake of postnatal care

services at a maternal and child health clinic in Kajiado County Referral Hospital, Kenya. *African Journal of Midwifery and Women's Health*, 17(1), 1-9.

<https://doi.org/10.12968/ajmw.2021.0064>

Lang'at, E., Mwanri, L., & Temmerman, M. (2019). Effects of free maternity service

policy in Kenya: An interrupted time series analysis. *BMC Health Service Research*, 19(1), 645-655. <https://doi.org/10.1186/s12913-019-4462-x>.

Lawn, J. E., Blencowe, H., Pattinson, R., Cousens, S., Kumar, R., Ibiebele, I., Gardosi,

J., Day, L. T., Stanton, C., & Lancet's Stillbirths Series steering committee.

(2011). Stillbirths: Where? When? Why? How to make the data count? *Lancet*

(London, England), 377(9775), 1448–1463. [https://doi.org/10.1016/S0140-6736\(10\)62187-](https://doi.org/10.1016/S0140-6736(10)62187-3)

3

Ministry of Public Health and Sanitation (2008). *Ministry of public health and sanitation: Strategic plan.*

<http://publications.universalhealth2030.org/ref/4ef1efb4ec5d7b2da5e421fb5686c15a>

Ministry of Health (2011). *Guidelines, Standards & Policies Portal.*

<http://guidelines.health.go.ke/#/category/27/116/meta>

Mugenda, O.M. & Mugenda, A.G. (2003). *Research methods, quantitative and qualitative approaches.* ACT

Mwangi, W., Gachuno, O., Desai, M., Obor, D., Were, V., Odhiambo, F., Nyaguara, A., & Laserson, K. F. (2018). Uptake of skilled attendance along the continuum of care in rural Western Kenya: Selected analysis from Global Health initiative survey-2012. *BMC Pregnancy and Childbirth*, 18(1), 175-185. <https://doi.org/10.1186/s12884-018-1803-4>

Ndaruhutse, V. (2023). *Factors associated with postnatal care use among post-delivery women in Bugesera District, Rwanda* [Master's Thesis, Jomo Kenyatta University of Agriculture & Technology]. Kenya.

<http://ir.jkuat.ac.ke/bitstream/handle/123456789/6118/Victor%20Ndaruhutse%20Msc%20Public%20Health%2C%202023.pdf?sequence=1&isAllowed=y>

- Nikmard, F., Tavassoli, K., & Pourdana, N. (2023). Designing and validating a scale for evaluating the sources of unreliability of a high-stakes test. *Language Testing in Asia*, 13(2), 1-19. <https://doi.org/10.1186/s40468-023-00215-7>
- National Population Commission (2014). *Nigeria demographic and health survey 2013*. <https://dhsprogram.com/publications/publication-fr293-dhs-final-reports.cfm>
- Nyondo-Mipando, A.L., Chirwa, M., Kunitawa, A., Salimu, S., Chinkonde, J., Chimuna, T.J., Dohlsten, M., Chikwapulo, B., Senbete, M., Gohar, F., Hailegebriel, T.D., & Jackson, D. (2023). Uptake of, barriers and enablers to the utilization of postnatal care services in Thyolo, Malawi. *BMC Pregnancy and Childbirth* volume, 23(271), 1-15. <https://doi.org/10.1186/s12884-023-05587-5>
- Olajubu, A.O., Fajemilehin, B.R. & Olajubu, T.O. (2022). Mothers' experiences with mHealth intervention for postnatal care utilization in Nigeria: A qualitative study. *BMC Pregnancy Childbirth*, 22(843), 1-11. <https://doi.org/10.1186/s12884-022-05177-x>
- Oluoch-Aridi, J., Smith-Oka, V., Milan, E., & Dowd, R. (2018). Exploring mistreatment of women during childbirth in a peri-urban setting in Kenya: Experiences and perceptions of women and healthcare providers. *Reproductive Health*, 15(209), 1-14. <https://doi.org/10.1186/s12978-018-0643-z>
- Ongera, M. N., Kikuvu, G., & Mokaya, D. (2018). Factors influencing utilization of postnatal care services among mothers with children aged between 7-14 weeks attending child welfare clinic at Kisii teaching and referral hospital- Kenya.

Global Journal of Health Sciences, 3(2), 1–13.

<https://www.iprjb.org/journals/index.php/GJHS/article/view/692>

Owuor, H., & Amolo, A. S. (2019). Interrupted time series analysis of free maternity services policy in Nyamira County, Western Kenya. *PLOS ONE*, 14(5), 1-13. <https://doi.org/10.1371/journal.pone.0216158>

Ronsmans, C., & Graham, W. J. (2006). Maternal mortality: Who, when, where, and why. *The Lancet*, 368(9542), 1189–1200. [https://doi.org/10.1016/S0140-6736\(06\)69380-X](https://doi.org/10.1016/S0140-6736(06)69380-X)

Sakala Mukonka, P., Katowa Mukwato, P., Kwaleyela, C., Mweemba, O., & Maimbolwa, M. (2018). Household factors associated with use of postnatal care services. *African Journal of Midwifery and Women's Health*, 12(4), 189–193. <https://doi.org/10.12968/ajmw.2018.12.4.189>

Shukure, R., Mohammed, H., Wudmetas, A., & Mohammed, S. (2018). Assessment of knowledge and factors affecting utilization of postnatal care in fiche town, Oromia Region, Ethiopia. *International Journal of Clinical Dermatology*, 1(2), 28-33. <https://doi.org/10.11648/j.ijcd.20180102.11>

Somefun, O. D., & Ibisomi, L. (2016). Determinants of postnatal care non-utilization among women in Nigeria. *BMC Research Notes*, 9(21), 1-11. <https://doi.org/10.1186/s13104-015-1823-3>

Spector, J. M., Agrawal, P., Kodkany, B., Lipsitz, S., Lashoher, A., Dziekan, G., Bahl, R., Merialdi, M., Mathai, M., Lemer, C., & Gawande, A. (2012). Improving quality of care for maternal and newborn health: Prospective pilot study of the WHO safe childbirth checklist program. *PLoS ONE*, 7(5), 1-7. <https://doi.org/10.1371/journal.pone.0035151>

Tafa, R. (2014). Maternal satisfaction with the delivery services in assela hospital, Arsi Zone, Oromia Region, Ethiopia. *Gynecology & Obstetrics*, 4(12), 1-8. <https://doi.org/10.4172/2161-0932.1000257>

Taffa, N., & Matthews, Z. (2011). Teenage pregnancy experiences in rural Kenya. *International Journal of Adolescent Medicine and Health*, 15(4), 331–340. <https://doi.org/10.1515/IJAMH.2003.15.4.331>

Tao, F., Huang, K., Long, X., Tolhurst, R., & Raven, J. (2011). Low postnatal care rates in two rural counties in Anhui Province, China: Perceptions of key stakeholders. *Midwifery*, 27(5), 707–715. <https://doi.org/10.1016/j.midw.2009.10.001>

Tessema, Z.T., Yazachew, L., Tesema, G.A., & Teshale, A. B. (2020). Determinants of postnatal care utilization in sub-Saharan Africa: A meta and multilevel analysis of data from 36 sub-Saharan countries. *Italian Journal of Pediatrics*, 46(175), 1-11. <https://doi.org/10.1186/s13052-020-00944-y>

Titaley, C. R., Hunter, C. L., Heywood, P., & Dibley, M. J. (2010). Why don't some women attend antenatal and postnatal care services: A qualitative study of community members' perspectives in Garut, Sukabumi and Ciamis districts of

West Java Province, Indonesia. *BMC Pregnancy and Childbirth*, 10(1), 1-12.
<https://doi.org/10.1186/1471-2393-10-61>

United Nations Development Programmen (2024). *The SDGS in action: What are the sustainable developed goals*. <https://www.undp.org/sustainable-development-goals>

Wang, W., Alva, S., Wang, S., & Fort, A. (2011). *Levels and trends in the use of maternal health services in developing countries*.
<https://dhsprogram.com/publications/publication-cr26-comparative-reports.cfm>

Warren, C., Mwangi, A., Oweya, E., Kamunya, R., & Koskei, N. (2010). Safeguarding maternal and newborn health: Improving the quality of postnatal care in Kenya. *International Journal for Quality in Health Care*, 22(1), 24–30.
<https://doi.org/10.1093/intqhc/mzp050>

World Health Organization, & Department of Maternal, N., Child and Adolescent Health. (2013). *WHO recommendations on postnatal care of the mother and newborn*. <http://www.ncbi.nlm.nih.gov/books/NBK190086/>

World Health Organization (2014). *WHO: Trends in Maternal Mortality: 1990 to 2013*. WHO.
<http://www.who.int/reproductivehealth/publications/monitoring/maternal-mortality-2013/en/>

World Bank (2020a). *County Government of Kajiado (KCSAP Project)*
<https://documents1.worldbank.org/curated/en/373441615446006697/pdf/Envir>

onmental-and-Social-Impact-Assessment-Report-for-the-Kimana-Livestock-Sale-Yard-in-Kimana-Ward-Kajiado-South-Sub-County-Kajiado-County.pdf

World Health Organization (2020b). *WHO: Maternal health*.
http://www.who.int/maternal_child_adolescent/maternal/en/

Wudineh, K. G., Nigusie, A. A., Gesese, S. S., Tesu, A. A., & Beyene, F. Y. (2018).
Postnatal care service utilization and associated factors among women who
gave birth in Debretabour town, North West Ethiopia: A community- based
cross-sectional study. *BMC Pregnancy and Childbirth*, 18(508),
1-9. <https://doi.org/10.1186/s12884-018-2138-x>

APPENDICIES

Appendix I: Informed Consent

Dear respondent,

My name is Nyaga Daisy. I am conducting research as part of my study for a Master's degree at Kenya Methodist University. The research aims at evaluating the factors associated with the utilization of post-natal services at Kajiado County, with a bias to the NHIFs "Linda Mama" program. The participation in the study will require that you are asked a few questions contained in a questionnaire/interview guide. You have a right to refuse to participate in the study and no penalty or victimization will be imposed on you, participation is purely voluntary, and you can withdraw from the process at any time and there is no reward for participation. Some of the questions posed to you may be on intimate subject, embarrassing or may make you uncomfortable, you are free to choose not to answer if this happens.

The interview may take around 45 minutes. The information collected, will only be used for the purposes of this study and it will be held as confidential information. The questionnaires will be stored safely at the University. Your participation in this study will help us identify the gaps in the service provision and where the Linda Mama program can be improved so that the mothers can benefit from an efficient program and contribute towards improving maternal and child health outcomes in Kajiado County and the country at large.

In case of any questions or further clarifications, feel free to contact; Nyaga Daisy-0735 128790

or

Chairman, Ethical review committee Kenya Methodist University.

Participant statement

The above information regarding my participation in the study has been explained to me and is clear, I have understood that my participation is voluntary, my information will be treated confidentially can leave any time during the study and there is no reward for participating.

Name of participant

Date

Signature

Investigator's Statement

I have explained to the respondent/volunteer the procedures to be followed in the study and the benefits of the study.

Name of interviewer

Date

Signature

Appendix II: Questionnaire

1) SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE MOTHERS

1) Please indicate your age bracket

- a) Below 18 ()
- b) 19-30 ()
- c) 31-45 ()
- d) Above 45 ()

2) Marital status

- a) Married ()
- b) Not married ()

3) Highest level of education attained

- a) Tertiary ()
- b) Secondary ()
- c) Primary ()
- d) No formal education ()

4) What is your occupation

- a) Unemployed ()
- b) Self-employed ()
- c) Formally employed ()

5) Which religion do you practice?

- a) None ()

- b) Christianity ()
- c) Islam ()
- d) Others (specify) ()

2) BACKGROUND INFORMATION ON POST DELIVERY

1) How many children do you have?

- a) 1-4 children ()
- b) 5-10 children ()
- c) Above 10 children ()

2) Awareness of Linda Mama

- a) High
- b) Low

3) Preceding place of Delivery?

- a) Hospital ()
- b) Others (please specify)-----

3.1) Reason for previously delivering in Hospital

- a) I developed complications ()
- b) I had insurance (Linda Mama) ()
- c) I was advised during Ante-natal visits ()

3) PERCEPTION OF MOTHERS ON THE LINDA MAMA POST-NATAL SERVICES

1) Are you aware of the Linda Mama program?

- Yes ()
- No ()

1.1) If yes, how did you know about it?

Media ()

Health facility during ante-natal visits ()

From a friend ()

1.2) Do you know what services are offered under the Linda Mama program?

Yes () No ()

1.3) If yes, please indicate what services you know that are offered under the Linda mama program.

a) Free Ante-natal care ()

b) Free delivery ()

c) Free Post- natal care ()

2) Which services have you previously utilized Linda mama program?

Ante-natal services ()

Delivery ()

Post-natal services ()

2.1) If not, please indicate the reason. (You can tick more than one)

a) Not aware the services exist. ()

b) I thought I have to pay to join the program like the normal NHIF program ()

c) Culture prohibits me from attending health facilities. ()

d) I have delivered other babies at home before. ()

e) The program is run in government facilities; I was afraid of poor quality of service. ()

3) From your opinion, please rate the following statements, where 1 indicates strongly disagree, and 5 indicates, strongly disagree.

		1	2	3	4	5
a	Post-natal services are useful to the health of the mother					
b	Post-natal services are useful to the health of the child					
c	You would attend Post-natal services in future					
d	You would recommend Post-natal services to other mothers					
e	Post-natal services are free and easily accessible					

4) KNOWLEDGE AND ATTITUDES

1) How often do you hear of Linda Mama program?

Never () Sometimes () Fairly often () Often () Very often ()

2) Do other mothers speak of the services offered by the Linda Mama Program?

Never () Sometimes () Fairly often () Often () Very often ()

3) Have you sought any maternal health service from a health facility?

Never () Sometimes () Fairly often () Often () Very often ()

4) You access Post-natal services for free

Never () Sometimes () Fairly often () Often () Very often ()

5) My culture prohibits seeking services from medical facilities

Never () Sometimes () Fairly often () Often () Very often ()

6) My religion prohibits seeking services from medical facilities

Never () Sometimes () Fairly often () Often () Very often ()

7) The attitude of the healthcare workers discourages one from seeking services

Never () Sometimes () Fairly often () Often () Very often ()

5) AVAILABILITY OF INFRASTRUCTURE

1) How far is the nearest health facility offering Linda Mama services?

Distance in KM...

a) Less than 5 km () b) More than 5 KM () c) More than 10 KM ()

2) How do you get there?

3) How much do you pay for transport? Ksh.....

4) Does the distance to the health facility and the cost affect your attendance?

5) Are there medical personnel in the health facility?

Yes No

If No, please explain.....

6) UTILIZATION OF PNC SERVICES

1) Did you go to hospital after delivery?

Yes () No ()

1.2) If yes, after how many days-----

When else did you go to hospital -----

1.3) How many times altogether did you go to hospital in the first six (6) weeks?

- a) None ()
- b) Within the first 24 hours ()
- c) Within 1-2 weeks after delivery ()
- d) Within 3-4 weeks after delivery ()
- e) Within 5-6 weeks after delivery ()

1.4) Why did you go to hospital after delivery? (More than one answer is allowed).

- a) I was unwell. ()
- b) Baby was unwell ()
- c) The doctor told me I should go. ()
- d) I wanted to make sure I was okay (normal health check). ()
- e) I wanted to make sure the baby was okay. (Normal health check). ()
- f) I was told the baby needed vaccinations. ()

1.5) Why did you not attend Clinic after delivery? (Multiple answers may be indicated).

- a) I was not aware the services are available ()
- b) I was feeling okay ()
- c) The baby was okay ()
- d) I had no child to take to hospital. ()
- e) I was afraid of the cost ()

6) What was the outcome of your previous delivery?

- a) Alive ()
- b) Not alive ()

6.1) Where did you deliver your child?

- Hospital ()
- Elsewhere ()

6.2) What is the timing of PNS attendance?

- Appropriate time 1-2 week ()
- Inappropriate time- more than two weeks ()

Appendix III: Key Informant Interview Guide

SOCIO-DEMOGRAPHIC CHARACTERISTICS OF MOTHERS

- 1) Do you encounter any challenges in the implementation of the Linda Mama program?
- 2) How best can the challenges be tackled?

PERCEPTION OF MOTHERS ON THE LINDA MAMA POST-NATAL SERVICES

- 3) Tell me about the awareness levels of the Linda Mama program in the County.
- 4) Tell me about utilization of the program in the County.

KNOWLEDGE AND ATTITUDES

- 5) Four post-natal visits are recommended in the Linda mama program, which visit is attended the most and why?
- 6) In your opinion, why are the other visits not attended and how does show the mother's knowledge and attitudes towards the utilization of PNC Services?

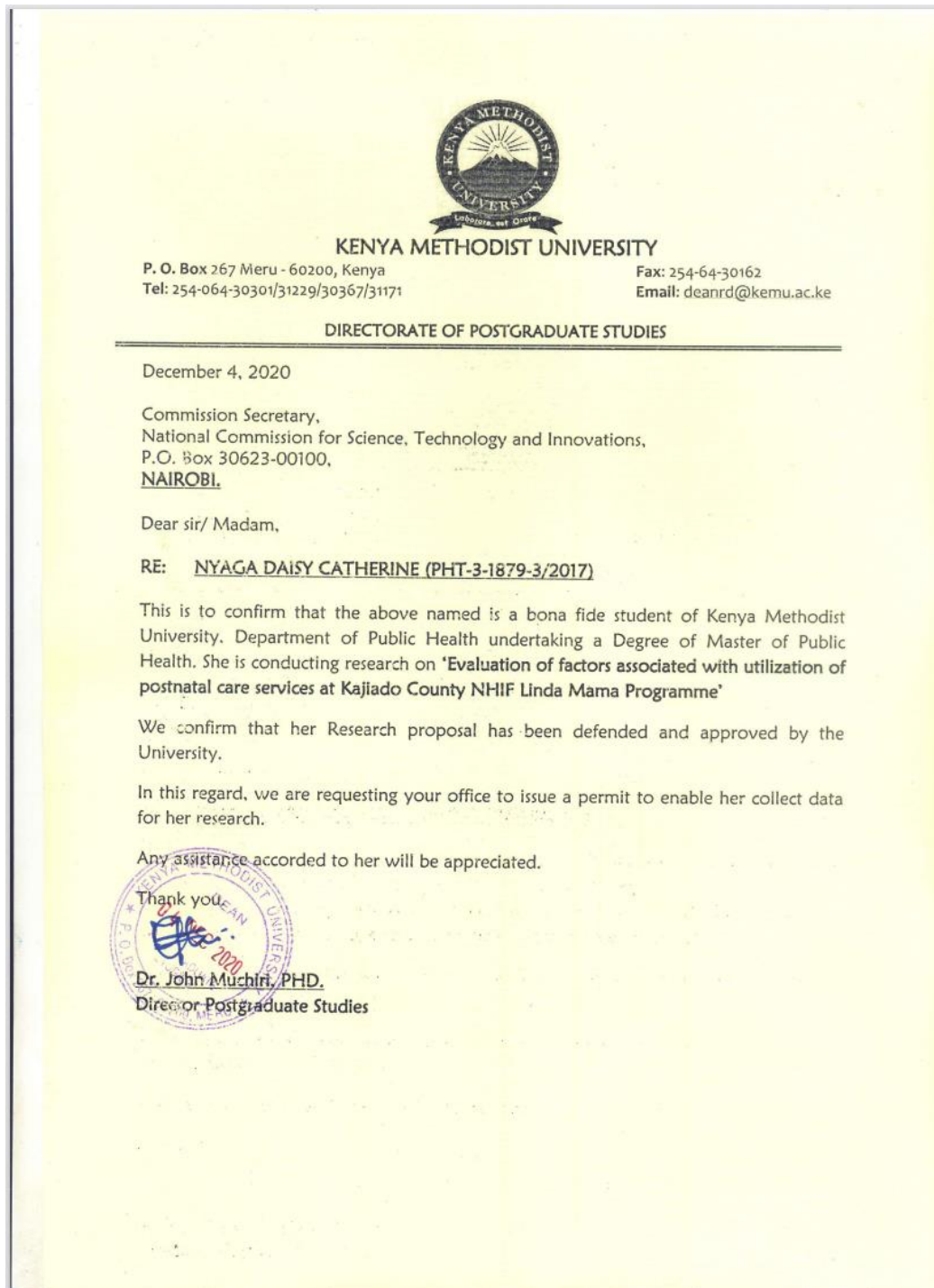
AVAILABILITY OF INFRASTRUCTURE

- 7) Does the availability of healthcare infrastructure affect the implementation of the Linda mama program?
- 8) Does the attitude of the service provider influence the utilization of maternal health services?

UTILIZATION OF POST NATAL SERVICES

- 9) Post- natal services are part of the services offered under the program, how is their utilization and the perception of the mothers?
- 10) What measures have been put in place to encourage mothers who have delivered to utilize the post-natal services under Linda Mama?

Appendix IV: Introduction Letter from KeMU



Appendix V: Ethics Clearance Letter



KENYA METHODIST UNIVERSITY

P. O. BOX 267 MERU - 60200, KENYA
TEL: 254-064-30301/31229/30367/31171

FAX: 254-64-30162
EMAIL: serc@kemu.ac.ke

November 26, 2020

KeMU/SERC/PHT/28/2020

Nyaga Daisy Catherine
Kenya Methodist University

Dear Daisy,

SUBJECT: EVALUATION OF FACTORS ASSOCIATED WITH UTILIZATION OF POSTNATAL CARE SERVICES AT KAJIADO COUNTY NHIF LINDA MAMA PROGRAMME.

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/28/2020. The approval period is 24th November 2020 – 24th November 2021.

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://portal.nacosti.go.ke> and also obtain other clearances needed.


Yours sincerely,
Dr. A. WAMACHI
Chair, SERC

Appendix VI: NACOSTI Permit

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Ref No: 224266	Date of Issue: 06/January/2021
RESEARCH LICENSE	
	
This is to Certify that Ms.. DAISY CATHERINE WAWIRA NYAGA of Kenya Methodist University, has been licensed to conduct research in Kajiado on the topic: EVALUATION OF FACTORS ASSOCIATED WITH UTILIZATION OF POSTNATAL CARE SERVICES AT KAJIADO COUNTY:NHIF LINDA MAMA PROGRAMME for the period ending : 06/January/2022.	
License No: NACOSTI/P/21/8168	
224266	
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.	

Appendix VII: Authorization Letter 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.1/1 7th January 2021

MS DAISY CATHERINE WAWIRA NYAGA
KENYA METHODIST UNIVERSITY

RE: RESEARCH AUTHORIZATION

Reference is made on communication to you dated 6th January 2021 from the National Commission for Science, Technology and innovation reference No. NACOSTI/P/21/8168 on the above subject for the period ending 6th January 2022.

The Department has no objection in you carrying out research on 'Evaluation of factors associated with utilization of postnatal care services in Kajiado County: NHIF Linda mama programme'. You are however required to share findings of your research with this office.

Thank you.

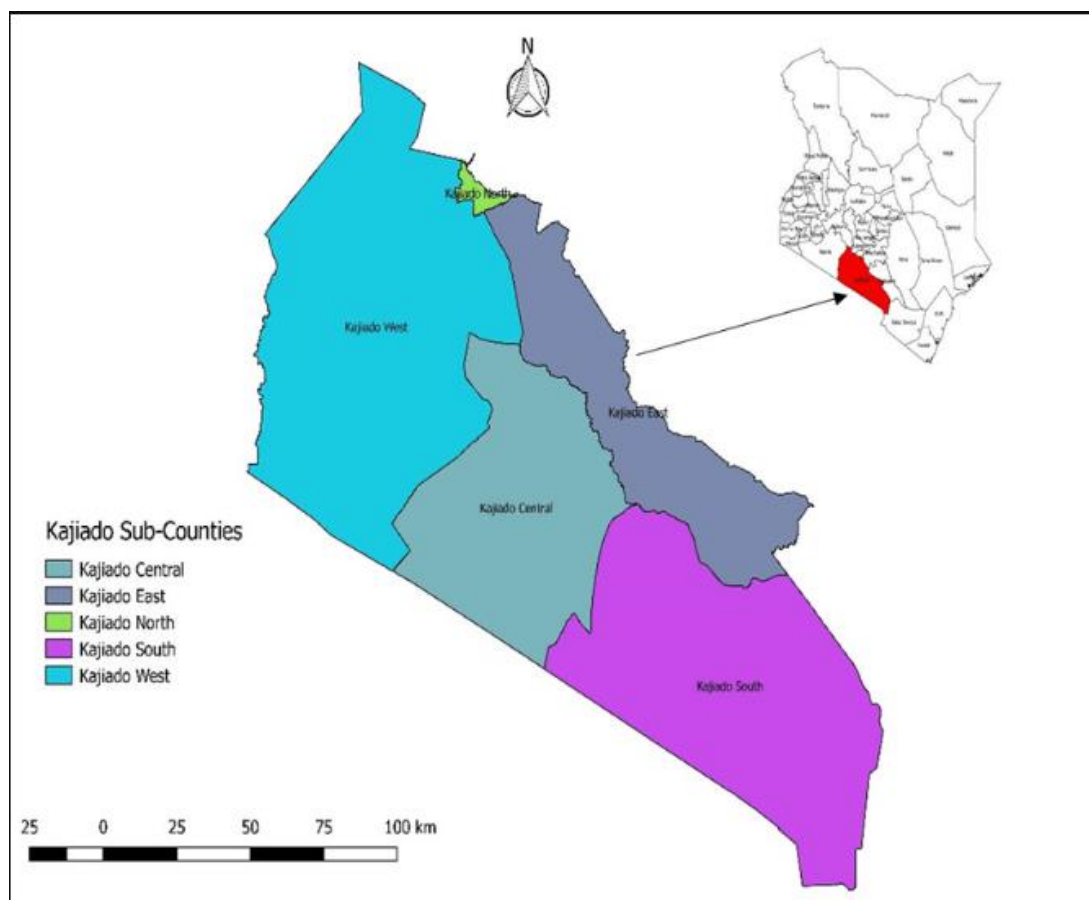


DR. EZEKIEL KAPKONI
COUNTY DIRECTOR OF HEALTH SERVICES

CC:

CHIEF OFFICER FOR MEDICAL SERVICES
CHIEF OFFICER FOR PUBLIC HEALTH & SANITATION SERVICES

Appendix VIII: A Map of Kajiado County



Appendix IX: Perception of mothers' Inferential Statistics

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	15.442 ^a	.266	.051

a. Estimation terminated at iteration number 2 because parameter estimates changed by less than .001.

Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 Perception	1.922	.533	4.750	1	.024	2.347
Constant	.294	.988	1.163	1	.008	.463

a. Variable(s) entered on step 1: Perception.