

**DETERMINANTS OF POSTNATAL CARE UTILIZATION AMONG WOMEN  
AGED 18 – 49 YEARS IN NGONG WARD,  
KAJIADO COUNTY, KENYA**

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MOUNT KENYA UNIVERSITY**

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## DECLARATION AND APPROVAL

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This study project is unique to me and has never been submitted to another institution for credit.

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## DEDICATION

I dedicate this work to my loving husband John Wandere, my son Ervine Kanini and my daughters Bakhita Thogori, Stephanie Nyambura and Alexis Naisiano for their understanding, encouragement and patience during my busy work and study schedule.

I salute you my lovely family and may God bless you all.



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## ABSTRACT

In spite of evidence showing that Post Natal Care (PNC) reduces mother and baby morbidity and mortality, it is the most underutilized in the essential continuum of care. In Kenya, only around 51% of women have access to postnatal care services from a trained professional. Therefore need to assess the factors that influence the frequency with which these services are utilized. The objective of the study was to investigate factors that determine the utilization of postnatal care services among women aged 18-49 years in Ngong Ward. Specifically, the study focused on the socio-demographic and client related factors that influence postnatal care services utilization among the respondents. 354 mothers were surveyed using an analytical cross-sectional research design in the Ngong ward. Household mothers who had a child less than one year old were considered for participation. Quantitative data was examined using SPSS version 21, and information was gathered via the use of a structured questionnaire. Chi-square test and logistic regression were used to look for correlations between the variables, and those that had a p-value of 0.05 were regarded to indicate statistical significance. 55.3 percent of the respondents, or slightly more than half, were married. The majority of the women (87.0%) had less than three children, and less than half (44.3%) of the women surveyed had a secondary education. Only 15% of the women had been advised to attend PNC services by the healthcare professionals. Information regarding postnatal care services ( $p=0.000$ ), place of previous birth ( $p=0.012$ ), attendance at prenatal clinics during their most recent pregnancy ( $p=0.000$ ), and marital status ( $p=0.016$ ) were the factors that determined the use of PNC services. The factors of marital status, place of delivery, perceived information, and service knowledge all significantly contributed to the utilization of PNC services. The study therefore recommends that the county government through community health strategy advocate for increase in the use of PNC services; these initiatives could focus on those with low levels of education and socio-economic status. The healthcare providers would be encouraged to provide patients with information about PNC services as well as schedule them for appointments thus enhance PNC services uptake.

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## LIST OF ACRONYMS AND ABBREVIATIONS

<b>AIDS</b>	:	Acquired Immune Deficiency Syndrome
<b>CWC</b>	:	Child Welfare Clinic
<b>DHIS</b>	:	District Health Information System
<b>DHS</b>	:	Demographic Health Survey
<b>DRH</b>	:	Division of Reproductive Health
<b>FP</b>	:	Family Planning
<b>HPM</b>	:	Health Promotion Model
<b>KDHS</b>	:	Kenya Demographic Health Survey
<b>MCH</b>	:	Maternal and Child Health
<b>MOMS</b>	:	Ministry of Medical Services
<b>MOPHS</b>	:	Ministry of Public Health and Sanitation
<b>MPS</b>	:	Making Pregnancy Safer
<b>NASCOP</b>	:	National AIDs and STI Control Program
<b>OALD</b>	:	Oxford Advanced Learners Dictionary
<b>PC</b>	:	Population Council
<b>PMNCH</b>	:	Partnership for Maternal, Newborn and Child Health
<b>PNC</b>	:	Post Natal Care
<b>SCH</b>	:	Sub-County Hospital
<b>SMPA</b>	:	Safe Motherhood Policy Alert
<b>STI</b>	:	Sexually Transmitted Infection
<b>UON</b>	:	University of Nairobi
<b>WHO</b>	:	World Health Organization

# CHAPTER ONE

## INTRODUCTION

### 1.1 Introduction

This chapter discusses the back ground of the study, problem statement, justification of the study, research question, broad and specific objectives of the study. Targeted postnatal care, as it is currently practised in Kenya, is defined as "a set of focused postnatal care services delivered to mother in a minimum of four focused postnatal visits spread throughout the first six months" (first visit -within 48 hours, second visit - within one to two weeks, third visit -within four to six weeks, and fourth visit -within four to six months (MOPHS & MOMS, 2013, p. 241).

### 1.2 Background of the Study

Postnatal period is the period following the birth of the baby and removal of the placenta which carries on for six weeks, and whereby the mothers enter a period of physical and psychological recuperation (Fraser and Cooper, 2009), postpartum which refers to the 'mother' is another commonly used term. The (Ministry of Public Health and Sanitation and Ministry of Medical Services [MOPHS & MOMS], 2013), define postnatal care as care provided by a trained caregiver to provide for the mother's requirements beginning at birth in order to lower her risk of morbidity and mortality as well as to advance her health and wellbeing. Therefore, postnatal care is essential to check health, address any delivery-related issues that may arise, and provide the mother crucial knowledge on how to take care of herself.

A vital part of maternity and neonatal health care is providing for the mother and newborn in the first six weeks following delivery. Both the mother and the newborn are more vulnerable to morbidity and mortality during the postnatal period. Postnatal care,

which enables the early detection and treatment of postpartum disorders, is seen as crucial by the World Health Organization (WHO) for reducing mother and infant mortality rates. Despite the well-recognized benefits of postnatal care, use of postnatal care services remains low in many nations, especially in low- and middle-income countries (LMICs) (WHO, 2013).

Globally, approximately 2.5 million neonates die before they reach 28 days of age, with 47% of all deaths under 5 years occurring during the neonatal period (Irimu et al., 2021). Among neonatal deaths, 75% occur within the newborn period. Sepsis is an important contributor to neonatal mortality, accounting for a considerable percentage of the estimated 33.3% of neonatal deaths that occur annually, with other major causes including birth asphyxia (45.5%), prematurity (12.5%), and hypothermia (11%) (Olack et al., 2021).

Only 63% of women received PNC within 1 to 42 days post delivery, of whom 48% received it from a medical personnel (Sheba et al., 2022). Only 42% of women in India got postnatal care within the first 48 hours following giving birth, according to research while 69% received care within the first week (International Institute for Population Sciences [IIPS], 2017). In Nepal, a study found that only 41% of women who gave birth during the first two days of their pregnancy got postnatal care while 79% received care within the first week (Ministry of Health and Population [MOHP], 2015). This underutilization of postnatal care in Asia further emphasizes the need for more investigation into the variables influencing women's choices to seek postnatal care.

In Latin America and the Caribbean, a study in Haiti found that only 31.9% of women received postnatal care within the first two days after giving birth, and 57.7% received care within the first week (Ministère de la Santé Publique et de la Population [MSPP], 2016). In Nicaragua, a study found that only 30.8% of women received postnatal care

within the first two days after giving birth, and 62.8% received care within the first week (Instituto Nacional de Información de Desarrollo [INIDE], 2012). In Peru, a study found that only 32.4% of women received postnatal care within the first two days after giving birth, and 66.1% received care within the first week (Ministerio de Salud [MINSAL], 2018). These low rates of postnatal care utilization in Latin America and the Caribbean also highlight the need for further research to identify the factors that influence women's decisions to seek postnatal care.

In sub-Saharan Africa, the utilization of postnatal care services is particularly low. A study conducted in Ethiopia found that only 34% of women received postnatal care within the recommended time frame of 48 hours after delivery (Berhe et al., 2019). According to Abdullahi & Usman (2022), about a 10th of women in developing countries receive postnatal care (PNC) visits within 2 days of delivery. Similarly, in Ghana, only 44% of women received postnatal care within six weeks after delivery (Ghana Statistical Service, 2015).

Low postnatal care utilization is also evident in Nigeria and Malawi, which are low-income countries in Africa. In Nigeria, just like in other developing countries, high mortality rate has been linked to low use of maternal health services and postnatal care with a prevalence of 59% within the 6th week postnatal clinic attendance (Onukwa et al., 2023). Similar findings were seen in Malawi, where only 24.4% of women obtained postnatal care within six days after birth. A study by Wudineh et al. (2018), highlighted factors to include and not limited to educational status of the women, birth outcome of the latest pregnancy, place of delivery as factors that influence postnatal care service. These findings suggest that there is a need for interventions that focus on improving awareness and accessibility of postnatal care services to increase utilization in these low-income countries.

A number of issues, including as restricted access to healthcare facilities, ignorance of the value of postnatal care, and cultural attitudes and behaviors that discourage seeking care, all contribute to the poor utilization of postnatal care services in these nations. Studies in Ghana have shown that barriers to postnatal care include lack of transportation, distance to health facilities, and cultural practices that discourage early health seeking behaviour (Moyer et al., 2013). In Uganda, birth readiness and local decision-making of birth have been identified as facilitators of postnatal care utilization, while lack of financial resources and fear of mistreatment by health workers have been identified as barriers (Kabakyenga, J. & Pettersson, K. 2011). Similarly, studies in Indonesia have identified barriers to postnatal care utilization to include; community knowledge on postnatal care, sociocultural beliefs and practices towards postnatal care uptake, and health service accessibility and availability (Probandari, 2017). These findings suggest that improving postnatal care utilization in Africa requires addressing both individual and community-level factors, including improving accessibility and availability of care, addressing cultural norms, and improving economic empowerment of women and their families.

In Kenya, the Ministry of Health has established guidelines for postnatal care that recommend at least four postnatal visits for all women and additional visits for those with complications (Ministry of Health, 2016). However, only about half of women get the recommended number of postpartum visits, and postnatal care utilization rates continue to be low. (KNBS, 2015).

Low rates of postnatal care service consumption are reported by the World Health Organization in 2013, Only 49% of women globally attend postnatal care appointments within two days after giving birth, compared to 45% and 42% in Africa and Kenya, respectively. The Kenya Demographic Health Survey (KDHS) (2008-2009) found that

53 percent of mothers did not get any postnatal care after giving birth. According to the survey's findings, just 6.8% of women in Rift Valley Province have a postnatal check-up within two days after giving birth, which is also reflective of the national average. Kanyangarara et al., (2018), noted missed opportunities within the health systems that are attributed to accessibility, preparedness and coverage of obstetric services. Additionally, while most mothers get information on postnatal care services from health care workers, knowledge on postnatal care services is influenced by other factors such as the occupation status, wealth status, distance to a health facility and mode of transport (Kiragu, et al. 2021). Community-based education and awareness campaigns, as well as initiatives to enhance the quality and accessibility of postnatal care services, have all been used as interventions to increase postnatal care utilization in Kenya (Burnett-Zieman et al., 2017). Despite these efforts, further study is required to fully grasp the factors that influence postnatal care utilization in Kenya and to create efficient plans for increasing access to these crucial services.

Ngong Ward is located in Kajiado County, Kenya, which has a population of over 1 million people (KNBS, 2019). Kajiado County has a high fertility rate and a high maternal mortality ratio, with an estimated 488 maternal deaths per 100,000 live births (KDHS, 2014). In Ngong Ward specifically, there is limited access to health facilities, with only one public health facility and a few private facilities available (Ndirangu et al., 2021). This can contribute to low postnatal care utilization rates among women in the area.

Data for Kajiado North Sub-County on postnatal care utilization demonstrates that in the year January to December 2013, the number of mothers who attended the postnatal clinic check-up were only 2,047 clients which significantly compares to the total number of first antenatal visit 7,065 this highlights that despite the fact that mothers

utilize antenatal care services, very few seek postnatal care services (District Health Information System [DHIS] 2013), this signifies a missed opportunity for postnatal care services utilization.

Targeted postnatal care is one of the key components of the Safe Motherhood Initiative, which aims to ensure the well-being of mothers throughout the postnatal period (WHO, 2018). Guidelines for postnatal care were reviewed by the World Health Organization (WHO) and other organizations in October 2008, and revisions were made based on the results of the consultation. The time, quantity, and location of postnatal contacts as well as the kind of postnatal care services offered to all women after delivery were all addressed in these adjustments (WHO, 2013).

The minimum care a mother should receive from a skilled attendant after birth in Kenya was defined by the Population Council in collaboration with the Division of Reproductive Health, the National AIDS & STD Control Program, the University of Nairobi, and other stakeholders. This included four consultations: one within 48 hours, one within the first two weeks, one at 6 weeks and one at 6 months (Ministry of Health, University of Nairobi, Population Council [MOH, UON, & PC] 2005). Despite the high risk of maternal deaths occurring during the first 48 hours after childbirth, postnatal care services utilization and coverage remains lowest along the continuum of care.

### **1.3 Problem Statement**

According to the World Health Organization (WHO), (2019), maternal mortality is a critical public health concern, with the majority of fatalities occurring after delivery and within the postpartum period. Musarandenga, et al., (2021), Maternal deaths remain

high in Sub-Saharan Africa (SSA) and their causes of maternal death must be analysed frequently in this region to guide interventions.

According to (Sagawa, J., 2021), postnatal care services are fundamental key elements in the continuum of Essential Obstetric Care as is antenatal, labour and delivery services, thus can avert maternal and neonatal morbidity and mortality in low and middle income countries. Postnatal care services are very crucial in the overall outcome of the health of the mother and child, yet they remain the most neglected intervention on the continuum of maternal and child healthcare (Zhao, et al. 2023).

The WHO has made significant efforts to address gaps in postnatal care by frequently reviewing and updating guidelines to provide the best practices for positive maternal and neonatal outcomes (WHO, 2021). In Kenya, the Ministry of Health has established guidelines for quality obstetrics and perinatal care that recommend a set of four focused postnatal visits with specific care services delivered to the mother and her infant (Ministry of Health, 2016). Despite these efforts, the utilization of postnatal care services remains low in many parts of the country (Kenya National Bureau of Statistics (KNBS, 2015), prompting interest in further investigation of factors that influence the use of postnatal care services.

The study therefore, aims at investigating factors that determine utilization of postnatal care among women aged 18-49 years in Ngong Ward

## **1.4 Objectives of the Study**

### **1.4.1 Broad Objective**

The aim of the study was to investigate factors that determine the utilization of postnatal care among women aged 18-49 years in Ngong Ward, Kajiado County, Kenya.

### **1.4.2 Specific Objective**

The study used the following specific objectives;

- i. To determine the proportion of respondents that utilize postnatal care services among women aged 18-49 years in Ngong Ward, Kajiado County.
- ii. To assess the relationship between the socio-demographic characteristics of the respondents and postnatal care utilization among women aged 18-49 years in Ngong Ward, Kajiado County.
- iii. To identify factors influencing post-natal care utilization among women aged 18-49 years in Ngong Ward, Kajiado County.

### **1.5 Research Question**

The study used the following research questions;

- i. What proportion of women of reproductive age utilizes post-natal care among women aged 18-49 years in Ngong Ward, Kajiado County?
- ii. How do socio-demographic characteristics of the respondents determine the utilization of postnatal care among women aged 18-49 years in in Ngong Ward, Kajiado County?
- iii. What factors influence Post natal care utilization among women aged 18-49 years in Ngong Ward, Kajiado County?

### **1.6 Hypothesis**

H0: There is no relationship between the determinants and postnatal care utilization

### **1.7 Justification of the Study**

Complications during pregnancy and delivery are a primary cause of maternal morbidity and death, and their consequences are seen most strongly in the postnatal period. Most maternal fatalities in Kenya also occur in the early postnatal period, which is consistent with the global trend. According to MOPHS & MOMS (2013), on page 240, "over 500,000 women worldwide die from diseases associated with pregnancy, and 60% of these deaths occur during the first week after delivery. Maternal mortality in Kenya is still high, at 488 maternal deaths per 100,000 live births, even though this rate is lower than the Sub-Saharan average of 640 deaths per 100,000 live births (PMNCH, 2010). This statistic calls for a study on the factors that influence the use of postnatal care.

The greatest impact on the health and well-being of the mother and the greatest reduction in maternal morbidity and death may be achieved by prompt and efficient postnatal care. The ability of policy makers and healthcare professionals to adopt and develop suitable programs and interventions depends on their understanding of the factors that influence postnatal care usage.

### **1.8 Scope of the Study**

The scope of study involved women of reproductive age; it focused on women aged 18-49 years who have had a delivery in the last 12 months prior to the study, whose babies are 8 weeks to 12 months of age and have been residents of the study area for at least 12 months prior to the study.

## **1.9 Study Limitations**

Some short comings were anticipated. There was a likelihood of attrition of the panel of experts. This was avoided by making sure the follow up was demonstrated appropriately and that the study did not take too long. These limitations were curbed by the sample size being calculated accurately. In all these processes, an experienced statistician was consulted as well as teaching of the research assistants, consulting with the health service providers and policymakers to ensure the correct data was obtained, and they got to know the reason why the study was being done as well as the benefits of the study. The information was then recorded in the laptop and stored safely. There could have been limited access to the research centres which could interfere with the research time frame. This was overcome by explaining to the various authorities on the importance of the research and by complying with the various protocols. The researcher had to redesign the study as per the organizations' requirements. COVID 19 was also a risk to the researcher and research assistants as they crossed various homesteads. This was overcome by strictly adhering to COVID 19 protocols as per the hospital requirements and ensuring the researcher and research assistants were vaccinated. Time was also a constraint. In this case the researcher had to strictly adhere to the research objectives and submit documents in time. There was a delay in availability of resources and funding leading to a delay in data collection as per the stipulated time frame of the research. The researcher had to look for other ways of outsourcing funding to ensure that the work continued.

### **1.10 Assumption of the Study**

The study examined the utilization of postnatal care services among women of reproductive age in Ngong Ward. The study focused on women of 18-49 years and whose babies are 8 weeks - 12 months of age. This study took a period of 10 months in which data was collected, analyzed and disseminated to the relevant authority. The researcher assumed that the participants would answer the questions correctly and that they would be allowed to collect data at the study sites. It was thought that the people being studied would not quit. The size of the sample would be a good representation of the whole population being studied, and the similarities between the study participants would be the same. It was thought that the right data would be collected and analysed, that privacy would be kept, and that the expected goal would be reached.

### **1.11 Operational Definition of Key Terms**

The operational definition of key terms table below helps to identify the variables by describing what the variable represents while defining how it is measured.

**Table 1.11 Operational Definition of Terms**

<b>Concept Definition</b>	<b>Theoretical Definition</b>	<b>Operational</b>	<b>Variable</b>
Age	Chronological Age	Age from birth	Age of the client
Level of education	Point reached in formal	Point attained in formal schooling	Education a)Primary b)Secondary c)College d) No schooling
Marital Status	Having a spouse	Single, Married, Divorced, Separated	Marital Status; a)Single b)Married c)Divorced d) Widowed e) Separated
Employment Status	Having a job	Employed, Self- Employed, Not Employed	a)Employment Status, b)Employed, c) Self- Employed, d) Not Employed
Place of Delivery	Area where delivery	Hospital, Home,	a) Public Hospital, b)Private Hospital, c) At Home

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.0 Introduction

A review of the literature that was accessible and pertinent to the investigation is presented in this chapter. Three major components made up the review. The first section presents literature and studies that describe postnatal care. The second section presents literature that establishes the relationship between the socio-demographic characteristics to postnatal care utilization. The third section presents literature to link the factors influencing postnatal care utilization. The fourth section of the chapter is a summary of the main ideas in the reviewed literature.

#### 2.1 Theoretical Framework

##### 2.1.1 Health Promotion Model (HPM)

According to Pender, et. al., (2006), the Health Promotion Model (HPM), which was first conceived of by Nola J. Pender and put into practice for the first time in 1982, has evolved into an essential part of the investigation into health promotion. The writers came to this realization towards the end of the study. The approach, as interpreted by Pender, et. al., (2015), places a focus on the impact that self-efficacy, perceived barriers and rewards, and social support have in shaping health behaviors. It offers a comprehensive framework for understanding the dynamics of these components and their role in promoting health by stating that health behaviors are impacted by this interaction. It argues that health-related behaviors are impacted by a combination of internal and external factors. In this line of thinking, the various elements that have been discussed above all work together to affect people's health-related behaviors.

The Health Promotion Model (HPM) provides useful insights into the factors that influence women's use of postnatal care services when applied to the context of postnatal care usage. The paradigm places an emphasis on conducting an evaluation of human variables such as knowledge and attitudes, as well as environmental aspects such as the availability of resources and support networks, and behavioral characteristics such as self-efficacy and social influence. The Health Promotion Model (HPM) provides a complete method for developing healthy postnatal care use habits, which is one of the advantages it offers. This is made possible by the fact that it takes into account a variety of scenarios and addresses these features.

The use of postnatal care is significantly influenced by a wide range of human characteristics; nonetheless, the individual's knowledge and attitude are the two aspects of these elements that are most relevant. It is possible that the degree to which women are aware of the advantages of postnatal care as well as the need of making an effort to seek treatment may have a significant bearing on the likelihood that they will make use of these services. Because of this knowledge, the probability that they will actively seek therapy may also be affected. According to the findings of a research project that was carried out in Ethiopia (Gebrehiwot et al., 2019), the degree to which a woman was aware of postnatal care was an important factor in determining whether or not she used postnatal care services. According to the findings of the research, postpartum women who had a greater level of awareness on postpartum care were more likely to seek treatment in the event that they need it. On the other hand, postpartum mothers with lesser levels of expertise were less likely to seek counseling after their baby was born. This is a perfect example of the significant role that health education has in raising the number of postnatal care services that are used. According to Gebrehiwot et al., (2019), interventions that are designed to improve women's knowledge of postnatal care as well

as their positive attitudes about it have the potential to increase the number of women who make use of these necessary services. This is because improving women's knowledge of postnatal care as well as their positive attitudes about it.

Contextual variables, such as the availability of resources and support networks, have a substantial bearing on the use of postnatal care. In rural locations, where resources are often few, a woman's capacity to get postnatal care may be significantly impacted by factors like as access to health care facilities and accessible transportation options. This is especially the case for women who live in places with less economic opportunities. This is particularly true in regions in which there are fewer career alternatives available to women. According to the findings of a research that was carried out in Tanzania (Konje, et al., 2021), the most significant barrier to getting early postnatal care is compounded by home delivery which is commonly practiced. This illustrates that increasing people's access to a variety of means of transportation and integrating medical facilities into communities at a place that is more accessible for patients might result in a considerable increase in the use of postnatal care. Access to reproductive and maternal health services is low among the vulnerable and marginalized groups such as nomadic pastrolist (Wulifan, 2022).

The existence or absence of social support is an important aspect of the surrounding environment that has the ability to dramatically impact the utilization of postnatal care. According to the findings by Wai, et al., (2016), majority of husbands were less involved in birth preparedness and postnatal care this was mainly due to the fact that they lacked education and knowledge on maternal health care services however the study also highlighted that women accompanied by their husbands during the ANC visits had a well prepared birth-plan. Therefore, interventions that boost social support, such as including family members in postnatal care education and making sure that

healthcare practitioners are nice and accessible, have the potential to increase the number of women who use postnatal care services. Examples of such interventions include including family members in postnatal care education. One example of such an intervention is incorporating members of the family in the instruction of postnatal care. A woman's perception of her own level of competence and the impact of her social circle are two examples of the kinds of behavioral variables that play a key effect in determining whether or not she would seek postnatal care. This is particularly true for mothers who have already brought a child into the world. The concept of self-efficacy relates to the confidence that a person has in their own ability to carry out a certain activity, in this instance getting postnatal care. Self-efficacy is an important factor in determining whether or not an individual would seek postnatal care. The concept of self-efficacy has been discussed and debated for a considerable amount of time. A study by Peca et al., (2020), women who have a high level of self-efficacy are more likely to seek the aid of a medical professional. When it comes to seeking medical treatment, women who have a low degree of self-efficacy are less likely to do so. Therefore, interventions that strive to boost self-efficacy, such as giving women with the information and skills required to navigate the healthcare system, may have the potential to increase the use of postnatal care. One example of such an intervention is providing women with the knowledge and capacities necessary to navigate the healthcare system.

The use of postnatal care is also impacted by social factors, such as the influence exerted by members of the immediate family as well as peers in the local community.

A study by Sakeah, et al., (2018) demonstrated that women with partners who have had some secondary education and those who have had the four ANC visits are more likely to attend at least 3 postnatal care visits during their postpartum period, further the study

depicted that male involvement in maternal health care, availability and accessibility to PNC services especially in rural community settings would improve PNC services uptake. As a direct result of this, increasing the prevalence of good social elements, such as the establishment of affirming community norms around postnatal care, has the potential to enhance the use of postnatal care. This might be accomplished by enhancing the prevalence of positive social factors, such as the creation of affirming community norms about postnatal care. In this context, interventions with the potential to be extremely beneficial include those that educate the community on the need of postnatal care and establish communal support for postnatal mothers. In particular, this is something that may be stated about therapies that have the potential to be beneficial to postnatal moms.

Research that investigates the obstacles and opportunities that prevent women from getting postnatal care and seeks to overcome them has made effective use of the HPM, which has been put to good use in these studies. These studies have made effective use of the HPM because it has been put to excellent use in these studies. (Mbachu, I., & Dim, C., 2016) gives an account of a research that was carried out in Nigeria and made use of the HPM to gain a knowledge of the variables that restrict the use of postnatal care. The study was carried out to acquire a knowledge of the factors that constrain the use of postnatal care. The findings of the research indicate that perceived hurdles, such as a lack of transportation and financial limits, as well as a lack of social support, are the most important impediments to the use of postnatal care. A lack of social support is another hurdle that must be overcome. As a consequence of the process of identifying these obstacles and bringing them to light, the HPM is able to drive the building of individualized treatments to improve postnatal care use. These interventions are designed to increase postnatal care utilization. Two examples of the kinds of

interventions that come under this category are the expansion of social support networks and the provision of subsidized means of transportation.

The Health Promotion Model (HPM) was used in Uganda in order to construct an intervention with the purpose of increasing the number of postnatal care visits made by women who reside in rural areas (Kisakye, et.al., 2020). The goal of the intervention was to increase the number of women who received postnatal care. via a community-based strategy that included home visits by trained health professionals and community meetings to address maternal and newborn health concerns, the intervention planned to boost the participants' sense of self-efficacy as well as their access to social support. This was to be accomplished via a community-based approach. Home visits like this and discussions with members of the community were also a component of the intervention. When compared with the women who were allocated to the control group, the women who were assigned to the intervention group used postnatal care services at a much greater rate than the women who were assigned to the control group. This difference was statistically significant. To say the least, these revelations are comforting in some ways. According to this, treatments that are derived from HPM have the potential to be helpful in increasing the quantity of postnatal care that is received.

The Health Promotion Model, often known as the HPM, is a strategy that may be used in order to provide individualized treatment plans to various postnatal motherhood groups. As part of the process of promoting postnatal mothers' health, this will also be done, in addition to addressing the general obstacles and possibilities involved in the process. For instance, a research study was carried out in Iran employing the HPM to construct an intervention with the purpose of raising the number of adolescent mothers who used postnatal care (Mohammadinia et al., 2021). This study's aim was to increase

the number of teenage mothers who utilized postnatal care. This initiative was carried out with the objective of elevating the percentage of adolescent mothers who received postnatal care services. The intervention, which consisted of instructional sessions and assistance from peers, placed a primary emphasis on the participants' levels of self-efficacy, perceived advantages, and social support as its primary areas of concentration. According to the findings, there was a discernible rise in the number of postnatal care visits made by adolescents who had just become mothers as a direct consequence of the intervention. This information calls attention to the fact that these treatments can be created using the HPM and demonstrates the usefulness of the HPM in producing tailored therapies that meet the one-of-a-kind needs and problems of certain groups. Additionally, this information highlights the fact that the HPM can be used to build these treatments.

The Health Promotion Model (HPM) is able to drive the development of successful strategies and interventions to promote postnatal care because it gives an in-depth knowledge of the various elements that affect postnatal care usage. This understanding is necessary for driving the production of effective strategies and treatments. The HPM is given the ability to guide the production of these strategies and interventions as a result of this. These may include self-efficacy enhancement interventions to encourage women to seek postnatal care, social support programs to encourage community support for postnatal mothers, infrastructure development to improve access to healthcare facilities and transportation, and health education programs to encourage women to seek postnatal care. The goal of these programs is to improve women's knowledge of and attitudes toward postnatal care.

In conclusion, the Health Promotion Model provides a dependable framework for measuring the use of postnatal care services among women and advocating for the

extension of these programs. This is important information to have. The approach may be beneficial in finding relevant areas for intervention and assistance since it takes into account personal qualities, contextual circumstances, and behavioural aspects. This is due to the fact that the strategy takes into consideration all three categories of components. Treatments that make use of the HPM have shown to have a higher rate of success, which means that they may be of use to women in a wider variety of contexts and demographic groupings. This may result in an increased use of postnatal care, which in turn leads to better health outcomes for mothers as well as neonates.

## **2.2 Empirical Literature**

### **2.2.1 Postnatal Care**

The postnatal phase, which starts immediately after the delivery of the placenta and membranes and continues for a total of six weeks, is an important time for the mother's overall health and capacity to continue living (Fraser & Cooper, 2009). The postnatal period begins right after the birth of the placenta and membranes and lasts for a total of six weeks. The early postnatal period is the greatest time to administer therapies to promote mother health and survival, according to the World Health Organization (2007). This is because of the high number of maternal deaths that occur in the first few days after birth. This is because these treatments are most effective when they are carried out during the early postnatal period, which explains why this is the case. According to Fogel, (2016), the days and weeks following childbirth are a critical phase, however the quality of care during this time is often wrongly neglected despite this being the period when the mother needs the most care due to the physical and emotional changes thus resulting in morbidity or even mortality and in addition to the loss of the potential to build healthy behaviours.

Postnatal care, sometimes referred to as PNC, is the practice of providing women with medical treatment after they have had a child and is also abbreviated as "PNC." According to Fraser & Cooper (2009), it includes keeping an eye on and monitoring the health of the new mother, as well as offering emotional support and education on how to breastfeed and manage parental obligations. In addition, it includes keeping an eye on and monitoring the health of the new father. The Ministry of Public Health and Sanitation and the Ministry of Medical Services (MOPHS and MOMS, 2013) define postnatal care (PNC) as the care that is provided by a competent caregiver to meet the needs of a mother, reduce the risk of morbidity and mortality for the mother, and improve the mother's overall health and well-being. PNC is defined as the care that is provided by a competent caregiver to meet the needs of a mother. According to Langlois et al. (2015), the primary goals of the services that are offered by PNC are to evaluate, keep up with, and enhance the woman's health in order to provide a comforting environment that satisfies a broad variety of social and health-related criteria. This is done in order to give a nurturing setting.

In spite of the significance of PNC, there are a number of barriers that hinder it from being given and utilized in an efficient manner. The primary barrier is the limited availability of services of an adequate standard. PNC services may not be commonly provided to women or readily accessible in many regions of the globe, particularly in nations with low incomes. This is especially the case in developing countries. It is likely that healthcare personnel lack the information and skills necessary to give high-quality PNC, which may possibly limit the use of the therapy. This is due to the fact that providing PNC requires specialized knowledge and abilities. Women may be dissuaded from obtaining PNC as a result of social and cultural norms, especially if they think that postpartum care is unnecessary or if they fear stigma or prejudice for

seeking treatment as a result of their choice to seek care. Another factor that may discourage women from seeking PNC is the perception that they would be judged negatively for doing so. According to Adeleye, O. (2023)), a lack of financial resources is another reason that may impede individuals from accessing PNC. This is especially true for households when the income is not very high.

When looking at the scenario in Ngong Ward, which is located in Kajiado County, Kenya, in specifically, the cost of the PNC services, the lack of transportation choices, and the accessibility of health care facilities are key factors that impact the usage of these services. According to the findings of a recent research (Wanjira et al., 2019), the vast majority of women in Nyandarua South District do not make use of maternal health services this was mainly due to the mother's level of education, perception of birth attendants and knowledge on availability of services. Thus providing access to high quality reproductive health services that include; antenatal, delivery, postpartum and family planning involves raising awareness of complications along the continuum of care.. The study also indicated that a lack of partner participation, a low level of education, and a low income were related with lower PNC utilization. In addition, the researchers discovered a connection between these traits and a decreased usage of PNC. According to these findings, there is a need for targeted initiatives in order to raise the percentage of people using PNC in this region.

Ngong Ward, which is situated in Kajiado County, Kenya, is one of the areas in which it is feasible to increase the usage of PNC via the use of a variety of distinct strategies. One of these strategies involves increasing the amount of PNC services that are both available and accessible. This is something that would be possible to do via the use of mobile clinics, which are able to provide PNC services directly to the women who reside in remote locations. Kerber et al. (2007) state that these mobile clinics may also

conduct outreach and education to local populations about the relevance of PNC. Because of this, there may be a greater demand for therapies as well as an increased awareness of the condition.

Another way that may be used, particularly for those who operate in more remote areas, is to increase the capability of the healthcare workers who work there and provide them with training. This guarantees that practitioners have the necessary knowledge and skills to properly provide PNC services to patients by meeting the requirements outlined in the standard. According to Kerber et al. (2007), capacity development may take the form of training programs with the objective of developing the skills of healthcare professionals in the areas of delivering quality PNC, spotting danger signs, and giving appropriate referrals for issues. The training programs' primary focus is on strengthening the abilities of healthcare professionals in these three areas.

It is possible that community-based therapies that tackle the social and cultural obstacles that stop people from using PNCs might be useful. These obstacles prohibit individuals from utilizing PNCs. Teaching and marketing of PNC that is inclusive of men and traditional birth attendants, for example, may support an increase in the method's uptake and utilization. Men have the potential to be powerful advocates for PNC, particularly if they are engaged in the decision-making process about the wellbeing of women and children. Men's participation in this process is essential (Koblinsky et al., 2016). This involvement may assist overcome cultural and social traditions that, if not challenged, may otherwise discourage women from receiving preventive health care. If these conventions are not challenged, this participation may help overcome them.

In addition to these specific actions, it is of the highest significance to address the bigger health system-related issues that have an impact on the use of PNC. For

instance, improving the accessibility as well as the quality of the PNC services supplied at health care facilities could lead to an increase in the adoption of these services. One way in which this may be done is by making certain that medical facilities have access to an adequate number of resources, equipment, and supplies. According to Kyei-Nimakoh, et., al., (2017), making sure that medical staff get ongoing training and assistance might result in an increase in the quality of treatment that patients obtain. It is vital to understand that healthcare professionals are key to the successful delivery of PNC, and they need to be equipped with the right skills, knowledge, and resources in order to provide outstanding treatment. It is also essential to realize that it is essential to understand that healthcare professionals are essential to the effective delivery of PNC. It is also necessary to realize that it is crucial to understand that healthcare practitioners are key to the effective implementation of PNC. This is one of the most important aspects of the PNC.

Strengthening referral channels is one of the most effective ways to improve the use of PNC, which may be performed most effectively by addressing a number of the component pieces that make up PNC. Women who are in need of specialized care are certain to get it in a prompt way and in the appropriate environment as a result of the existence of efficient referral processes. According to Dona et al. (2018), this may entail improving transportation and logistics for patient referrals in addition to strengthening communication and coordination across all levels of the healthcare system.

Another significant factor that has a significant impact on the use of PNC is women's knowledge of and attitudes about the method. According to the findings of a study that was conducted in 2020 by Peca, et., al., the degree to which women are aware of the benefits of PNC as well as the relevance of seeking treatment may have a significant

impact on their decision to seek care. For instance, Gebrehiwot et al., (2019), performed study in Ethiopia and demonstrated that women's comprehension of PNC was a critical component in predicting whether or not they utilized PNC. Women who had a deeper comprehension of post partum care were more likely to seek therapy than those who had a more surface-level comprehension of the subject matter. As a consequence of this, increasing women's understanding of the benefits of prenatal care is an essential component of any strategy that aims to boost the use of PNC. It is possible to achieve this goal via the implementation of health education programs that provide females information that is not only truthful but also important about precancerous and cancerous tumors.

Consideration of the role that social support plays in the use of PNCs is an additional crucial factor that must be taken into consideration. According to Moucheraud et al. (2018), a woman's decision to seek PNC may be impacted by the support she gets from family members and health care providers. Furthermore, a woman's decision to seek PNC may also be influenced by her own personal preferences. It is more probable that women who get support from their family members and health care experts will seek out PNC than women who do not receive such help. As a direct result of this fact, interventions that aim to establish social support for PNC, such as peer support programs or models of care that place an emphasis on the family, may be advantageous in terms of increasing the use of PNC.

To provide a brief overview, the consumption of PNC is influenced by a broad variety of factors, including those that are personal, environmental, and behavioral in nature. The Health Promotion Model provides a comprehensive framework for getting an understanding of these qualities and developing tailored interventions to raise the amount of PNC that people consume. By resolving these challenges, we not only have

the potential to boost the use of PNCs, but we also have the potential to improve the outcomes regarding the health of mothers and reduce the incidence of maternal mortality. However, greater research is necessary to completely understand the complex interplay of these variables and to develop and test effective interventions to enhance PNC use (World Health Organization, 2014). These goals cannot be accomplished without first thoroughly understanding the complexity of the interaction between these determinants. We will be unable to make any headway till that time has passed.

### **2.2.2 Postnatal Care Utilization**

According to the World Health Organization (2013), the percentage of women in Africa and Kenya who obtain their first prenatal visit is substantially lower than the proportion of women worldwide who get postnatal care within two days of giving birth. This is in contrast to the proportion of women who receive postnatal treatment within two days of giving birth. Only 49% of women throughout the globe attend a postnatal care visit during the first two days after giving birth, in contrast to the 81% of women who attend their first prenatal clinic session. Despite the knowledge that postnatal care visits are linked to improved health outcomes, this difference still remains. According to the findings of a research that was conducted in 2010 by the Kenya National Bureau of Statistics, around 53 percent of Kenya's female population does not obtain postnatal care. This statistic was derived from an examination of the country's population. Only 37 percent of women who do get postnatal care receive it from a medical professional such as a nurse, doctor, or midwife. This percentage is much lower than the national average. This percentage is much lower than the national average. In comparison, just 47 percent of women actually obtain postnatal care after giving birth. Although only a

small percentage of women get postnatal care from community health professionals, this number is far higher than the percentage of women who receive postnatal care from traditional birth attendants, which is just ten percent.

Even though postnatal care is essential for the treatment of maternal disease and death, it is often the phase that receives the least amount of attention. This is despite the fact that it is one of the most important phases. This is the case despite the fact that this is the time of year that gets, on average, the least amount of attention. Even though there are comparable risks for illness and opportunities to improve long-term outcomes throughout pregnancy and delivery, the necessity for support and care after childbirth was, until recently, less well acknowledged in poor nations due to lower rates of the availability of competent care (WHO, 2010 p. 3). This was the case despite the fact that there are comparable risks for illness and opportunities to improve long-term outcomes throughout pregnancy and delivery. This is due to the reduced availability of medical personnel in less developed countries who are educated in the necessary skills to deliver such treatment. This is owing to the fact that both pregnancy and giving birth include comparable opportunities to improve long-term outcomes as well as dangers for developing various illnesses.

There have been a lot of research conducted to investigate the factors that influence the quantity of PNC consumed by women in a variety of circumstances, and the results of these studies have revealed some fascinating discoveries. For instance, research that was carried out in Ethiopia led the researchers to the conclusion that factors such as the education level of the mother, the affluence of the family, the location of the delivery, and the birth order were major drivers in the way that PNC usage was affected. This research was carried out in the country of Ethiopia. According to the findings of the study, factors that significantly contributed to the usage of PNCs included factors such

as the age of the mother, the degree of education obtained, the wealth of the family, and the proximity of the family's geographic location to medical facilities. A following investigation that was carried out in Nepal provided evidence for this finding. In the process of deciding PNC usage, the results of these studies give insight on the impact that socioeconomic considerations and accessibility to health care services play.

According to the results of a study that was conducted in Nigeria, it was found that women who received prenatal care (ANC) services had a greater chance of utilizing postnatal care (PNC) services than women who did not get ANC services. The study was carried out to investigate this phenomenon. According to these findings, it would seem as if increasing women's access to ANC services might likely result in an increase in the number of women in the Ngong Ward of the Kajiado County in Kenya who utilize PNC. According to study that was conducted in Tanzania, women who gave birth with a competent birth attendant present had a higher likelihood of making use of prenatal care services than women who gave birth without such an attendant. On the other hand, women who gave delivery without the support of a trained birth attendant were less likely to make use of these services. Those women also had a lower likelihood of having a healthy baby. The information that has been provided in this article highlights how important it is to promote birth attendance by competent professionals in order to encourage more people to utilize PNC.

In addition to the reasons that will be investigated in this article, it is possible that cultural and societal variables may have an effect on the prevalence of the use of PNC among women. For instance, a study that was carried out in India found that female patients who had female health care providers were more likely to seek preventive nursing care services than female patients who had male health care providers. This was compared to the likelihood of female patients who had male health care providers

seeking preventive nursing care services. When compared to the patients' chance of requesting such treatments when they had male health care professionals, this statistic shows a lower possibility of patients seeking such services. This study provides data that supports the hypothesis that cultural and social norms might have an impact on the use of PNC services. This lends credibility to the idea that cultural and social norms could have an influence on the utilization of PNC services.

The use of PNC has been improved in a variety of settings thanks to the implementation of a number of different initiatives that have been put into place. For instance, research was carried out in Bangladesh that revealed that a community-based intervention that provided postpartum women with counseling and home visits during their postpartum period resulted in an increase in the number of women who accessed PNC services. The study was based on the findings of a previous study that was carried out in Bangladesh. The results of an inquiry that was carried out in Bangladesh served as the basis for this study. According to the findings of a second piece of research that was carried out in Nepal, a mobile health intervention that supplied PNC services via the use of text messages and phone calls resulted in an increase in the number of individuals who made use of PNC. This was shown to be the case. The country of Nepal served as the location for these studies. When it comes to increasing people's use of PNC, the results of these experiments provide evidence that personalized strategies are more successful than generic ones.

To summarize, it is likely that there are several elements to the factors that influence the use of prenatal care among women aged 18–49 years old in Ngong Ward, Kajiado County, Kenya. These women live in Kenya. A variety of different elements have an impact on these characteristics. These factors include societal and cultural standards, the degree of socioeconomic status, availability to medical treatments, and previous

usage of ANC services. It is likely that community-based interventions and mobile health interventions, two forms of targeted therapies, might help increase the use of PNCs and promote better health outcomes for both women and their babies if they are tailored to precisely target these features. If this is the case, then these sorts of interventions could be considered targeted treatments. These approaches have the potential to help enhance PNC utilization and promote better health outcomes for women and their newborns, both of which would be beneficial. By putting these plans into action, we can help guarantee that all pregnant women and infants have access to the PNC services they need in order to flourish and achieve the best possible health outcomes for both themselves and their kids. These services include prenatal care, newborn care, and postnatal care.

### **2.2.3 Socio-Demographic Characteristics and Postnatal Care Utilization**

According to research conducted by the Kenya National Bureau of Statistics (KNBS, 2010), the percentage of elderly mothers who do not get postnatal care significantly increases with the advancing age of the lady. For instance, among uninsured women, the proportion of women who do not get postnatal care rises from 51.7% for those aged 20 to 34 to 56.3% for those aged 35 to 49. This statistic applies to women of all ages. The findings of this research (KNBS, 2010) indicate that older women have been observed to have a lower chance of utilising postnatal care services than younger women do.

According to the results of a study that was conducted in Nepal by Khanal et al. (2014), it was found that the proportion of women who obtained postnatal care and urgent postnatal care services declined with the ages of the mothers. The study was carried out in Nepal. According to Khanal et al. (2014), the discovery that older women had a

lower rate of consumption of postnatal care services lends greater credence to the position that age is a factor that plays a role in determining the usage of postnatal care services. This result was made possible by the fact that older women had a lower rate of consumption of postnatal care services.

In addition to this, the level of education is another factor that has a significant impact on the use of postnatal care. The authors of the research that was conducted by Sharma et al. (2014) drew attention to the association between the degree of education that a woman has and her knowledge of the need of postnatal checks. According to the results of the study, women who had finished a higher level of education were much more likely to seek postnatal care services when compared to women who had completed either no education or a low level of education. This was the case regardless of whether or not the women had completed any education at all. This result is consistent with the results of the study conducted by KNBS (2010), which found that women with higher levels of education were more likely to attend postnatal care facilities (Sharma et al., 2014; KNBS, 2010). This conclusion is in accordance with the findings of the research conducted by KNBS (2010). The results of the KNBS (2010) investigation provide credence to the conclusion that has been presented here.

Employment status is another important factor that plays a part in deciding whether or not postnatal care services are used, and it may be either a positive or negative influence. Berhe et al. (2013) conducted research and discovered that women who were self-employed had a greater rate of attendance at postnatal care clinics in comparison to women who were jobless. This suggests, as Berhe et al. (2013) point out, that women's jobs and employment have a substantial role in determining how often they make use of postnatal care services after giving birth.

The socioeconomic status of a person, which may be determined based on their amount of wealth, is another key factor that plays a role in the use of postnatal care. According to the results of the KNBS (2010), mothers in the lowest income quartile were twice as likely to not utilize postnatal care services as those in the highest wealth quartile. The utilization rates for these two categories, respectively, came in at 64.6% and 31.4%. Khanal et al. (2014), who conducted study on Nepalese women, came to a similar conclusion in their findings. They found that a higher wealth index was strongly connected with a higher utilization of postnatal care services. This was one of their discoveries.

The marital status of a person is an additional factor that plays a significant role in determining whether or not they are eligible for maternal health care services such as postnatal care. Berhe et al. (2013) carried out a study in Ethiopia and discovered that married women had a lot greater chance of utilizing postnatal care services in contrast to both single women and women who had previously been divorced. The researchers came to this conclusion after finding that married women had a much higher likelihood of using postnatal care services than single women. According to Berhe et al. (2013), the usage rates for women who were married were 75.4%, while the use rates for women who were single were 15.2%, and the use rates for women who had been divorced were 9.5%.

The number of births a woman has had, regardless of whether they were stillbirths or live births, is referred to as her parity, and it plays a role in determining how often she utilizes the services that are offered by postnatal care facilities. According to Fraser and Cooper (2009), the definition of a woman's parity is the number of live births she has had, minus the number of births she has had as a consequence of having abortions. According to the results of the KNBS (2010), women who have had more children are

less likely to seek postnatal care services in comparison to women who have had less children. This is in contrast to women who have had fewer children, who are more likely to seek these services. For example, 60.2% of moms who had more than six children did not seek postnatal care, but the similar number for mothers who only had one child was 44.3% (KNBS, 2010). These statistics are from the Kenya National Birth Registration System. According to the results of this research (KNBS, 2010), it would seem that the likelihood of making use of postnatal care services decreases as the number of births in a given population increases.

There is a relationship between the total number of deliveries and the needed number of postpartum care visits. According to the results of the study that was conducted in the city of Adwa in Ethiopia by Berhe et al. (2013), the quantity of births per woman decreased, which resulted in a rise in the percentage of women who sought postpartum care. The study was carried out in the country of Ethiopia. This demonstrates that women who have a wider disparity between the number of children they have had and the number of pregnancies they have had are less likely to seek postnatal care services than are women who have fewer pregnancies overall or longer intervals between each delivery.

There is also the possibility that cultural and socioeconomic factors will have an influence on the use of postnatal care services in a given population. According to the findings of a study that was conducted in India by Khanal et al. (2014), women who had female healthcare providers were more likely to make use of postnatal care services than women who had male healthcare providers. This was demonstrated to be the case. When compared to female patients who were treated by male medical professionals, this was discovered to be the case. This demonstrates the need of taking into

consideration cultural and societal norms when deciding how postnatal care should be administered to new mothers.

A number of interventions, each of which is adapted to a particular setting, have been put into place in order to address the problems that are related with the use of postnatal care. A community-based intervention in Bangladesh that comprised of home visits and counseling during the postpartum period, as reported by Berhe et al. (2013), resulted in an increased use of postnatal care services among the participants. The intervention was carried out in Bangladesh. A mobile health intervention in Nepal that supplied postnatal care services via text messages and phone calls resulted in improved use of postnatal care (Khanal et al., 2014). In a similar vein, a mobile health intervention in Nepal that delivered postnatal care services resulted in improved utilization of postnatal care. In this specific research project, the intervention that was carried out was intended to encourage postnatal care usage. These therapies provide evidence that personalized approaches are useful in increasing the utilization of postnatal care services.

In conclusion, the consumption of postnatal care services among women is influenced by a range of criteria, some of which include age, level of education, employment position, socio-economic concerns, marital status, parity, as well as cultural and sociological influences. Some of these characteristics are included below. Women in the lowest wealth quartile, women who are unemployed, women over the age of 50, and women with lower levels of education are less likely to use postnatal care services. Women over the age of 50 and women with lower levels of education are also less likely to use these services. On the other hand, women who have finished a higher degree of education, women who are self-employed, women who have a better socio-economic status, women who are married, and women who have a lower parity are more likely to make use of postnatal care.

If one wants to see an increase in the number of women who utilize postnatal care, it is essential to devise targeted therapies that take into account the many factors involved. Through the use of community-based interventions such as home visits and counseling, it is feasible to promote awareness among women and urge them to seek postnatal care. This may also be accomplished. Women who live in more remote areas may still be able to reap the benefits of mobile health interventions that provide postnatal care services because to advancements in technology. Additionally, the closing of socioeconomic disparities, the emancipation of women, and the advancement of educational opportunities all have the potential to contribute to an increase in the use of postnatal care.

It is possible for us to expand access to postnatal care services of a better quality if, first, we address the numerous issues that impact the use of postnatal care, and then, second, we create and carry out tailored treatments. This, in turn, may lead to better health outcomes for mothers and their newborns, which, in turn, may decrease the risk of maternal morbidity and mortality and enhance the overall well-being of families and communities.

#### **2.2.4 Client Related Factors Influencing Postnatal Care Utilization**

##### **Antenatal Care Attendance**

One of the factors that affects the usage of postnatal care (PNC) services is the consumption of prenatal care services, also known as antenatal care (ANC). A person's socio-economic status, access to healthcare resources, cultural and societal norms, and their history of using PNC services are some of the other factors that influence their usage of these services. According to the findings of a number of different research,

one of the most important things that women can do to increase their usage of PNC is to make use of ANC services.

According to Chakraborty et al. (2002), which was cited by Nankwanga (2004), it was discovered that the use of PNC services may be substantially affected by the quality of ANC services, particularly with regard to health education and counseling on PNC. When mothers get the right counseling and education during their ANC visits, they become more knowledgeable about probable postnatal issues and where to obtain high-quality healthcare facilities to address them. This allows them to better prepare themselves for the time after giving birth. This gives them the ability to make better choices for themselves as well as the children they are raising. During ANC visits, it is very essential to provide mothers with health education and counseling in order to raise the mothers' levels of knowledge of PNC services.

Tesfahun et al. (2014) reported that past contact with community health agents was associated with an increased chance of being aware of postpartum maternal health care services. These results were based on the findings of a study that was conducted in Ethiopia. Women who were given ANC follow-up were more likely to be aware of PNC services than women who were not given such services. This was the case regardless of whether or not these services were offered to the women. As a direct result of this finding, it is abundantly evident that ANC services are of the highest relevance with respect to enhancing both understanding of and involvement in PNC programs. This is abundantly obvious due to the fact that it is abundantly obvious that ANC services are of the utmost significance.

In addition, studies have showed that when women reach greater levels of ANC, they are more likely to make use of PNC services. This association was shown to hold true regardless of the kind of ANC. In their research, Berhe et al. (2013) emphasized how

important it is to educate women about PNC services during ANC visits in order to increase their level of understanding of these services. This was done in order to boost the level of awareness among women. This indicates how essential it is to include PNC education within ANC programs in order to raise the percentage of women who make use of PNC services.

In addition to the availability of ANC services, there are a number of other factors that influence the frequency with which women use PNC. The study conducted by Kyei et al. (2018) indicates that certain socioeconomic factors, such as the degree of education possessed by the mother and the wealth of the household, are key determinants of PNC consumption. According to the findings of Titaley et al. (2010), the frequency with which women make use of prenatal care may be significantly impacted by factors such as access to healthcare facilities and the availability of skilled delivery attendants.

There is a possibility that cultural and social norms and expectations have an effect on the use of PNC among women. According to the results of a research that was carried out in India (Bhana et al., 2020), it was discovered that women who had female healthcare providers were more likely to use PNC services than women who had male physicians. This was shown to be the case when comparing the two groups of women. This research sheds light on the significant role that social and cultural norms play in terms of their potential to have an impact on the use of PNC.

There have been a number of different programs developed and implemented in order to encourage women to make advantage of the PNC services that are now accessible to them. A community-based intervention that provided postpartum mothers in Bangladesh with home visits and counseling during the postpartum period resulted in an increase in the use of postpartum nursing care, (Sarker et al., 2019). Similarly, a rise in the use of PNC services was found in Nepal as a result of a mobile health

intervention that offered these services in the form of text messages and phone calls (Wasti et al., 2018). This was a consequence of a mobile health intervention that gave these services in the form of text messages and phone calls. These projects give proof that personalised approaches are more effective than generic ones when it comes to promoting the use of PNC.

### **Place of Delivery**

When trying to decide whether or not a woman would seek medical treatment after giving birth, one of the most important factors to take into account is the environment in which the delivery took place. research have shown that women who give birth at home are much less likely to seek postnatal care in comparison to women who give birth in a medical institution. This research were carried out in a variety of nations throughout the world. This is the conclusion that can be reached from research that was carried out on mothers who had their babies at home. Investigations that have been carried out in the countries of India, Bangladesh, Ethiopia, Nigeria, Tanzania, and Nepal have all arrived at identical findings, all of which go in this general direction.

According to the findings of a research that was carried out in the Indian state of Uttar Pradesh (Singh et al., 2018), only 38.2% of women in India got postnatal care during the first 48 hours after giving birth. This information was gleaned from the observations of postnatal care recipients in India. In a research that also reached the same result, Dona et al. (2022) found that just 45.5 percent of mothers in Yirgalem Ethopia got postnatal care during the first 48 hours after giving birth. This was the finding that led to the study's conclusion. The results of this study shed light on the low rate of postnatal care service use among women who live in situations like those described above.

Women who gave birth to their children at home were much less likely to seek postnatal treatment, as shown by the findings of the study that Fekadu et al. (2016) carried out in Ethiopia, demonstrated that only 8% of those mothers who delivered at home received postnatal care within 42 days after delivery. In contrast, the study found that women who gave birth to their children at a medical facility were significantly more likely to seek postnatal care. This was shown to be the case when examining the chance that each group would seek postnatal treatment after the baby was born. In Nigeria, only 30.2% of women who had their babies at home got postnatal care, but 79.7% of women who delivered their children in a medical facility did so. This disparity is due to the fact that more women birth their babies in medical facilities. These results highlight the importance of giving birth at a medical facility in order to maximize the likelihood of obtaining postnatal care after one has given birth. This is due to the fact that the chance of obtaining postnatal care is increased when a woman gives birth in a medical facility.

Even though there have been initiatives in Tanzania to raise the proportion of women who use postnatal care services, the country as a whole still has a relatively low utilization rate for these services. According to a study that was carried out in several different regions of Tanzania, a vanishingly small proportion of women in Tanzania got postnatal care within the first two days after giving birth. A study by Kante et al., (2015) on compliance of the recommended postnatal visits illustrated that only 10.4% of mothers and their newborn completed the recommended schedule. This information was gleaned from the responses of the women who participated in the study. According to the findings of a separate research (Mrisho et al., 2008) conducted in the Tandahimba region of Tanzania, only 14.5% of new mothers got postnatal treatment during the first 48 hours after giving birth. This statistic was derived from the

examination of new moms who had just given birth. Based on the data presented here, it would seem that there is a need for initiatives to enhance the use of postnatal care in Tanzania.

Because the majority of deliveries in sub-Saharan Africa take place in the privacy and comfort of the mother's own home, the rate at which mothers make use of postnatal care services is much lower than in other parts of the world. The results of the Demographic and Health Surveys (DHS) indicate that only 13% of mothers in sub-Saharan Africa get a postnatal visit during the first two days after giving birth (DHS, 23). This statistic is based on the findings of the DHS. Research was conducted by the Department of Homeland Security, and it was from that research that this number was derived. Even fewer women in Kenya are getting postnatal care, despite the fact that home births account for 56% of all births in the country. This is the case despite the fact that home births account for 56% of all births in Kenya. Despite the fact that home births account for 56% of all births in Kenya, this is the situation that exists. Only 43 percent of births in Kenya take place in hospitals, according to the Kenya National Bureau of Statistics (KNBS, 2010) (KNBS, 2010). This information was gleaned through a trip to Kenya that was taken. The coverage percentage for postnatal care would only be 43% even if all moms who gave birth in hospitals received the therapy after their children were born, which is a relatively low ratio to begin with. This suggests that the percentage of women who get postnatal care would only be 43%, which is a pretty low proportion.

According to Paudel et al. (2019), the vast majority of births in Nepalese communities take place inside the woman's own private residence. This is the case in the vast majority of cases. In addition to this, it is common practice to confine the new mother to her room for a period of one month following the birth of her kid. As a result of this

cultural practice, there is a lesser possibility of the mother establishing contact with health care professionals during the postnatal period. This is something that need to be given a high level of priority.

Implementing individualized treatments is an urgent need in order to address the poor use of postnatal care services among women who give birth in the convenience of their own homes. Efforts should be focused on increasing the number of births that take place in medical facilities, ensuring that new mothers remain in care for an appropriate amount of time after delivery, and expanding community access to postnatal care services that are responsive to local cultural norms. All of these goals should be accomplished in order to improve maternal health outcomes. It is possible that the mother's health and the health of her child would both benefit from an increase in the frequency of births that take place in medical facilities.

If community-based interventions are established that involve home visits by qualified healthcare workers, there is the potential for an increase in the consumption of postnatal care among women who give birth at home. This rise might take place if women give birth at home. Following the delivery of their child, mothers can be eligible to participate in these programs. These interventions may provide women and their families counseling, information, and support, and they raise attention to the need of postnatal care for the sake of the health of both mothers and babies.

In addition, there is an urgent need to increase the provision of, as well as access to, postnatal care services in both community-based settings and healthcare institutions. This need may be seen in both the United States and internationally. In the context of this discussion, "ensuring that health facilities have trained healthcare providers who can provide quality postnatal care and address the specific needs of women during the

postnatal period" refers to the process of ensuring that healthcare practitioners are capable of meeting the specific requirements of postpartum women.

Increasing the usage of postnatal care is something that can be done in a number of ways, one of which is through using mobile health service choices. Women who have just given birth may benefit from receiving reminders, information, and support in the form of phone calls, text messages, or programs for their cellphones. These types of communication may be very useful. It is feasible that these interventions will be more helpful in reaching women who reside in rural regions or who have limited access to medical care. If this is the case, then the phrase "rural area women" should be used.

In addition, addressing the socioeconomic problems that have an impact on the usage of postnatal care is of the utmost importance since this is a factor that has an influence on the utilization of postnatal care. There seems to be a correlation between a woman's level of education, wealth, and employment standing, as well as the degree to which she makes use of postnatal care services for both her and her newborn kid, as shown by the results of a number of different research. As a result of this, efforts should be made to expand the educational possibilities accessible to women, minimize economic inequities, and offer women with either financial help or incentives to encourage them to seek postnatal care. These should all be done in an attempt to encourage women to seek postnatal care.

The cultural and social norms of a society have a significant impact on the extent to which a person receives postnatal care. These norms determine the degree to which a person receives postnatal care. The results of a number of separate pieces of study indicate that the gender of the attending physician has a significant impact on the likelihood that a woman may seek postnatal care. It has been established via the outcomes of these studies that women are more likely to seek treatments when such

services are delivered by female healthcare practitioners. This conclusion is in accordance with the findings of the aforementioned studies. This exemplifies the requirement of cultural sensitivity as well as the need for techniques that are gender-sensitive in the process of increasing use of postnatal care services.

In a nutshell, the use of postnatal care services continues to be at an appallingly low rate across the board, especially among mothers who give birth to their infants in the convenience of their own homes. It is vital to address a variety of challenges if the goal of increasing the number of women who utilize postnatal care is to be achieved. The health of a baby is influenced by a number of factors, including the environment in which they were born, the mother's level of education, the economic situation of the family, the cultural and social norms of the community, and the accessibility of medical services. It is possible to help improve postnatal care utilization and ultimately contribute to better health outcomes for women and their newborns by implementing targeted interventions that promote institutional deliveries, provide community-based care, utilize mobile health technologies, and address socio-economic and cultural barriers. This is possible through the implementation of targeted interventions that promote institutional deliveries, provide community-based care, utilize mobile health technologies, and address socio-economic and cultural barriers. This is attainable via the adoption of focused interventions that encourage births in hospitals, offer care based in the community, make use of mobile health technology, and address socio-economic and cultural constraints. If we put these measures into action and work toward that goal, we will be able to take steps toward achieving our goal of ensuring that all women, regardless of the location at which they gave birth, have access to the postnatal care services that they require in order to make a healthy and smooth transition into motherhood. If we put these measures into action and work toward that

goal, we will be able to take steps toward achieving our goal of ensuring that all women, regardless of the location at which they gave birth.

### **Facility Factors**

It has been shown that the characteristics of the institution have a substantial correlation with the total quantity of postnatal care (PNC) services that are used. In order to encourage women to seek postpartum care services after giving birth, there are a number of factors that need to be taken into account first. Some of these characteristics include the quality of postpartum care facilities, as well as their availability, as well as the number of qualified medical personnel and the amount of infrastructure. Women who give birth in medical facilities, such as hospitals or other medical institutions, have a statistically significant greater likelihood of receiving prenatal care than do women who give birth at home. This is due to the fact that hospitals and other types of medical institutions have greater equipment to give treatment of this kind. From a mathematical and statistical perspective. This highlights how crucial it is to address the issues that are present inside the institution that have an impact on the use of PNC services in order to improve the health outcomes for women as well as the health outcomes for their children. It is vital to perform an inquiry into the various factors of the facility that have an impact on the amount of postnatal care (PNC) services that are offered to patients when one is thinking about methods to improve the quality of care that is provided to postpartum women. This is the case when one is thinking about ways to improve the quality of care that is provided to postpartum women. This is done while taking into consideration various approaches that may be used to improve the postpartum care that is provided to mothers.

Women who had a previous history of having stillbirth were more likely to make use of PNC services, as stated by the results of a research that was conducted out in Pakistan by Memon et al. (2016). The study was carried out in Pakistan. There, the research was really carried out. This may be due to the fact that these women are more equipped to manage any challenges that may come throughout the process of giving birth, and as a consequence, they are more likely to seek the aid of a medical professional in the event that they have troubles while they are in the process of giving birth.

According to the findings of a research that had been conducted in Indonesia by Titaley et al. (2010), women who had received good prenatal care were also more likely to use the services that were available for postnatal care. This was the conclusion that was drawn from the findings of the study. The country of Indonesia served as the location for the research. The study was carried out in the nation of Indonesia, which served as the site. It has been shown that this is in fact the situation. In light of all of this knowledge, the value of prenatal care in terms of improving the use of PNCs is something that just cannot be stressed enough.

According to the results of a research that was carried out in Ethiopia by Tarekegn et al. (2014), the usage of PNC services was shown to be closely connected with urban living as a factor. This was determined based on the findings of the study. The country of Ethiopia served as the location for the research. When compared to rural areas, metropolitan areas almost always have superior infrastructure in terms of their roads, public transit, and accessibility to medical treatment. This might be the reason why metropolitan areas have a lower infant mortality rate. There is also the possibility that this is the result of the fact that urban areas have a generally superior level of infrastructure.

According to the results of a study that Appiah et al., (2021) conducted in Ghana, employed women were more probable to utilise PNC as compared to their counterparts unemployed; since the unemployed women are economically low and as a result may be dissuaded from utilising healthcare due to the associated cost. The women who had a better level of education and those who originated from richer households were more likely to employ PNC services, as shown by the results of a research that was conducted out in Nepal by Paudel et al. (2013). The study was carried out in Nepal. This investigation was carried out in a manner that was comparable to the aforementioned research, which served as a model for how this inquiry was carried out. It's conceivable that this is because individuals have a greater degree of awareness and understanding on the relevance of the services provided by PNC, but it's also plausible that it's just a coincidence. In any case, the fact that it took place at the same moment is an intriguing coincidence to take into account.

The majority of women who did not give birth at a medical facility identified a lack of financial resources as the main reason why they did not do so, according to the results of a research that was carried out by Ntambue et al., (2012) in the nation of the Democratic Republic of the Congo (DRC Congo). The study was carried out in the country of the Democratic Republic of the Congo (DRC Congo). [Further citation is required] The Democratic Republic of the Congo (also known as DRC Congo) served as the location for the gathering of data for this research. On the other side, a substantial proportion of the women believed that it was less important given the experience they had gained from having other children as a consequence of their earlier births. This was the sentiment expressed by a lot of the women who had more than one kid. This was the viewpoint that was expressed by a sizeable majority of the female participants. This behavior, which is not only harmful for women but also goes hand in hand with a

misunderstanding of the dangers involved with giving birth, may be blamed on the lack of communication or the poor quality of communication between healthcare institutions and the community as a whole, and women in particular. This behavior is not only harmful for women but also goes hand in hand with a misunderstanding of the dangers involved with giving birth. This behavior is not only harmful to women, but it also reflects a fundamental misunderstanding of the risks associated with childbirth. Together, these two factors make for an extremely perilous situation for women. In order to supplement the information that is provided to women and to increase their understanding of the dangers that are connected with pregnancy and childbirth, community mobilization and communication between healthcare facilities and the community are both necessary and essential components. In addition, this will assist women in being more aware of the dangers that are linked with pregnancy and childbirth, which is a significant benefit. This will make it feasible to extend the breadth of the information that is offered to women and to heighten their comprehension of the hazards that are linked with pregnancy and delivery. This will make it possible for women to have a better grasp of the risks that are associated with pregnancy and childbirth.

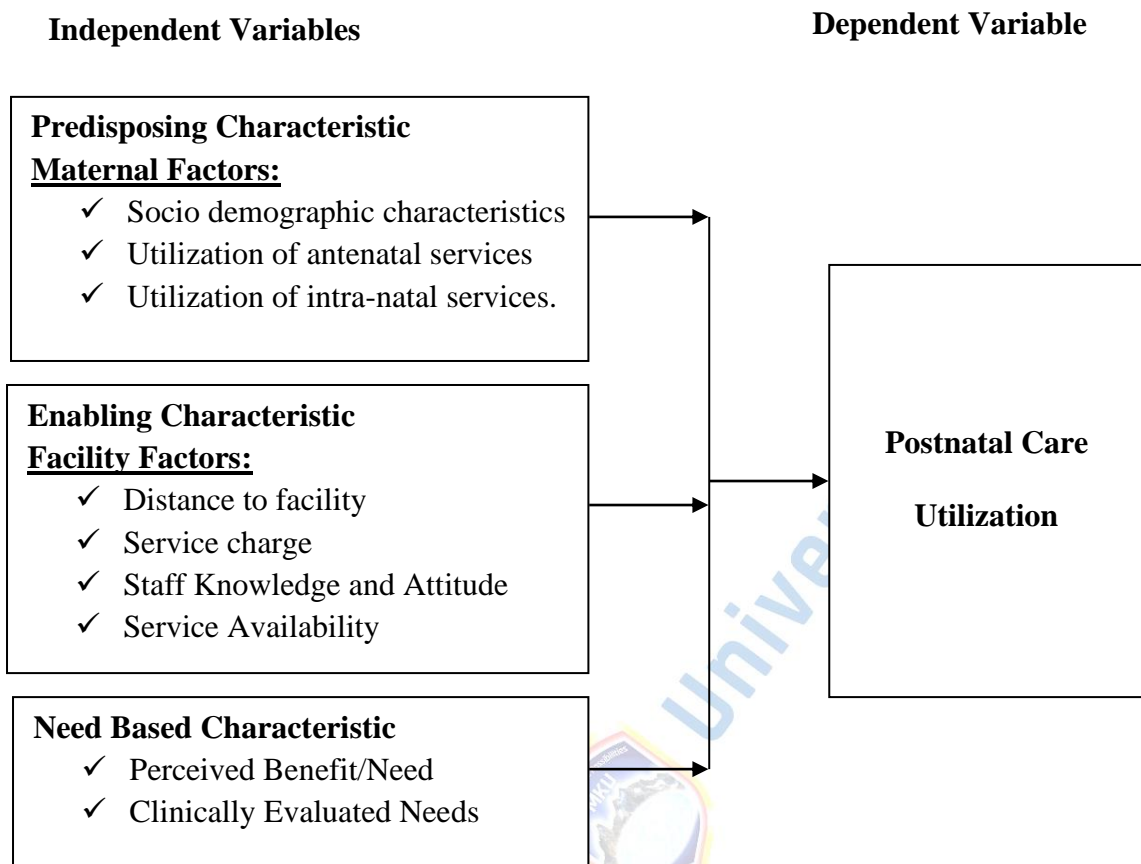
### **2.3 Conceptual Framework**

The aim of the conceptual framework was to provide a systematic approach for categorizing and describing relevant concepts and mapping their relationships. Because of its emphasis on people's agency in establishing and sustaining health and in influencing their environment to promote health-promoting behaviors (Laranjo, 2016), the Health Belief Model was selected as the overarching theoretical framework for this investigation. This model provides a framework that explains how neonatal care

practices are influenced by key concepts, which are described in three components: individual characteristics, behavior-specific cognitions and influences, and behavioral outcomes. Intervention and preventative strategies in health promotion are developed with the use of the Health Belief Model, an intrapersonal philosophy.

Additionally, Andersen (1968) created a model of healthcare usage that looks at three kinds of determinants: need-based features, enabling characteristics, and predisposing characteristics. Predisposing qualities, which affect a person's propensity to use health services, include their demographics, social standing, and health-related views. Resources in the family and community that help or inhibit the utilization of health care are examples of enabling qualities. Lastly, characteristics based on need pertain to the perceived requirement for healthcare services, which can be based on individual, social, or clinical evaluations of need. By considering these determinants, the model provides a comprehensive understanding of the factors that affect health care utilization and can inform the development of interventions to promote better neonatal care practices.

**Figure 1: Conceptual Framework**



**Source:** Adapted from Andersen's Behavioral Model of Health Services Utilization (1995)

### 2.3.1 Variables

Researchers set out to determine what characteristics prompt women to seek postnatal care. To do this, they used Andersen's Behavioral Model of Health Services Use (1995) to classify the elements into three broad categories: predisposing qualities, enabling features, and need-based characteristics. The dependent variable was postnatal care utilization.

#### Predisposing Characteristics

These are factors that can shape a person's likelihood to seek healthcare services. In this study, the researchers examined maternal factors such as socio-demographic characteristics (e.g., age, education level, marital status), utilization of antenatal

services, and utilization of intra-natal services. These factors are considered predisposing because they can influence a woman's attitudes and beliefs about the importance and necessity of postnatal care utilization.

### **Enabling Characteristics**

These factors can either facilitate or impede a person's ability to access healthcare services. In this study, the researchers focused on facility-related factors, including distance to the healthcare facility, service charge, staff knowledge and attitude, and availability of services. These factors are considered enabling because they can either help or hinder a woman's ability to access and utilize postnatal care services, depending on how favorable or unfavorable these factors are.

### **Need-Based Characteristics**

These factors are related to a person's actual need for healthcare services. In this study, the researchers analyzed both perceived benefit/need and clinically evaluated needs. Perceived benefit/need was assessed by asking women about their perceived benefits of postnatal care. Clinically evaluated needs were determined by asking women about their health status and that of their infants. These factors are considered need-based because they reflect the actual health requirements of the women and their infants, which may drive them to seek postnatal care.

### **Postnatal Care Utilization**

The dependent variable in this study was postnatal care utilization, which was measured by asking women whether they had used postpartum care services within 42 days after giving birth and, if so, how many times they had used these services. By examining the relationship between the independent variables (predisposing, enabling, and need-based characteristics) and the dependent variable (postnatal care utilization),

the researchers aimed to better understand the factors that influence women's use of postnatal care services.

#### **2.4 Summary of the Literature Review**

The research that has been conducted on the use of postnatal care services has shown that postnatal care services are of the utmost significance due to the fact that the majority of maternal deaths occur during the first few weeks of a newborn's life. There will be a considerable reduction in the burden of maternal illness and death in the county, nation, continent, and the globe as a whole if postnatal care services are improved to be effective and efficient. The relationship between socio-demographic characteristics and utilization of postnatal care services has brought out key notes that an increase in age and birth order may lead to low postnatal care utilization, while on the other hand there is high postnatal care services utilization among women of higher wealth quintile, education attainment and among married women. Other factors that seemed to have an influence on postnatal care utilization included: the place of delivery, ANC attendance, the knowledge of the mothers on postnatal care services, physical accessibility and good communication between health care providers and the community. Therefore, strengthening postnatal care services and creating awareness by reinforcing communication between the health care system and community of the said is important in reversing the trend of maternal morbidity and mortality.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

The steps and technique that were to be employed to gather the research data are described in this chapter. This chapter provides examples of the research design, study population, inclusion and exclusion criteria, sample size, sampling method, study variables, data collecting method, data analysis, limits, and ethical issues.

#### **3.2 Research Design**

An analytical cross-sectional survey was employed for this investigation. According to Schmidt & Brown, (2019), An analytical cross-sectional study is a type of quantitative, non-experimental research design which seek to "gather data from a group of subjects at only one point in time" with the purpose of measuring the association between an exposure and a disease, condition or outcome within a defined population. Descriptive research deals with naturally occurring events, where the researcher has no influence over the variables, and seeks to collect data without manipulating the study setting (Kothari, 2004). Cross-sectional studies often utilize surveys or questionnaires to gather data from participants (Schmidt & Brown, 2019,). this study adopted an analytical cross-sectional study design which involved using quantitative approaches to data collection; analysis and presentation.

#### **3.3 Study Area**

The study was conducted in Ngong Ward, which is located in Kajiado North Sub-County, within the southern region of the Rift Valley Province in Kenya,

approximately 25 kilometers southwest of Nairobi. Kajiado North Sub-County has an estimated population of 387,538, with females aged 18-49 years constituting 99,946 individuals, accounting for 25.7% of the population (Kenya National Bureau of Statistics (KNBS, 2010).

Ngong Township, the area of interest for this study, is positioned at 1.37° South latitude, 36.65° East longitude and has an elevation of 2062 meters above sea level. It covers an area of 42.60 square kilometers and has an estimated population of 18,091. The name Ngong is derived from the Maasai language, meaning "knuckles," which is descriptive of the four hill peaks of the ridge, rising prominently from the plain around Nairobi, a characteristic that typifies the geographical terrain of the area. The Maasai communities are the indigenous people residing in this region.

### **3.3 Target Population**

A population is a comprehensive group of people, things, or events that have some kind of observable individuality (Mugenda & Mugenda, 2003). The study was conducted in Ngong Ward; the potential respondents included all women (18-49 years), who were residing in the study area during the study period. Women who had had a delivery less than 12 months before the study provided the study population if they met the desired study criteria.

### **3.4 Sample Size and Sampling Procedures**

#### **3.4.1 Sample Size**

The main purpose of the sample size calculation is to determine the number of samples needed to detect significant changes in clinical parameters, treatment effects or associations after data gathering, thus optimum sample size is an essential component of any research (Pourhoseingholi, et al., 2013). Cochran (1963), developed the

Equation 1 which will be a representative of the sample for proportion on large populations (Israel, 2022). Using Cochran (1963) formula the sample size was determined by computation as specified in as follows:

$$n = \frac{z^2 pq}{e^2}$$

Where  $n$  is the sample size,  $Z$  = the statistic corresponding to level of confidence (95%) [The chi-square value used was 3.841],  $P$  is expected population proportion [assumed to be 0.30], as this magnitude yields the maximum possible sample size required,  $q$  is  $1-p$  and the value of  $e$  was taken as 0.05, which is the desired level of precision (Israel, 2022). The study sample size  $n$  based on this calculation was 354 households ( $n = 354$ ).

Taking:

$$z = 1.96 \text{ [the constant at 95\% confidence level].}$$

$$d = 0.05 \text{ (5\%)}$$

$$p = 0.3$$

$$q = 1 - 0.3 = 0.7$$

Thus, the sample size

$$\begin{aligned} n &= \frac{1.96^2 \times 0.3 \times 0.7}{0.05^2} \\ &= \frac{3.8416 \times 0.3 \times 0.7}{0.0025} \end{aligned}$$

$$n = 322$$

$$= 322 + 32 = 354 \text{ (10\% of non-respondents).}$$

### 3.4.2 Sampling Procedures

According to Mugenda and Mugenda (2003), systematic random sampling is a probability sampling strategy that requires picking a random beginning point before selecting each subsequent element from the population. In this study, every second

client was selected for the survey, the sample interval was arrived at by dividing the target population (number of women who had delivered in the last year prior to the study) by the sample size.. Systematic random sampling was thus applied whereby every 2<sup>nd</sup> client was sampled and interviewed only if they did meet the inclusion criteria. Kothari (2004) highlights that systematic random sampling has the advantage of being less subjective and less prone to bias compared to other sampling methods. This is because every element in the population has an equal chance of being selected. Similarly, Creswell (2014) notes that systematic random sampling can be a useful technique in studies where the population is homogeneous, and the sample size is relatively small. In this study, the systematic random sampling technique was used to select women who had delivered in the past 12 months, which ensured that the sample was representative of the population of interest.

### **3.5 Inclusion and Exclusion Criteria**

#### **3.5.1 Inclusion Criteria**

The inclusion criteria for respondents to qualify to be included in the study was that: they were females, aged 18- 49 years, those who were able to communicate in English or Kiswahili, they must have lived or have been in the study area for at least 12 months, they had had a delivery within the last 12 months prior to the study, and their babies are aged between 8weeks-12months.

#### **3.5.2 Exclusion Criteria**

The respondent who were excluded from the study though had met inclusion criteria were those that were unwilling to participate due to lack of consent from their spouse or guardian

## **3.6. Data Management**

### **3.6.1 Data Collection Procedure**

Data was collected from the women aged 18-49yrs. The tools which were used for collecting data from the respondents in the study were an Interviewer-administered Questionnaire. Interviews were held at the individual respondent's households, interviews were done alone in order to encourage them to be free while responding to questions. The use of both structured and semi-structured questions in the questionnaire was aimed at achieving a high degree of uniformity and objectivity while creating more room for probing and clarification.

#### **3.6.1.1 Research Instruments**

Testing equipment is used to measure a certain occurrence. According to Kombo & Tromp (2009), a questionnaire is the best method for getting information on areas like attitude and perception that respondents may feel reluctant to discuss since they respect confidentiality. Secondary data were acquired from the literature as part of the research and were used to assess the validity of the responses to the questionnaires.

The questionnaire developed addressed the objectives of the study which contained both closed and open-ended items. Each questionnaire was numbered to allow ease of compilation and analysis of data. The questionnaire had Parts 1 and 2, with Part 1 comprising the consent form while Part 2 had sections A & B. Section 2A and 2B elicited the demographic data and factors influencing utilization of PNC respectively.

An interview guide was used for the key informants.

### **3.6.1.2 Pilot Study**

To establish the validity and reliability of research instruments a pilot study must be conducted (Cooper & Schindler, 2008). Pre-testing of the questionnaire was done in Mathare village, Ngong Township Sub-location, Ngong Ward, Kajiado North Sub-County and adjustments were made in the structure and content of the questionnaire in line with the outcome of the pre-test. The pre-test study population had similar characteristics hence making it valid as a basis of pre-testing the instrument. The shared characteristics included; the geographical area (within Kajiado North Sub-County), the respondents are of the same age group (18-49 years); they had lived in the place/area for at least 12 months. The results of the pilot study were used to modify phrasing and content of the questionnaire for the purposes of ensuring that the tool is both valid and reliable.

### **3.6.1.3 Validity**

Validity is important because it determines whether a researcher can draw meaningful and useful conclusions from scores on a particular instrument. Validity is a quality technique that allows it to measure what it claims to be measuring. Validity is the correctness and capacity of interpretations founded on study findings (Kombo & Tromp, 2009). The validity of instruments used was ascertained by discussing the questionnaire with the researcher's two supervisors and other education experts who are highly knowledgeable about the themes of the study. Responses from the pilot conducted in a similar group provided an indication of coherence and aptness of the questions since they assisted in identifying existing flaws. Modifications to vague instructions, ambiguous questions and any major topic omissions were made accordingly. Time required to complete questionnaires was also established.

#### **3.6.1.4 Reliability**

A highly tested questionnaire was used. Pretesting the tools for consistency of information, being representative of the topics being analysed, clarity of vocabulary, being unambiguous, and reliability ensured face validity of the Delphi surveys. The research assistants underwent aggressive training.

When determining whether a study is accurate and correct, credibility is used to establish trustworthiness through data examination, analysis, and conclusions. Adoption of appropriate, well recognized research methods was employed as well as Random sampling of individuals serving as informants. By using triangulation method in the data analysis, multiple data sources, investigative methods and or literature steered the meaning of data across the settings and populace. This type of data triangulation meaningfully increased credibility (Creswell, 2009). Although known dependability and other objective criteria had a less role in determining trustworthiness, it was still important.

#### **3.6.1.5 Establishment of Credibility**

The reliability of a research may be determined by its credibility, which is determined by the thoroughness with which the data has been examined, analyzed, and its conclusions have been drawn. Adoption of appropriate, well recognized research methods was employed as well as Random sampling of individuals serving as informants. By using triangulation method in the data analysis, multiple data sources, investigative methods and or literature steered the meaning of data across the settings and populace. This type of data triangulation meaningfully increased credibility (Creswell, 2009). Trustworthiness was based more on subjective factors, but also included objective measurements such as established reliability.

### **3.7 Data Cleaning and Storage**

The researcher double-checked the completed surveys for accuracy before following up to confirm that all of the questions had been answered correctly. The obtained data was structured systematically to enable analysis when the surveys were finished. Only the chief researcher had access to the storage, which was kept under lock and key. Sorting and cleaning were achieved manually whereby the investigator assessed the completed questionnaires for wholeness. However, since incomplete questionnaires may end up altering the statistical significance of the information obtained, the researcher did a follow-up to ensure the respondents completed them fully. When this was done, systematic arrangement of the questionnaires was done to facilitate analysis. All data relating to my study is stored in my personal computer which has restricted access as it is protected by a password.

### **3.8 Training**

Two research assistants were selected from among the respondents who were familiar with the local languages and were working in the department. They were trained and orientated in the requirements of the research for one week.

### **3.9 Measurements of Variables**

The independent variables: Maternal factors, Facility factors and Need-based factors all influence the dependent variable, which is the utilization of Postnatal Care Services. While the independent variables were used to measure both nominal and ordinal data, the dependent variable was used to measure the ordinal type of data.

### **3.10 Data Analysis**

SPSS version 21 was used to examine the obtained data for trends and patterns. Absolute numbers, a frequency table, bar charts, simple percentages, and measures of central tendency were used to display the descriptive statistics. Chi-squared test was used to determine associations between independent variables and postnatal care utilization. To determine factors associated with post natal care service, bivariate logistic regression and multivariate logistic regression were applied which further determined independent predictors for utilization of postnatal care services.

### **3.11 Dissemination Plan**

The study findings will be presented in Mount Kenya University, school of nursing during the defense forum and at the school of postgraduate in the same campus.

A copy of the report will be forwarded to the Mount Kenya University Ethics Review Committee and to NACOSTI. The National Council of Science and Technology and the Mount Kenya University Bio-Ethical Review Committee both granted the researcher's request for approval. The Sub-County Ethics and Standard Committee and Sub-County Medical Officer of Health were consulted for further permission. The research study will be published in one of the health international peer reviewed journals.

### **3.12 Ethical Considerations**

Both the theft or misappropriation of protected invention as well as the generous unattributed literary replication of another's work are considered copyright infringement in certain jurisdictions. The unapproved utilization of concepts or one-of-a-kind strategies obtained by a specific correspondence, for example, an award or an

original copy audit, is included with the burglary or misappropriation of protected innovation. All of the authors cited in the inquiry have been acknowledged in the material and have also been referenced.

In order to facilitate fair and free interactions, the researcher provided the participants with conditions that were both free and fair, which helped to put them at ease. The researcher encouraged people to share information freely and expressed appreciation for their sentiments if they were unable to reveal some sensitive details. By encouraging participants to provide information freely and willingly, the researcher was able to provide them with specifics on the tactics that will be employed throughout the information gathering process. Before taking part in the study procedure, the participants were required to read, comprehend, and sign a permission form. It was ensured that all of the participants were 18 years old or older based on the information on their national identity cards. It was only after they had completed a permission form that information about them was acquired.

The respondents were assured by the researcher that the information they provided would be handled with the strictest confidentiality. The researcher reassured them that the information would be utilized only for the purposes outlined in the study and that no uninvited individuals would come into contact with it in any way at any point in time. As a result, the participants were able to provide honest and comprehensive information since their names and institutions were not shown anywhere on the data collecting instrument, save for a coded system that could only be deciphered by the researcher, who built and understood the system.

It was recommended that respondents read and comprehend the permission form before signing it to indicate that they are voluntarily taking part in the study. The overall

impact of all of these procedures is to guarantee that no one gets insulted as a result of their willingness to participate in the research.

According to the study, the respondents were requested to provide information on data collection tools without disclosing their identity. The contributors to this research were classified using secret codes, which were employed in this investigation. There was no exposed information on the participants, no information in black and white, and no other kinds of communication regarding the events between the researcher and the respondents were used. Because of this, the researcher was much more successful in avoiding biased replies from the respondents.

Participants were informed that they might choose not to take part in the study if they felt uncomfortable doing so. They were polled for details regarding their own time management habits.

The information gathered from the respondents was processed and placed with great care in order to prevent it from falling into the hands of unauthorized persons. It was stored in both hardcopy and electronic format. Neither the researcher nor anybody else had access to any of the collected information.

The goal of the research was properly explained to the participants, and then their participation was solicited. It was made clear that their involvement was fully optional, that they may withdraw at any moment, and that not participating would not have any negative effects. No names or other identifying information was included in the questionnaire, which all participants had to fill out as part of their participation. Participants were asked not to disclose any information revealed during the conversations and were assured that the data would be handled in strictest secrecy. To ensure that none of the participants can be recognized, data was completely made anonymous. Data was kept locked in a filing cabinet and a password for computer

system utilized. The researcher will provide a written feedback after the study to Kajiado North Sub-County Health Management Team.

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## CHAPTER FOUR

### RESEARCH FINDINGS AND DISCUSSIONS

#### 4.0 Introduction

The study's findings are discussed in this chapter, along with the data analysis. 328 respondents contributed to the findings. The findings reflect the extent to which PNC services were used, the socio-demographic characteristics of the women, connections among socio-demographic variables, awareness of postnatal services, and factors related to the use of postnatal services in the health care system.

#### 4.1 Response Rate

At least half of the completed surveys must be accessible for data analysis, according to (Mugenda & Mugenda, 2003). This questionnaire response rate choice was made in accordance with the findings of Babbie (2008), who concluded that a fifty percent return rate was sufficient for any data analysis, but that a return rate of seventy percent or more was considered extremely excellent. Because of this, the researcher determined that this was an exceptional return rate that was sufficient to proceed with the investigation. After coding and cleaning of the data, some of the questionnaires had some areas which had not been filled particularly those major research variables where midpoint in the scale was assigned as the response to those specific items as recommended.

**Table 1: Response Rate**

The table below defines the number of people who answered the survey versus the number of people in the sample size.

	<b>Frequency</b>	<b>Percentage</b>
Complete	328	92.6
Incomplete	26	7.3
<b>Total</b>	<b>354</b>	<b>100</b>

**Source:** Field Data (2022)

The survey used a sample of 354 respondents, and 328 of them filled out and returned the questionnaires, resulting in a high response rate of 92.6%. This response rate indicates a high level of willingness and interest among the participants to provide the required information for the study. According to Fowler (2014), response rates of 90% or higher are considered excellent, while those between 60% and 80% are generally considered good. In this case, the response rate of 92.6% is excellent and provides a high level of confidence in the accuracy of the data collected. The high response rate observed in this study could be attributed to the use of various techniques to enhance response rates, such as personalized and pre-notification letters, follow-up phone calls, and the provision of incentives for participation (Fowler, 2014).

#### **4.2 Social-Demographic Characteristics of the Respondents.**

Table 2 presents the socio-demographic characteristics of the participants. The data indicates that the majority of the respondents fell within the age range of 25 to 34 years, accounting for 52.4%. On the other hand, the smallest proportion of participants, at 0.9%, belonged to the 45 years and above age group. In terms of education, approximately 43.3% of the female respondents had completed secondary school, while 27.7% had tertiary education, and 29.0% had primary education. Religiously, the

majority of the respondents identified as Christians, comprising 83.5% of the sample. Regarding family size, over three-quarters (89.3%) of the participants had between one to three children. Marital status analysis reveals that 58.5% of the respondents were married. Among the married women, most of their spouses were self-employed (25.9%), while 20.4% and 16.2% of spouses were either employed by the government or private sector and casual labourers respectively.

A total of 328 women within the age range of 18-49 were interviewed. Majority of the women were married (58.5%) with secondary education (43.3%) and majority aged between 25-34 (52.4%).

**Table 2: Baseline Characteristics of the Respondents**

Variable	Frequency		
	N=328	Percent	
Age	18-24	122	37.2
	25-34	172	52.4
	35-44	31	9.5
	45 and above	3	0.9
	<b>Total</b>	<b>328</b>	
No. of years lived in Ngong Ward	0-20 years	286	87.2
	21-40 years	38	11.6
	41 and above	4	1.2
<b>Total</b>	<b>328</b>		
Highest level of education	Tertiary	91	27.7
	Secondary	142	43.3
	Primary and below	95	29.0
	<b>Total</b>	<b>328</b>	
Marital status	Single	90	27.4
	Married	192	58.5
	Divorced/widowed/separated	46	14.0
	<b>Total</b>	<b>328</b>	
Religion	Christian	274	83.5
	Muslim	54	16.5
	<b>Total</b>	<b>328</b>	
Occupation	Employed by Government/Private	60	18.3
	Self employed	109	33.2
	Casual laborer	110	33.5

	House wife	49	14.9
	<b>Total</b>	<b>328</b>	
Husband occupation	Employed by Government/Private	67	20.4
	Self employed	85	25.9
	Casual laborer	53	16.2
	<b>Total</b>	<b>205</b>	
No of children	1-3 children	293	89.3
	4-6 children	35	10.7
	<b>Total</b>	<b>328</b>	<b>100</b>

**Source:** Field Data (2022)

The study findings reveal interesting insights into the characteristics of the participants. In terms of age distribution, the majority of participants were in the 25-34 years age group, comprising 52.4% of the sample. This indicates that women in their late twenties and early thirties were the most represented in the study. The next significant group was the 18-24 years age category, accounting for 37.2% of the participants. It is worth noting that the study also included women in older age groups, with 9.5% falling within the 35-44 years range and a minimal 0.9% aged 45 and above.

Regarding the length of residency in Ngong Ward, a large proportion of participants, approximately 87.2%, had lived in the ward for 0-20 years. This suggests that the majority of the women included in the study were long-term residents of the ward. A smaller percentage, around 11.6%, had resided in the ward for 21-40 years, indicating a relatively stable population. Only a few participants, constituting 1.2% of the sample, had lived in the ward for 41 years and above, suggesting a relatively small number of long-standing residents.

In terms of educational attainment, the study findings indicate that participants had varying levels of education. The highest proportion, 43.3%, had completed secondary education, reflecting a relatively high educational level among the women in the study. A significant number, 29.0%, had primary education or below, while 27.7% had

attained tertiary education. These findings suggest a diverse educational background among the participants.

When examining marital status, the majority of participants, 58.5%, were married. Single women accounted for 27.4% of the sample, while those who were divorced, widowed, or separated made up 14.0%. These findings provide insights into the marital status composition of the women participating in the study.

Regarding religious affiliation, the study findings show that the majority of participants, approximately 83.5%, identified as Christians, while 16.5% identified as Muslims. This indicates a predominantly Christian population in Ngong Ward among the women surveyed.

In terms of occupation, the study participants exhibited diverse employment statuses. The largest group, 33.5%, were engaged in casual labor, followed closely by self-employed individuals at 33.2%. A smaller proportion, 18.3%, were employed by either the government or private sector, while 14.9% were housewives. These findings highlight the varied occupational profiles of the women included in the study.

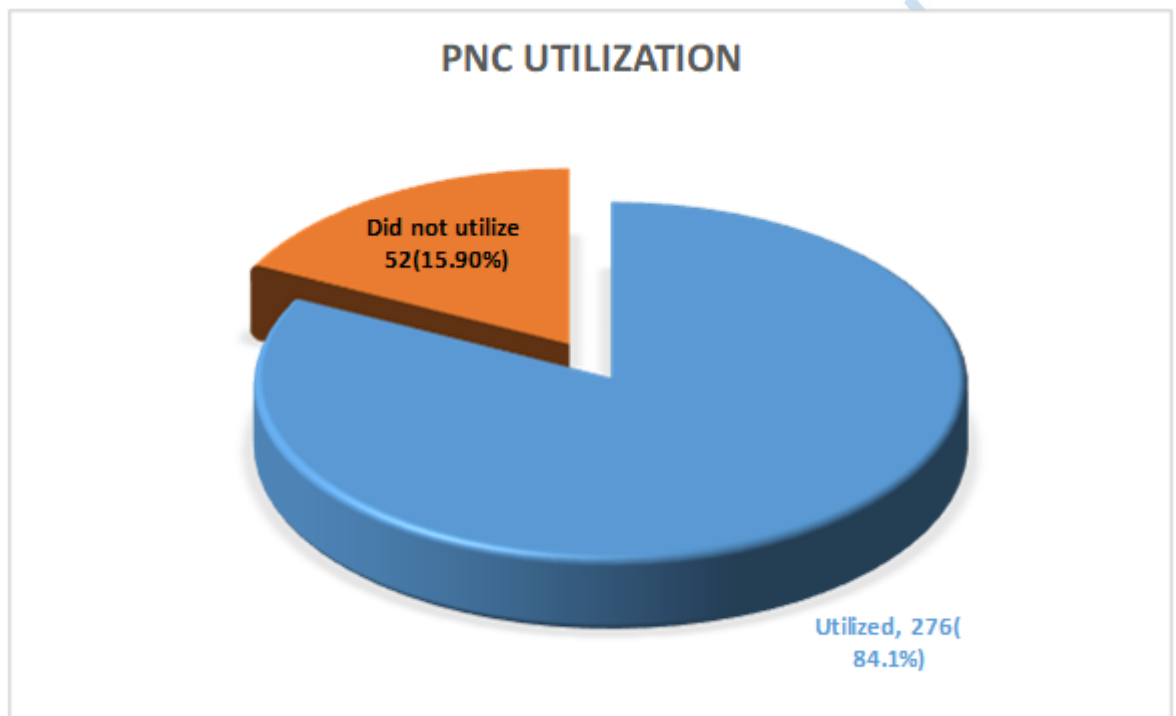
### **4.3 Utilization of PNC Services**

The study examined the utilization of postnatal care (PNC) services from two perspectives: the proportion of mothers who availed themselves of these services and the timing of their visits during the postnatal period. For the purposes of this study, a woman was considered to have utilized PNC services if she received care from a trained healthcare provider at a healthcare facility at least once during the postnatal period.

### 4.3.1 The Proportion of Women who Utilized PNC Services

Postnatal care (PNC) service usage was the focus of this analysis. Women who used PNC services and those who did not were separated throughout the interview process. Among the women interviewed, the majority (84.1%) fell into the category of having utilized PNC services.

Figure 2 provides a graphical representation of the utilization of PNC services.



**Figure 2: PNC Utilization**

### 4.4 Client related factors influencing Post natal care utilization

Majority of the respondents 96.6% (n=317) have ever heard about postnatal care services, sources of postnatal care information include; 74.1% (n=243) medical personnel and 22.6% (n= 74) non-medical personnel. The number of postnatal care visits are as follows; 1-4 visits 57.6 % (n=189) and above 4 visits 26.7% (n=87). On the importance of PNC services, 78.6% (206) indicated its important while 1.5% (4) indicated it's not important as indicated in table 3 below.

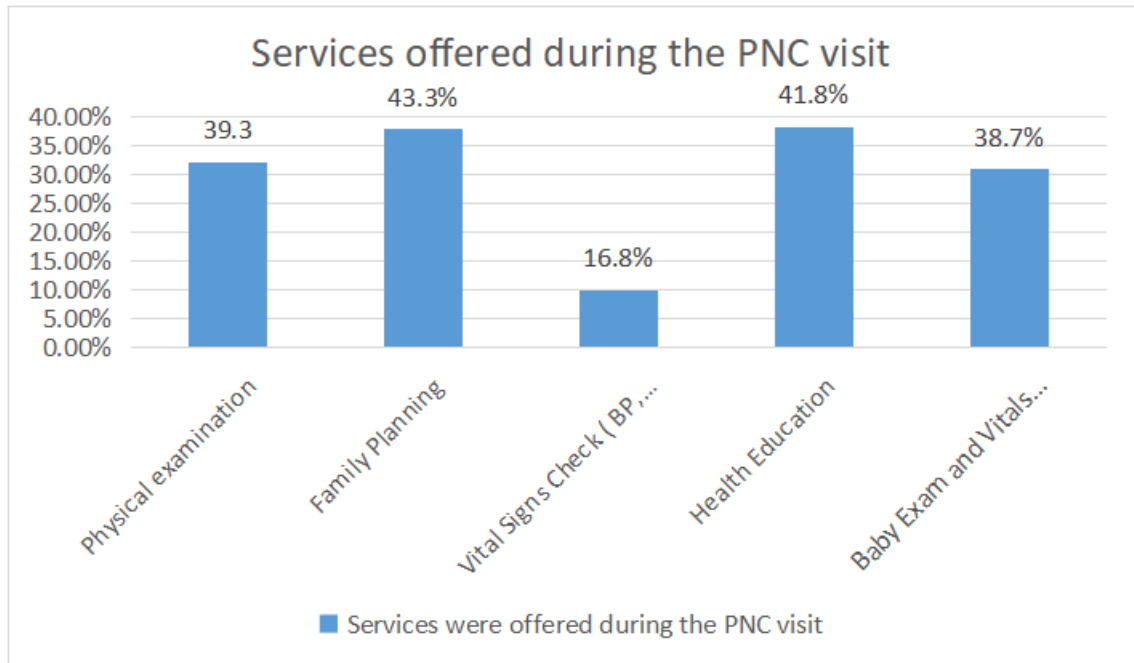
**Table 3: Client Related Factors and Utilization of Post-Natal Care Services**

<b>Variable</b>		<b>Frequency</b>	<b>Percent</b>
Have ever heard about postnatal care services	Yes	317	96.6
	No	11	3.4
Source of postnatal care services information.	Medical personnel	243	74.1
	Non - Medical personnel	76	23.2
Number of postnatal care visits	1-4 visits	190	57.9
	Above 4 visits	88	26.8
Importance of PNC services	Yes	206	78.6
	No	4	1.5

**Source:** Field Data (2022)

#### **4.4.1 Services Offered During Postnatal Care Visit**

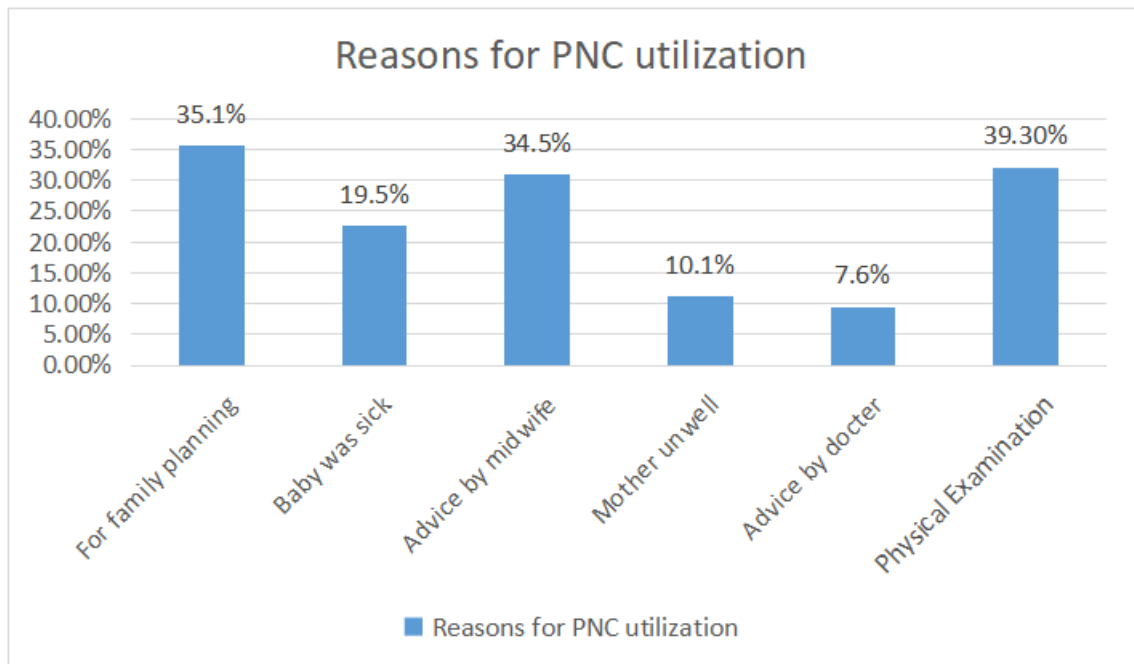
Mothers and new-borns are particularly vulnerable to developing complications in the first week after childbirth. It is worth noting that this study revealed a significant finding: the majority (43.3%) of women sought postnatal care (PNC) services in a health facility specifically for family planning purposes. This suggests that a considerable proportion of women recognized the importance of accessing PNC services for contraception and reproductive health support after childbirth. This is shown in figure 3 below.



**Figure 3: Services Offered During the PNC Visit.**

#### 4.4.2 Reasons for Attending PNC Services

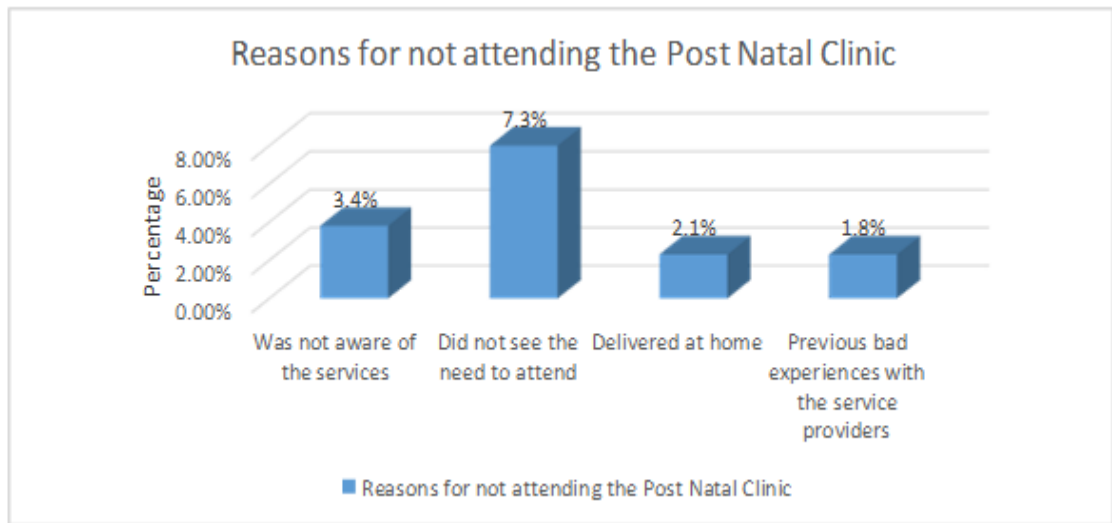
The results depicted in Figure 4 illustrate that women attended postnatal care (PNC) for a diverse range of reasons. These reasons included physical examination, ensuring the well-being of both the baby and the mother, receiving advice from healthcare professionals, and seeking family planning services, among other needs. It is important to note that this was a multiple-choice question, allowing mothers to select more than one reason for attending PNC. The most frequent reason given was the physical examination (39.3%), while the least mentioned reason was advice by the doctor (7.6%).



**Figure 4: Reasons for PNC Utilization**

#### 4.4.3 Reasons for not Attending PNC Services

Figure 5 displays the reasons provided by women who did not attend postnatal care (PNC) services. The most commonly mentioned inhibitive factor was the perception that there was no need for PNC services, accounting for 7.3% of the responses. Lack of awareness about the importance of PNC was cited by 3.4% of the women, while previous bad experiences and opting for home delivery were each mentioned by 1.8% of the respondents. It is important to note that this was a multiple-choice question, allowing mothers to select more than one reason for not attending PNC services.



**Figure 5: Reasons for not Attending PNC Services**

#### **4.5 Social-Demographic Factors Influencing Utilization of PNC Service**

The study examined the association between postnatal care (PNC) service utilization and various socio-demographic factors. These factors included age, level of education, marital status, occupation, number of children, wealth status, religion, parity (number of previous pregnancies), and spouse occupation. The researchers sought to explore how these variables were related to the utilization of PNC services.

##### **4.5.1 Association Between Age and PNC Utilization**

Table 4 presents the association between age and the utilization of postnatal care (PNC) services. The statistical analysis revealed that there was no significant association between age and PNC utilization ( $p = 0.245$ ) at a 95% confidence interval. However, it is worth noting that the highest proportion of women who utilized PNC services was observed in the age group of 25-34 years.

**Table 4: Association Between Age and PNC Utilization**

Variable		Postnatal clinic utilization		P-Value
		Yes	No	
Age	15-24	99(81.1%)	23(18.9%)	P = 4.156 <sup>5</sup> Df=3 Value = 0.245
	25-34	146(84.9%)	26(15.1%)	
	35-44	28(90.3%)	3(9.7%)	
	45 and above	3(100.0%)	0(0.0%)	

**Source:** Field Data (2022)

#### 4.5.2 Association Between Educational Status and PNC Utilization

At bivariate analysis, Table 5 below shows there was no association between of PNC services utilization and woman's level of education. The majority of those who attended PNC services, had the secondary level of education.

**Table 5: Association Between Educational Status and PNC Utilization**

Variable		Postnatal clinic utilization		P-Value
		Yes	No	
Highest level of education	Tertiary	77(84.6%)	14(15.4%)	P = 0.028 <sup>5</sup> Df=2 Value = 0.986
	Secondary	119(83.8%)	23(16.3) %	
	Primary and below	80(84.2%)	15(15.8%)	

**Source:** Field Data (2022)

#### 4.5.3 Association Between Religion and PNC Utilization

Table 6 presents the results of the utilization of postnatal care (PNC) services based on the respondents' religion. The bivariate analysis revealed that there was no statistically significant association between religion and the utilization of PNC services (p-value = 0.858).

**Table 6: Association Between Religion and PNC Utilization**

	Postnatal clinic utilization		P-Value	
	Yes	No		
What is your religion?	Christian	231(84.3%)	43(15.7%)	P = 0.032 <sup>5</sup>
	Muslim	45(83.3%)	9(16.7%)	Df=1
				Value = 0.858

**Source:** Field Data (2022)

#### 4.5.4 Association of Marital Status and PNC Utilization

Table 7 displays the proportions of PNC service utilizers based on the respondents' marital status. The data reveals that married women had the highest proportion of PNC service utilization compared to unmarried and divorced women. The bivariate analysis indicated a statistically significant association between marital status and the utilization of PNC services (p-value = 0.030). This suggests that marital status plays a role in the likelihood of utilizing PNC services.

**Table 7: Association of Marital Status and PNC Utilization**

		Postnatal clinic utilization		P-Value
		Yes	No	
Marital status	Single	69(76.7%)	21(23.3%)	P = 7.030 <sup>5</sup> Df=2, Value = 0.030
	Married	170(88.5%)	22(11.5%)	
	Divorced/widowed/separated	37(80.4%)	9(19.6%)	

**Source:** Field Data (2022)

#### 4.5.5 Association of Parity and PNC Utilization.

Table 8 displays the association between the number of children women have and their utilization of postnatal care (PNC) services. The results of the cross-tabulation analysis indicate that there is no statistically significant association between the number of children a woman has and her utilization of PNC services (p-value = 0.788). In other words, the number of children does not appear to influence the likelihood of women utilizing PNC services according to the statistical analysis.

**Table 8: Association of Parity and PNC Utilization.**

			Postnatal clinic utilization		P-Value
			Yes	No	
How many children do you have?	1-3 children		246(84.0%)	47(16.0%)	P = 0.072 <sup>5</sup> Df=1, Value = 0.788
	4-6 children		30(85.7%)	5(14.3%)	

**Source:** Field Data (2022)

#### 4.5.6 Association Between Employment Status and PNC Utilization

Table 9 presents the proportion of women who utilized postnatal care (PNC) services based on their employment status. The data reveals that a higher proportion of women in self-employment utilized PNC services compared to those in regular employment. However, the cross-tabulation analysis of these variables indicated that there was no statistically significant association between a woman's employment status and her utilization of PNC services (p-value = 0.115). In other words, employment status does not seem to be a significant factor influencing the utilization of PNC services according to the statistical analysis.

**Table 9: Association Between Employment Status and PNC Utilization**

		Postnatal clinic utilization		P-Value
		Yes	No	
Occupation	Employed	51(85.0%)	9(15.0%)	P = 5.932 <sup>5</sup> Df=3,
	Government/Private sector			
	Self employed	98(89.9%)	11(10.0%)	Value = 0.115
	Casual laborer	90(81.8%)	20(18.2%)	
	House wife	37(75.5%)	12(24.5%)	

**Source:** Field Data (2022)

#### 4.5.7 Association Between Spouse Employment Status and PNC Utilization

Table 10 below shows there was no statistically significant difference between spouse employment status and PNC utilization (p = 0.104).

**Table 10: Association Between Spouse Employment Status and PNC Utilization**

		Postnatal utilization	clinic	P-Value
		Yes	No	
Spouse occupation	Employed by Government/Private sector	58(86.6%)	9(13.4%)	P = 4.527 <sup>5</sup>
	Self employed	80(94.1%)	5(5.9%)	Df=2, Value = 0.104
	Casual laborer	44(83.0%)	9(17.0%)	

**Source:** Field Data (2022)

#### 4.5.8 Association between factors influencing PNC utilization.

Table 11 below displays the association between the utilization of postnatal care (PNC) services and several factors, including the place of last delivery, the person who conducted the delivery, antenatal clinic attendance during the last pregnancy, and the number of times attended during the last pregnancy. The chi-square statistics were calculated to assess the associations. The results indicate that there is a statistically significant association between the utilization of PNC services and the place of delivery (p-value = 0.014), the person who conducted the delivery (p-value = 0.002), antenatal clinic attendance during the last pregnancy (Fischer's Exact p-value = 0.000), and the number of times attended during the last pregnancy (p-value = 0.030). These findings suggest that these factors are related to the utilization of PNC services.

**Table 11: Factors influencing postnatal care (PNC) services utilization**

Variable	Postnatal clinic utilization		P-Value
	Yes	No	

Place of last delivery	Hospital	248(86.1%)	40(13.9%)	P = 10.644 <sup>5</sup>
	On your way to a Health Facility	17(70.8%)	7(29.2%)	Df=3, Value = 0.014
	Own Home	11(73.3%)	4(26.7%)	
	TBA's Home	0(0.0%)	1(100.0%)	
Who conducted the last delivery	Skilled Birth Attendant	249(86.5%)	39(13.5%)	P = 9.463 <sup>5</sup>
	Non-Skilled Birth Attendant	27(67.5%)	13(32.5%)	Df=1, Value = 0.002
Did you attend antenatal clinic during your last pregnancy	Yes	267(86.4%)	42(13.6%)	Fischer's
	No	9(47.4%)	10(52.6%)	Exact= 0.000
No. of antenatal visits in the last pregnancy	1-4 visits	210(88.6%)	27(11.4%)	P = 4.738 <sup>5</sup>
	Above 4 visits	59(78.7%)	16(21.3%)	Df=1, Value = 0.030

**Source:** Field Data (2022)

#### 4.6 Bivariate Analysis of factors influencing PNC Utilization

Factors that were examined to assess utilization of PNC were; reasons for attending PNC, place of delivery, who conducted the delivery, duration of waiting to be attended

by the nurse midwife, reasons for not attending PNC, information about PNC, services offered and number of visits.

**Table 12: Bivariate Analysis of factors influencing PNC Utilization**

Variable	Postnatal clinic visits		Total	Fischer's	Exact =
	Yes	No			
Have ever heard about postnatal care services	Yes 276(87.1%)	No 41(12.9%)	0(0.0%) 11(100.0%)	0.000	
Who gave information about postnatal care services	Medical personnel 218(89.7%)	Non - Medical personnel 18(23.7%)	25(10.3%)	P = 8.908 <sup>5</sup> Df=1, Value = 0.003	
Postnatal care attended	1-4 visits 190(100.0%)	Above 4 visits 86(97.7%)	0(0.0%) 2(2.3%)	Fischer's 0.099	Exact=
Duration of waiting to be attended by the nurse midwife	More than 1 hour 63(98.4%)	30 minutes - 1 hour 77(100.0%)	1(1.6%) 0(0.0%)	P = 3.184 <sup>5</sup> Df=2, Value = 0.204	
Postnatal care services importance	Yes 255(95.1%)	No 5(62.5%)	13(4.9%) 3(37.5%)	Fischer's 0.008	Exact =

**Source: Field Data (2022)**

From the table 12 above PNC utilization was positively associated with those who have ever heard about postnatal care services (Fischer's exact= 0.000), information about postnatal care services (p=0.003), and if postnatal care services are important (0.008) However cross tabulation of PNC utilization and postnatal care visits attended (Fischer's exact= 0.099), duration of waiting to be attended by the nurse midwife

(0.204), and the reasons why PNC is important ( $p=1.000$ ) showed there was no association with utilization of PNC services.

#### 4.7 Multivariate Analysis of factors that determine the utilization of postnatal care

At bivariate analysis, postal natal care utilization at 95% confidence intervals ( $p$ -value $<0.05$ ) was significantly associated with the analysis of those who have ever heard about postnatal care services, ( $P$  value= 0.000), marital status ( $P$  value=0.030), place of last delivery ( $P$  value= 0.014), who conducted the delivery ( $P$  value=0.002), antenatal clinic attendance during last pregnancy (Fischer's Exact= 0.000) and number of ANC visits ( $P$ -value =0.030). It was also associated with where they got information about postal natal care visits ( $P$  value= 0.003) and the importance of postal natal care (Fischer's Exact= 0.008). These factors were then fed into a logistic regression where they were not significantly associated with post-natal care utilization as depicted in the table 13 below.

**Table 13: Multivariate Analysis of factors that determine utilization of PNC**

Factor	df	P-Value	Exp(B)	95% C.I.for EXP(B)	
				Lower	Upper
Marital status	1	0.697	0.793	0.248	2.541
Place of Last Delivery	1	0.617	0.299	0.003	33.766
Conducting of Delivery	1	0.596	4.268	0.020	910.066
Antenatal Clinic attendance	1	0.999	0.000	0.000	0.000
No of ANC visits	1	0.176	2.883	0.622	13.356

Have ever heard about postnatal care services	1	0.999	0.006	0.000	0.000
Source of PNC information	1	0.512	1.831	0.301	11.139
Importance of PNC	1	0.138	7.546	0.521	109.264

**Source:** Field Data (2022)

Odds are the ratio of the probability that an outcome occurs to the probability that an outcome does not occur, odds ratio are therefore frequently used to present strength of association between risk factors and outcomes (Norton 2018), an odds ratio (OR) is therefore a measure of association between an exposure and an outcome. According to Norton (2018), if the 95% CI of an odds ratio does not include 1.0 the ratio is then considered to be statistically significant. Having attended antenatal clinic and heard about postnatal care were considered as factors that highly influenced the uptake of postnatal care services utilization.

#### **4.8 Discussions of Findings**

The study aimed to evaluate the utilization of postnatal care (PNC) services and identify the factors that influence its utilization. The research was conducted using a sample size of 328 respondents. By utilizing this sample, the researchers sought to gather data and insights regarding the utilization patterns of PNC services among postpartum women.

#### **4.8.1 Utilization of PNC Services**

The utilization of Postnatal Care (PNC) services in Kenya has been a topic of concern, mirroring similar challenges observed in other African countries. A recent study conducted in Kenya revealed that 84.1% of women attended PNC at least once, aligning with findings from previous studies in African nations that reported low uptake of PNC services. For example, a study in Ethiopia found that only 19% of postnatal mothers attended PNC within six weeks after childbirth, indicating a substantial gap in service utilization (Mekonnen et al., 2002). Similarly, in Congo, a study reported that merely 34.6% of postnatal women attended PNC within 42 days following childbirth, highlighting a need for improved access and utilization of PNC services (Dramax et al., 2012).

In Nigeria, a study found that only 35.8% of postnatal women received PNC services within 42 days after delivery, indicating a low uptake of PNC despite its importance for maternal and newborn health (Okafor et al., 2014). Similarly, in Uganda, a study reported that only 36.3% of women attended PNC within the recommended timeframe of 48 hours after childbirth, suggesting a significant gap in accessing timely postnatal care (Kamya et al., 2017).

Furthermore, research conducted in Ghana revealed that although the majority of women (77.7%) attended at least one PNC visit, only 37.5% received the recommended minimum of four PNC visits, indicating suboptimal utilization of comprehensive PNC services (Appiah, et al., 2021). In Tanzania, a study showed that only 25% of postnatal women received PNC services within the first two days after delivery, highlighting a critical need for improved access and utilization of early postnatal care (Kante, et al., 2015).

The study revealed that despite a relatively high number of women attending Postnatal Care (PNC) at least once, the utilization of PNC services is comparatively poor when compared to Antenatal Care (ANC) attendance and skilled delivery. This finding is consistent with the Kenya Demographic and Health Survey (KDHS) 2014, which reported that only 51% of women received a postnatal check-up within the recommended time-frame of the first two days after their last live birth. This indicates a significant gap in the utilization of PNC services and highlights the weakest link in the maternal-neonate continuum of care in Kenya.

Similar findings have been reported in other countries as well. For instance, a study conducted in Nigeria revealed that despite high ANC coverage, the utilization of PNC services remained low, with only 27.9% of women attending PNC within the recommended time frame (Oladapo et al., 2018). In Ghana, the Demographic and Health Survey (DHS) reported that only 39.2% of women received a postnatal checkup within two days after delivery (Ghana Statistical Service et al., 2018). These findings collectively indicate that while ANC attendance and skilled delivery have relatively higher coverage, the utilization of PNC services remains a challenge in many countries. This underscores the need for targeted interventions and strategies to improve the utilization of PNC services, ensuring that women and their newborns receive comprehensive postnatal care to promote their health and well-being.

The low utilization of Postnatal Care (PNC) services poses a significant concern as it disrupts the continuum of care during a critical period when the absence of appropriate care can lead to severe health problems and even mortality. This highlights the urgent need for targeted interventions aimed at increasing the utilization of PNC services, particularly among women from marginalized communities who face additional barriers. Numerous studies have identified various factors contributing to the low

uptake of PNC, including limited awareness about the importance of PNC, social stigma associated with seeking care, cultural beliefs and practices, and inadequate availability of health facilities and resources (Gupta et al., 2010). Addressing these barriers and improving access to quality PNC services is crucial to ensure optimal maternal and newborn health outcomes.

Similar findings have been reported in other studies. For instance, research conducted in Bangladesh found that women's lack of knowledge about PNC services and their perception that PNC was unnecessary were key barriers to utilization (Chowdhury et al., 2018). In Nepal, a study identified cultural practices and beliefs, such as confinement and restricted mobility after childbirth, as factors hindering PNC utilization (Paudel et al., 2019). Furthermore, a study in Ethiopia revealed that the lack of privacy and confidentiality during PNC visits deterred women from seeking care (Worku et al., 2019). These findings collectively emphasize the need for comprehensive interventions addressing the multifaceted barriers to PNC utilization, including raising awareness, addressing cultural beliefs and practices, strengthening health systems, and ensuring the availability of quality PNC services. By targeting these factors, policymakers and healthcare providers can promote increased utilization of PNC services, leading to improved maternal and newborn health outcomes.

Addressing the issue of low Postnatal Care (PNC) utilization requires implementing targeted interventions, such as community mobilization, health education, and improving the quality of care. Community mobilization efforts, including the involvement of community health workers, play a crucial role in raising awareness about the importance of PNC services and overcoming barriers, particularly among marginalized communities. Health education programs should be integrated into antenatal care visits to provide information on the significance of PNC and the

recommended number of visits. Furthermore, improving the quality of care in health facilities by ensuring sufficient resources, well-trained staff, and suitable infrastructure is essential for enhancing PNC utilization rates (Gupta et al., 2010).

Similar findings have been reported in other studies. A study conducted in Ethiopia highlighted the effectiveness of community-based interventions, including mobilizing women's groups and community dialogues, in promoting PNC utilization (Dhakal et al., 2017). Another study in Tanzania found that health education sessions during antenatal care significantly increased the uptake of PNC services (Magoma et al., 2014). Moreover, research conducted in Nigeria emphasized the importance of improving the quality of PNC services, including the availability of essential supplies, skilled providers, and respectful care, in enhancing PNC utilization (Oladapo et al., 2018). These findings collectively emphasize the need for comprehensive interventions that combine community mobilization, health education, and quality improvement strategies to enhance PNC utilization. By addressing knowledge gaps, promoting community engagement, and ensuring the provision of high-quality care, barriers to PNC utilization can be effectively overcome, leading to improved maternal and newborn health outcomes.

#### **4.8.2 Socio-Demographic Determinants PNC Utilization**

Marriage status was shown to be an important factor in determining whether or not women used Postnatal Care (PNC) services, with results showing that married women were more likely to use PNC than single women. The significance of the marital status effect on PNC use ( $p=0.030$ ) highlights the pivotal role played by husbands in encouraging and enabling PNC use among their wives. Husbands were found to play a crucial role in decision-making regarding the place of PNC utilization, providing

support such as transportation and financial resources for accessing PNC services. These findings are consistent with a study conducted by Magoma et al. (2010), which found that husbands played a significant role in decision-making related to PNC utilization among Maasai women and in situations where birth complications occurred. Similar findings have been reported in other studies. A study conducted in Nepal revealed that husband support and involvement were important factors in promoting PNC utilization, as husbands played a role in encouraging their wives to seek PNC services and providing financial resources (Målqvist et al., 2013). Another study conducted in rural Ethiopia found that women whose husbands supported them in accessing PNC services were more likely to utilize PNC compared to those without spousal support (Abosse et al., 2019). These findings highlight the significance of involving husbands and addressing their role in promoting PNC utilization. Strategies should focus on raising awareness among husbands about the importance of PNC services, encouraging their active involvement in decision-making, and providing them with information on how they can support their wives in accessing PNC. By engaging husbands as key stakeholders, barriers to PNC utilization can be addressed, leading to improved maternal and neonatal health outcomes.

Marriage status was shown to be an important factor in determining whether or not women used Postnatal Care (PNC) services, with results showing that married women were more likely to use PNC than single women. Marital status was found to be associated with PNC utilization ( $p=0.030$ ), highlighting the important role of husbands in promoting and facilitating PNC utilization. Husbands were found to play a crucial role in decision-making regarding the place of PNC utilization, providing support such as transportation and financial resources for accessing PNC services. These findings are consistent with a study conducted by Magoma et al. (2010), which found that husbands

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The study findings indicate that the majority of respondents identified as Christians (83.5%), while Muslims accounted for a smaller proportion (16.5%). However, no statistically significant correlation could be found between religious affiliation and the use of birthing centers. These results align with previous research conducted in different settings. For instance, a study in rural Guatemala by Gleit et al. (2003) suggested that religious groups may face discrimination from healthcare staff, leading to lower utilization of services. Similarly, Toan et al. (1996) found that Catholics in rural Vietnam were less likely to receive skilled care for reproductive health services. The impact of religion on healthcare utilization during childbirth can vary depending on the specific teachings and beliefs of each religion. While some religious teachings may

positively influence healthcare utilization, others may present barriers or discourage seeking formal healthcare services.

Understanding the influence of religion on healthcare utilization is crucial for developing context-specific interventions and promoting inclusive healthcare access. Healthcare providers should be aware of the diverse religious backgrounds of women and ensure that religious beliefs and preferences are respected in order to enhance the utilization of health facility services during childbirth.

The study findings indicate that the majority of the mothers had some level of formal education, with the highest proportion (43.3%) having attained secondary school education. However, there was no significant association between the highest education level and the utilization of postnatal care (PNC) services. This contrasts with a study conducted in Kwale, Kenya, where women with a secondary education or above were more likely to utilize PNC services (Brown et al., 2007). Similarly, a cohort study in Brazil found that respondents with lower educational levels had higher percentages of inadequate PNC utilization (Coimbra et al., 2007). In contrast, a study in Ethiopia showed a statistically significant association ( $P < 0.05$ ) between literacy status and postnatal care utilization (Fekede and Mariam, 2007).

While education is often considered an important determinant of healthcare utilization, the relationship between educational attainment and PNC utilization can vary across different contexts. Factors such as socio-cultural norms, accessibility of services, and individual perceptions may influence the utilization of PNC services independently or in conjunction with education. It is essential to consider these factors when designing interventions to improve PNC utilization, particularly among women with lower educational levels.

It was also established that well over three-quarter of the respondents (81.7%) were not employed. This could be one of the factors that hindered utilization of postnatal care services. However, further analysis showed that there was no significant association between respondents' occupation and postnatal care utilization ( $p = 0.115$ ). This is in contrast to a study in Ethiopia whereby there was a statistically significant association between occupation and postnatal care utilization (Fekede, & Mariam, 2007).

The study findings indicate that a significant proportion of respondents were engaged in self-employment and casual labor, with no significant relationship found between employment status and utilization of postnatal care (PNC) services. This aligns with previous research conducted by Hossain (2005) which showed that individuals facing financial constraints tend to prioritize other pressing needs over healthcare, resulting in limited utilization of maternal health services. Similarly, a study in Nigeria by Fajemilehin (1991) revealed that a considerable percentage of mothers who did not deliver in hospitals cited financial constraints as a barrier. Income level has been identified as a determining factor in the choice of childbirth location, with lower-income individuals having higher chances of not utilizing healthcare facilities during childbirth. Conversely, higher-income individuals are more likely to seek care in healthcare facilities. These findings emphasize the importance of addressing financial barriers and promoting equitable access to maternal healthcare services.

From the study majority, 25.9% of the respondent husbands are self-employed compared to 20.4% who are employed by the government or private sector. It was shown that there was no statistically significant correlation between the husband's work position and the use of PNC for medical care ( $p=0.104$ ). Husbands are expected to work and provide for their families as a part of their traditional role as heads of households in most African societies.

Attendance at prenatal visits was high with the previous pregnancy (94.2%). The ANC attendance rate in this rural research region is good and comparable to Kenya's overall report, which shows an 88% rate (Central Bureau of Statistics Kenya, 2004). The research found that attendance at at least 4 ANC visits was high (72.3%), and both PNC use and prenatal care attendance were positively correlated with last delivery attendance ( $p=0.000$ ). The frequency of visits and the use of postnatal care services were significantly correlated ( $p = 0.030$ ). According to a research conducted in Cambodia, women who had more than four ANC visits were more likely to use PNC than those who had less visits (Yanagisawa, 2006). This may be because greater interactions with healthcare professionals provide more time and chances for talking about topics linked to pregnancy and delivery. According to Mpembenie et al. (2007), this relationship exposes women to more health information and counseling, which helps them use birth plans.

Only 10.7% of respondents had four or more children, whereas the majority of respondents, at 89.3%, had one to three children. The use of postnatal care services did not significantly correlate with the number of children a woman had ( $p = 0.788$ ). According to a research conducted in India by Navaneetham in 2002 on the use of maternal health care services, the first birth is often the most challenging since the mother has never delivered a baby before.

The first pregnancy is often valued highly, and in certain circumstances, the woman's birth family assists her in receiving the greatest treatment. A research on the utilization of maternal health care in China by Short and Zhang (2004), found that the one-child policy discourages women with higher-order pregnancies from seeking services out of concern for punishment. The use of a medical institution for birthing depends on the

number of children a woman has, Due of the idea that they are skilled in delivering, a lady with several children can choose not to use the facility.

In addition, the research found that 87.8% of the visits were made by medical staff, while just 12.2% were made by non-medical people. Utilization of postnatal care services and the person who delivered the baby were significantly correlated ( $p = 0.002$ ). This is in line with a research conducted by Wanjira (2011), on the delivery procedures and associated variables among women seeking child welfare services in specific health institutions in the Nyandarua South District of Kenya. In contrast to 12.2% of moms who had incompetent birth attendants at their most recent delivery, the majority of mothers had skilled birth attendants during their first delivery, according to the research.

The findings of this research showed that more mothers (87.8%) gave birth in medical facilities than in other places. The location of birth and the use of postnatal care services were significantly related ( $p = 0.014$ ). In contrast, (Wanjira, 2011) found that among mothers seeking child welfare services in particular health facilities in the Nyandarua South District of Kenya, 12.2% of deliveries were attended by untrained birth attendants, including the mother herself, neighbors, and/or family. According to a 2007 research on safe delivery practices in rural Bangladesh and its related aspects by Kabir, 94% of births took place in homes, and 67% of them were helped by Dais, who are untrained traditional birth attendants. Traditional birth attendants performed a crucial part in delivery, helping with 28% of deliveries (the same proportion as births helped by nurses and midwives), according to a 2009 report by KNBS et al. In 21% of births, family and friends helped the mother, while in 7% of births, the mother received no help at all. Traditional delivery attendants perform the majority of untrained deliveries, which puts both the mother and the child at tremendous danger.

#### **4.8.3 Client Related Factors Associated with PNC Utilization**

The majority of respondents (96.6%) who have ever heard of postnatal care services and (94.2%) who have at least once visited an ANC. The use of postnatal care services was significantly correlated with those who had ever heard of them ( $p = 0.000$ ) and those who had ever used them. Understanding warning indicators is a crucial component of encouraging birth plan planning. The first and most important step in early and appropriate referral is for women to be aware of danger indications, which in turn encourages the use of personalized birth plans and improves delivery outcomes (Kaso & Addisse, 2014).

The respondents to the survey said that there were a number of reasons why the women did not visit the postnatal clinics. Majority 7.3% of respondents said they did not feel the necessity for going to PNC services, 3.4% said they were unaware of the services, 2.1% had given birth at home, and a further 1.8% said they had previously had negative experiences with the service providers. According to a research by (Maureen et al., 2008) on the factors influencing the use of trained birth attendants in Afghanistan, the existence of user fees was linked to a reduced likelihood of skilled birth attendant usage. According to a research conducted in Nigeria by (Ezugwu et al., 2011), the pay at the point of service policy at public hospitals makes it difficult for patients to get mother and child health services since they must pay up front before receiving care. Due to institutional delays in intervention, this may sometimes result in sad fatalities.

According to this survey, the vast majority of respondents, or 78.6%, said that PNC services are important for maternal health. The significance of PNC services and PNC use of a health institution during labor were significantly correlated ( $p = 0.008$ ). The sources of knowledge regarding postnatal care services might predict PNC use with a

bias toward high-quality services. Sources of knowledge regarding PNC services and PNC use of a health institution during delivery had a significant link. This corresponds with the results of other studies, which found that access to health services was affected by factors such as the perceived availability of necessary equipment, the timeliness of care, the expertise of medical professionals, the patient's desire for privacy, and the friendliness of the staff. When given a choice between various facilities, it has been discovered that individuals would sometimes travel longer if they believe the target institution will provide higher-quality treatment (Gabrysch & Campbell, 2009).

A study by (Onukwa et al., 2023) indicates that the 6<sup>th</sup> week PNC attendance remains low (59%) with the main reason as the mothers were either unaware or their healthy status barred the importance of seeking PNC services. The study further depicted that place of antenatal care ( $p < 0.001$ ) and delivery ( $p = 0.001$ ) were significant predictors of PNC attendance thus providing information on PNC significance at the points of care would significantly increase PNC uptake.

## **CHAPTER SIX**

### **SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS**

#### **5.0 Introduction**

This chapter presents a summary of key findings, conclusions, and recommendations for practice, policy, and further research.

#### **5.1 Summary of Findings**

At least 84.1% of women were provided with postnatal care, according to the research. Most people who used the services did so after waiting at least 6 weeks. The main factors associated with PNC included marital status, antenatal clinic attendance and

those who have ever heard about postnatal care services, place of last delivery, who conducted the delivery and number of ANC visits. It was also associated with where they got information about postnatal care visits and the importance of postnatal care.

Only 26.8% of the respondents in the ward had more than four times number of postnatal care visits. The majority 96.6 percent of the respondents has ever heard about postnatal care but only 74.1% sought information from medical personnel. Having attended antenatal clinic and heard about postnatal care were factors that contributed greatly to the uptake of postnatal care services utilization.

## **5.2 Conclusions**

The following conclusions are drawn from the findings of this study:

The level of utilization of postnatal care (PNC) services was high among the study population. This is a positive finding, as PNC is crucial for ensuring the health and well-being of both the mother and the newborn. The study found that at least 84.1% of women received PNC in the postnatal period, which is a significant proportion. However, it is also important to note that only 26.8% of the respondents had more than four postnatal care visits, which suggests that there is still room for improvement in terms of the frequency of visits.

The study also identified client-related factors that were associated with the utilization of PNC services. Specifically, women who had ever heard about PNC services were more likely to utilize them. This finding is important, as it suggests that efforts to increase awareness about PNC services may be an effective way to improve utilization rates. Additionally, the study rejected the null hypothesis that client-related factors

were not associated with PNC utilization, which further emphasizes the importance of addressing client-related factors to improve PNC utilization.

Furthermore, the study identified socio-demographic determinants of PNC utilization, including marital status and place of last delivery. Women who were married were less likely to utilize PNC services than those who were not. Additionally, women who delivered in a health facility were more likely to utilize PNC services than those who did not. These findings reject the null hypothesis that socio-demographic factors were not associated with PNC utilization, highlighting the importance of addressing these factors to improve PNC utilization. Overall, the study provides valuable insights into the factors influencing PNC utilization and can be used to inform interventions aimed at improving PNC utilization in similar settings.

### **5.3 Recommendations**

Based on the results of the study, the following recommendations were made.

Based on the findings of the study, several recommendations can be made to improve the utilization of postnatal care services in the study area.

Firstly, there is a need for the county government in collaboration with the Ministry of Health to develop and implement strategies to encourage the use of postnatal care services among women of reproductive age. This could include the use of satisfied clients to promote PNC services, as well as targeted awareness campaigns aimed at informing women about the importance of PNC. Health care workers also need to play a key role in promoting PNC services by informing clients about the availability of PNC services and scheduling appointments for them.

Secondly, the study revealed that women who had attended antenatal care were more likely to utilize PNC services. Therefore, there is a need for antenatal care programs to

focus more on young women of reproductive age (<27 years), who were found to be less likely to attend antenatal care and subsequently less likely to utilize PNC services. This could be achieved through targeted outreach programs and community-based health education campaigns aimed at increasing awareness about the importance of antenatal care and PNC.

Furthermore, there is a need to address the socio-demographic factors that were found to be associated with PNC utilization, namely marital status and place of last delivery. Programs should be designed to target women who gave birth at home or in other non-healthcare facilities to encourage them to seek PNC services. Also, it is important to understand the reasons behind the lower utilization of PNC services among unmarried women and to develop strategies to address this.

In conclusion, improving the utilization of postnatal care services is crucial to reducing maternal and neonatal mortality rates. By implementing the recommendations outlined above, the county government and the Ministry of Health can improve the accessibility and quality of PNC services and ultimately improve the health outcomes of women and children in the study area.

#### **5.4 Recommendations Further Research**

The study suggests the following recommendations for further research;

- i. Conduct a qualitative study to explore the barriers and facilitators of postnatal care utilization among women in the study population. This can provide valuable insights into the underlying reasons for the high level of utilization observed in the study.
- ii. Conduct a longitudinal study to assess the long-term impact of postnatal care on maternal and child health outcomes in the study population. This can provide

evidence-based recommendations for the optimal timing, frequency, and content of postnatal care services.

- iii. Investigate the quality of postnatal care services provided in the health facilities in the study area. This can help to identify gaps in service delivery and inform interventions to improve the quality of care.
- iv. Conduct a comparative study to compare the utilization of postnatal care services among women in urban and rural areas of the study population. This can help to identify contextual factors that influence postnatal care utilization and inform targeted interventions to improve uptake in different settings.
- v. Investigate the role of community health workers in promoting postnatal care utilization in the study population. This can provide evidence-based recommendations for the optimal training and deployment of community health workers to promote maternal and child health.

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## APPENDICES

### Appendix I : Consent Form

My name is Ann Wairimu. I am conducting this research as part of my study for a Master's degree at Mt Kenya University. The purpose of this study is to collect information on utilization of postnatal care services among women in Ngong Ward. I assure you that your responses to the questions and all information gathered will be kept confidential and only individuals working with me will have access. No Identifying information like your name will be written on the questionnaire except the information requested.

I would like to make a formal request for you to take part in the study since it is pertinent to the fact that you have just given birth (within the last year), and your experiences are an essential contribution to the research that is being conducted. It is entirely up to you whether or not you want to take part in the research; in fact, even if you have already provided your permission, you are free to withdraw from the study at any moment. The information you will provide will not be used against you in any forum rather it will be helpful to this particular health facility and the county as a whole and feedback will be given to the relevant authority, in order to plan and implement interventions that will improve postnatal care utilization for the county as a whole.

Do you agree?

Yes

No

#### **Respondent:**

Sign..... Date.....

#### **Witness:**

Sign..... Date.....

**Appendix II: Questionnaire**

**PART 1: TICK THE APPROPRIATE BOX**

**Instruction:** Kindly tick appropriately in the boxes provided or fill in the spaces provided where necessary

**PART 2 A: Demographic Data**

1. How old are you?
2. How long have you lived in Ngong Ward? .....
3. What highest level of Education have you attained?
  - a. Tertiary Education
  - b. Secondary Education
  - c. Primary Education
  - d. No Formal Education
4. What is your present marital status?
  - a. Single
  - b. Married
  - c. Divorced
  - d. Widowed
  - e. Separated
5. What is your religion?
  1. Christian
  2. Muslim
  3. Other

(specify).....
6. What is your occupation?
  - a. Employed by Government/Private sector
  - b. Self employed
  - c. Casual Laborer
  - d. Housewife
  - e. Other

specify.....
7. What is your husband's occupation?
  - a. Employed by Government/Private sector

- b. Self employed
- c. Casual Laborer
- d. Housewife
- e. Other
- specify.....

8. How many Children do you have?

9. When did you have your last delivery? **Month**.....**Year**.....

10. Where did you have your last delivery?

- a. Hospital
- b. On your way to a Health Facility
- c. Own Home
- d. TBA's Home
- e. Others
- Specify.....

11. Who conducted your delivery?

- a. Skilled Birth Attendant
- b. Non-Skilled Birth Attendant
- c. Self
- d. Spouse
- e. Others
- Specify.....

12. Did you attend Antenatal clinic during your last pregnancy?

- a. Yes
- b. No

13. If yes, how many times did you attend in the last pregnancy?  
.....

If no, why?

- a. High cost of services
- b. Bad attitude of health workers
- c. Long distance from home to health facility
- d. I did not have the finances

- e. Others  
Specify.....
- ...

**PART 2 B: Postnatal Care Utilization and Client Related Factors**

A. Have you ever heard about postnatal care services?

- a. Yes
- b. No

B. If yes, who informed you about postnatal care services?

- a. Nurse Midwife
- b. Doctor
- c. Traditional Birth Attendant
- d. Friend
- e. Others  
Specify.....

C. Did you attend Postnatal Clinic Visits? (If no go to question 8)

- a. Yes
- b. No

D. If yes, how many postnatal care visits did you attend?  
.....

E. If yes, what were your reasons for attending Postnatal Clinic?

- F. For family Planning
- G. Baby was sick
- H. Was advised by the Nurse Midwife
- I. I was unwell
- J. Was advised by a friend
- K. Others  
specify.....

L. If yes, (No. 3 above) what services were offered during the postnatal visit?

- a. Physical Exam
- b. Family Planning
- c. Vital Signs Check ( BP, Temperature)
- d. Health Education
- e. Baby Exam and Vitals taken

f. Others  
Specify.....

M. How long did you wait before being attended to by the Nurse Midwife?

- a. More than 1 hour
- b. 30 minutes – 1 hour
- c. Less than 30 minutes

N. What were the reasons for not attending the Post Natal Clinic?

- a. Was not aware of the services
- b. Did not see the need to attend
- c. No one to look after the other children
- d. No finances
- e. Delivered at home
- f. Previous bad experiences with the service providers
- g. Others

Specify.....

O. In your view are Postnatal Care Services important?

- a. Yes
- b. No

P. If \_\_\_\_\_ so \_\_\_\_\_ why

.....  
.....

Q. Please feel free to offer any suggestion that will help improve Postnatal Care Services utilization

.....  
.....  
.....  
.....

## Appendix III: Introduction Letter

# Mount Kenya University



## SCHOOL OF POSTGRADUATE STUDIES

REF: MScN/2013/44904

9<sup>TH</sup> MARCH, 2015

*To whom it may Concern*

Dear Sir/Madam,

RE: MUNDIA ANNE WAIRIMU - REGISTRATION NO. MScN/2013/44904:

The purpose of this letter is to introduce the above named student who is pursuing a MScN in the Department of Nursing in the School of Nursing.

The title of her research proposal is *"Determinants of Postnatal Care Utilization Among Women Aged 18-49 Years in Ngong Ward."*

She now has to proceed to the field to collect data for her research project in the course of this semester (March, 2015 - May, 2015).


Any assistance accorded to her will be highly appreciated.

Thank you.

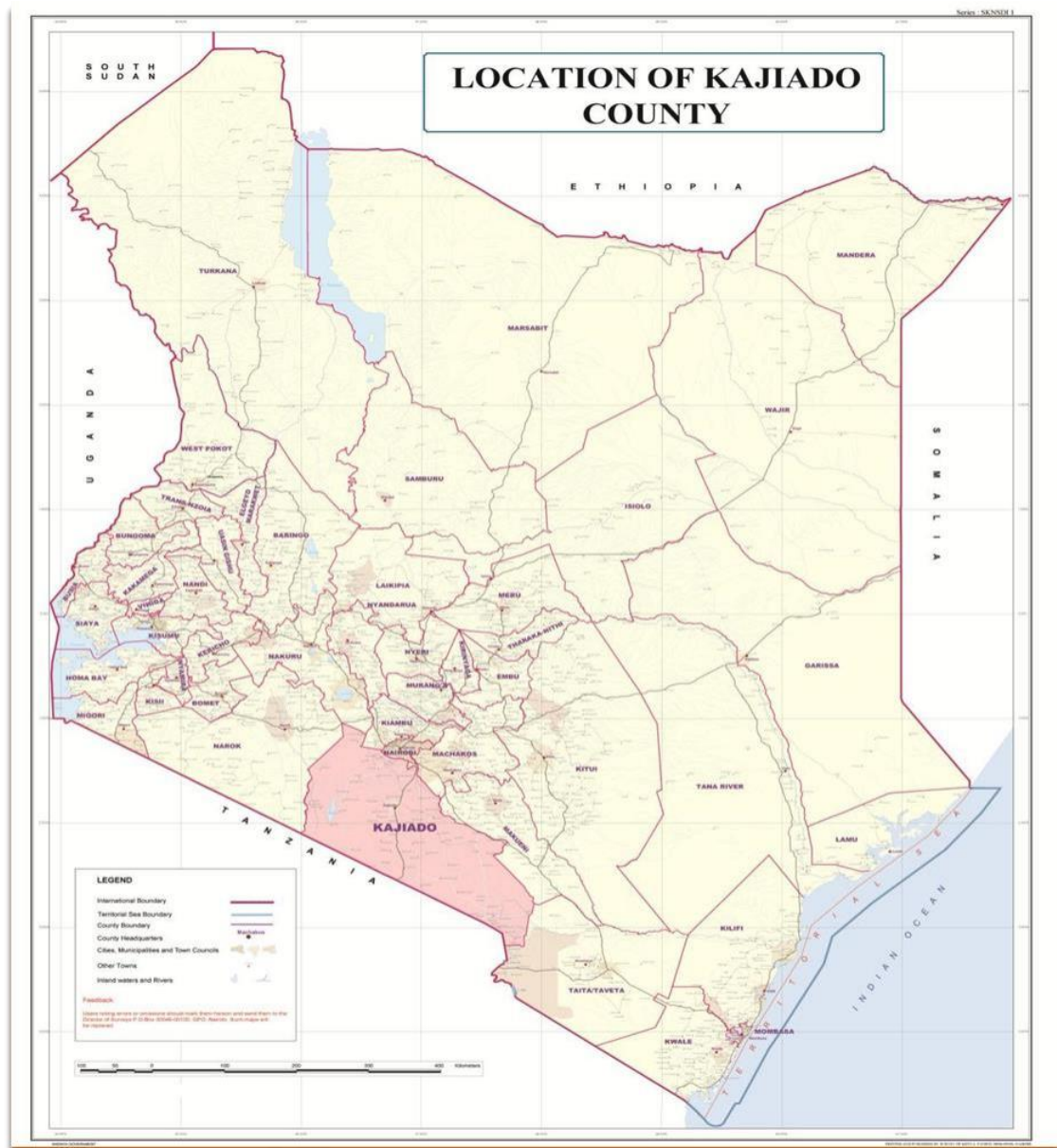
Mount Kenya University  
School of Postgraduate Studies  
P. O. Box 342 - 01000 Thika

**Prof. Mbaruk Suleiman.**  
**Dean, School of Postgraduate Studies**

## Appendix IV: Research Permit

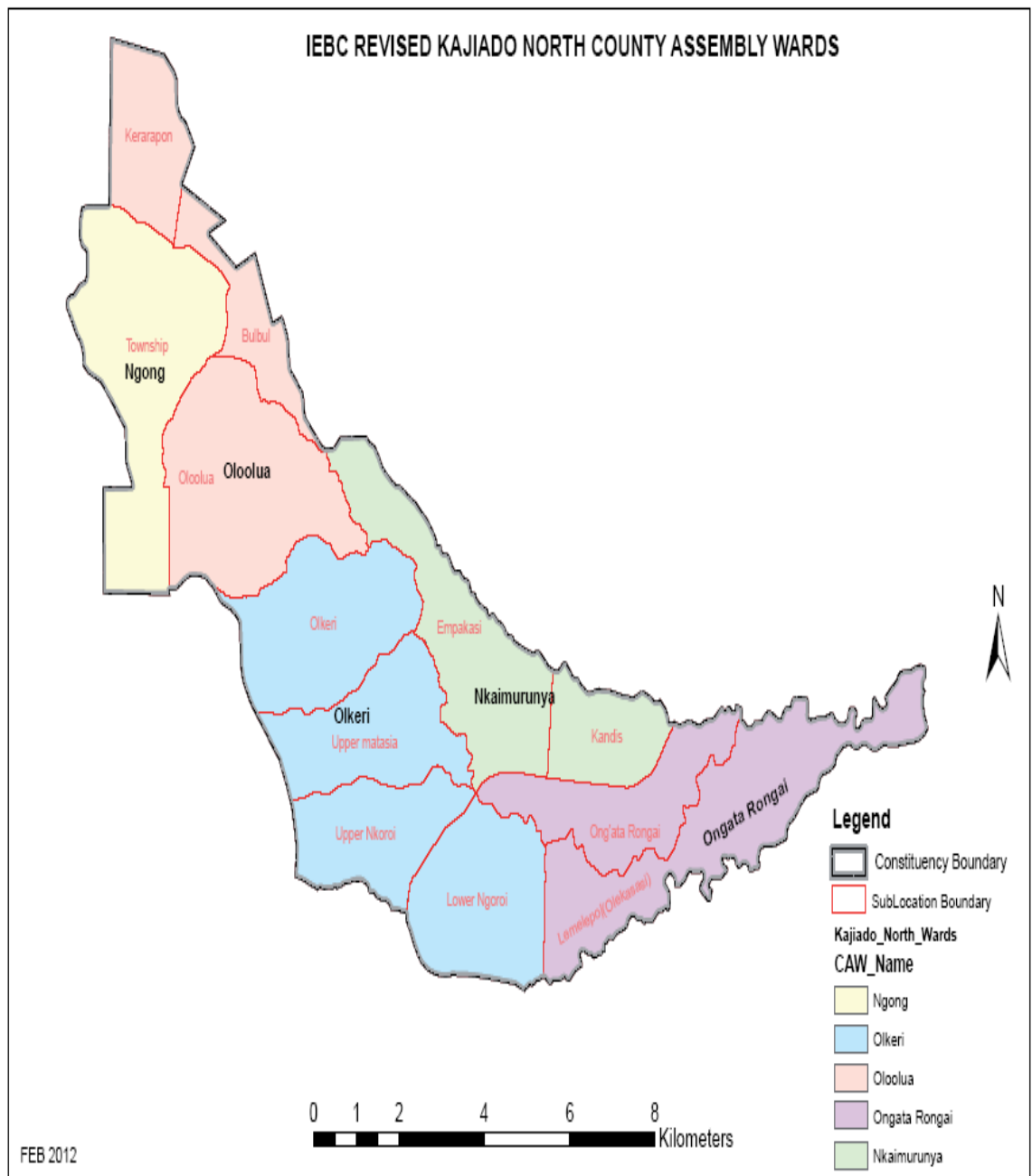
 <b>REPUBLIC OF KENYA</b>	 <b>NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY &amp; INNOVATION</b>
Ref No: <b>944863</b>	Date of Issue: <b>14/November/2022</b>
<b>RESEARCH LICENSE</b>	
	
<b>This is to Certify that Miss.. ANN WAIRIMU WANDERE of Mount Kenya University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Kajjido on the topic: DETERMINANTS OF POSTNATAL CARE UTILIZATION AMONG WOMEN AGED 18 – 49 YEARS IN NGONG WARD, KAJIADO COUNTY, KENYA for the period ending : 14/November/2023.</b>	
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## Appendix V: Map of Kenya Illustrating Kajiado County



Source: Survey of Kenya, 2018

**Appendix VI: Map of Kajiado North Sub-County Illustrating the Wards**



*Source IEBC 2012*

**Appendix VII: Similarity Index**

DETERMINANTS OF POSTNATAL  
CARE UTILIZATION AMONG  
WOMEN AGED 18 – 49 YEARS IN  
NGONG WARD, KAJIADO  
COUNTY, KENYA

*by* Mundia Anne Wairimu

---

**Submission date:** 19-May-2023 03:47PM (UTC+0300)

**Submission ID:** 2097063939

**File name:** THESIS\_FOR\_PRE-EXAMINATION\_-\_Mundia\_Anne\_Wairimu.docx (324.49K)

**Word count:** 30146

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## DETERMINANTS OF POSTNATAL CARE UTILIZATION AMONG WOMEN AGED 18 – 49 YEARS IN NGONG WARD, KAJIADO COUNTY, KENYA

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