UTILIZATION OF POST NATAL CARE SERVICES AMONG POST NATAL WOMEN IN NGARA HEALTH CENTRE, STAREHE SUB-COUNTY, NAIROBI COUNTY

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DECLARATION AND APPROVAL

Declaration by the Student

I, Mary Wanjiru Kamau, hereby certify that this thesis is my original work and that it has not been submitted for a degree or prize at any other university.

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Approval by the Supervisors

We affirm that the work presented in this thesis was completed under our supervision by the candidate.

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DEDICATION

I dedicate this work to the nurses, mothers and their newborns in Ngara health centre.

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ABSTRACT

Post natal period starts within 1 hour after delivery and up to six months after delivery. Post Natal Care (PNC) has proven to decrease the infants and maternal morbidities and also the mortalities; though the utilization has been low. In Kenya, it's only around 51% of the mothers that receive these services from a skilled health care worker. Minimal research of the factors that are linked with use of the post-natal services has been done. The study identified the utilization of the PNC services in Ngara Health Centre, Nairobi County. The study had 3 objectives as follows: Identifying the level of utilization of postnatal care services, determining the health system factors influencing utilization of postnatal care services, and identifying the client factors that influence utilization of postnatal care services in Ngara Health Centre, Nairobi County were the objectives of this research. The target population was mothers seeking maternal neonatal child health from the MNCH clinics to include the immunization and family planning rooms. The research utilized descriptive cross sectional study design. A semistructured questionnaire was used to gather information on knowledge, demographic and institution related factors influencing postnatal care.155 mothers out of 212 responded which was 73% response rate. There was low utilization of post-natal care which was 43%. The number of children the mother had, history of loss of a child, duration taken to receive postnatal care services and reasons for seeking postnatal care services (for checkup, or ill health of either mother or baby) On client factors, number of children, loss of a child, nature of return date given and presence of complications after delivery influenced post-natal care. conclusion; level of utilization was low, health care providers should be time conscious when handling clients at the clinic to reduce the overall turnaround time and to avoid missed opportunities and also emphasize the need for checking maternal health status so that mothers would come for PNC services, even if the baby does not have any health need or pending immunizations. Recommendations; The government should ensure that by use of qualified and experienced personnel that they educate the communities on the importance of PNC, health care providers should be time conscious when handling clients at the clinic in order to reduce the overall turnaround time, to avoid missed opportunities, health care providers should emphasize the need for checking maternal health status so that mothers would come for PNC services, even if the baby does not have any health need or pending immunizations.

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LIST OF ABBREVIATIONS AND ACRONYMS

FP : Family Planning

HTS : Hiv counselling and testing

MMR : Maternal mortality ratio

MNCH : Maternal neonatal child health

PMTC : Prevention of the Maternal to Child Transmission

PNC : Postnatal Care Services

RCOs : Registered clinical officers

SPSS : Statistical Package for Social Sciences

WHO : World Health Organization

CHAPTER ONE

INTRODUCTION

Chapter one essentially gives the presentation and depict the foundation of the research, articulation of the issue, motivation behind the study, goals of the research, essentialness of the study, fundamental presumptions of the research, restrictions of the research, delimitations of the research and meaning of critical terms to be utilized in the research.

1.1 Background of the Study

Post–natal period is the duration within one hour following placenta delivery and it incorporates the six weeks after delivery (WHO, 2010). This phase is known as the post-partum period when its denoting to the mother only and postnatal when indicating to the baby and mother. Services given on this period are known as postnatal care (PNC) services. Thesis "critical "duration while connection with the health facility during the period of post-partum could be very important where the mother and the baby are reviewed by the health personnel; the needs are identified and acted to accordingly to include any complications after delivery(WHO,2010). This could be in the facility during the first 2 hours indicating after delivery, third to seventh day and the sixth week (Morof & kerber, 2014).

Maternal health is a major public health issue across the world. When it comes to global health and development talks, the unacceptably high rates of maternal mortality are a prominent topic of discussion. Despite significant gains in certain countries, half of all maternal fatalities worldwide still occur in Sub-Saharan Africa, where little or no progress has been achieved in recent years. The maternal mortality rate (MMR) has decreased the most, by 69%, in Eastern Asia, followed by 66% in Northern Africa, 64% in Southern Asia, and 41% in Sub-Saharan Africa, according to the World Health

Organization. Additionally, in 2010, the World Health Organization projected that the MMR in Zimbabwe would be 470 per 100,000, while in Burkina Faso it would be 400, in Ghana it would be 380, and in Nigeria it would be 560 [Izudi et al,2015]. The presence of a robust health system, trained delivery attendants, and proper postnatal care uptake have all been shown to be important in reducing maternal mortality. However, there is no one simple, uncomplicated measure that can considerably reduce maternal mortality. Nevertheless, according to Titaley et al (2012), many mothers delivering at the hospitals in third world countries are discharged within 24 hours of delivery having not given a return date on where or when return date on where or when they can obtain continuation of support or care.

The maternal mortality rate (MMR) has decreased the most, by 69%, in Eastern Asia, followed by 66% in Northern Africa, 64% in Southern Asia, and 41% in Sub-Saharan Africa, according to the World Health Organization. Additionally, in 2010, the World Health Organization projected that the MMR in Zimbabwe would be 470 per 100,000, while in Burkina Faso it would be 400, in Ghana it would be 380, and in Nigeria it would be 560 [Izudi et al,2015]. It is estimated that more than two-thirds of maternal and infant fatalities occur as a consequence of insufficient postpartum care services. Most maternal fatalities (62 percent) occur in the postpartum period, with more than half occurring within a day after delivery of the pregnancy.(who, 2018)

In the sub-Saharan area, a considerable proportion of mothers do not have access to healthcare throughout the early postnatal period, putting them at risk for illness and death [Darm stat, et.al, 2015]. Around 4 million children do not survive beyond the early postnatal period, and a significant proportion of them are crippled as a result of pregnancies and deliveries that are not properly monitored or treated(Darm stat,et.al,2015). The provision of safe maternity and a healthy childhood continues to be

a serious concern across Sub-Saharan Africa, and Nigeria is no exception. Maturity rates in Nigeria are extremely high, with maternal death (560 per 100,000 live births) and perinatal mortality (78 per 1000 pregnancies) being among the worst in the world (Darm stat, et.al, 2015).

In 2013, the worldwide Maternal Mortality Ratio (MMR) was 210 maternal deaths per 100,000 live births. Developing nations accounted for 99 percent of all maternal fatalities, with Sub-Saharan Africa accounting for 62 percent of all maternal deaths in 2013 (WHO, 2013). Adults in sub-Saharan Africa have a 1 in 31 chance of dying from a pregnancy-related cause over their lives, while women in developed countries have a

1 in 3800 chance (WHO, 2013). Kenya has a 400 maternal mortality ratio for every 100,000 live births, as reported by the World Health Organization in 2010. This translates to a lifetime risk of 1 in 55 for Kenyan mothers (WHO, 2013). In the last decade, maternal mortality has remained reasonably consistent at 11.3% of all female deaths between the ages of 15 and 49. (WHO, 2013). There is a problem with premature births, and we need to do all we can to accomplish the global goal of reducing maternal death to below 70 per 100,000 live births by the year 2030. (WHO, 2015). About 40% of women have complications after delivery, with an estimated 15% acquiring potentially life-threatening illnesses (WHO, 2013). Risks during pregnancy and childbirth, together with inadequate or subpar medical treatment, are major contributors to maternal mortality. Haemorrhage (34%) is the leading cause of maternal mortality in Sub-Saharan Africa, followed by sepsis/infections (10%), hypertensive disorders (9%) and other direct causes (5%). Other indirect variables account for around 17% of all maternal fatalities (WHO, 2013).

The post-natal time is equally crucial for the baby; of the roughly 130 million babies born each year, four million die in the neonatal period, accounting for about 40% of all

mortality among children under the age of five, with 98% of these deaths occurring in poor nations (WHO, 2013). While only making up 11% of the world's population, the African continent accounts for more than 25% of infant mortality (up to 500,000 African newborns die on the day of birth), and for African infants, the first week of life is the most risky for their survival (Darmstat, et al, 2015).

The maternal mortality ratio (MMR) in Ethiopia is 676 per 100,000 live births, which is much higher than the rate in poor countries and the worldwide average of 450 per 100,000. Ethiopia's MMR is 12 times higher than the MMR in the United Kingdom and 400 times higher than the world average, respectively. In the United States, the national average for postnatal coverage is just 8%. Postnatal care in Ethiopia has been regarded as a neglected area of maternity care when compared to prenatal care and expert attendance at delivery, especially in safe motherhood programs in Ethiopia, which has been considered as a neglected area of maternity care(Who,2018).

The postpartum period is also very important for newborn; approximately among the 130 million infants annually born, about 4 million newborn die during neonatal period, and this represents about 40% deaths of the children under the age of the 5 years and the third world countries are responsible for 98%of these deaths (WHO 2013). Africa accounts for 11%on the latter, and of the population of the world that is 25%of world’s neonates’ deaths (up to half million neonates (Darm stat, et.al, 2015). Due to dramatically raised danger of neonatal deaths within the first hours and within the first days after delivery, it is recommended that neonates receive post-natal care immediately after delivery (WHO 2013)

The early care gives the health professionals an opportunity to detect probable complications for the newborns, and to give treatment promptly and initiate

immunization. The basic indicators of social economic level of a country are the neonatal mortality rates and its population's quality of life.

In order to attain the global goal of terminating avoidable death of the newborns and the children under five, a lot of effort requires to be directed at the child health despite the fact that there has been focus and recent progress in the child survival (United Nations Development and Program, 2015).

1.2 Problem statement

Post-natal period is a time when the mother transits, her neonate and also her family on social level, emotional and physiological, (WHO, 2013). It offers a chance for an institution of the preventive and also curative actions, given that the exceptional level to which deaths of the post-natal woman and newborns happen in the first few days following the delivery, when there is the early assessment and diagnosis of any probable complications during postnatal period for the mother and the newborn can help reduce maternal and neonatal complications and also the deaths. During postnatal care services, any complication having arose from delivery or that could be arising, are taken care of promptly thus the importance of PNC, and also health messages are given to the mothers on self-care and also the care of the infant.

Among 23 countries in sub-Saharan Africa, the 13%mothers who have home delivery, only 13% acquired care post-natal within 2 days of childbirth (WHO, 2015).

Half of the women, 51% (KDHS, 2014) had gotten the postpartum care once within six weeks .Tthe recommended for PNC services are three visits, to include within; the 48 hours prior to discharge, at post-natal ward,2 weeks again at 6 weeks (G.O.K., 2018) and at 6 months.49 % indicates that Kenya has not gained the desired universal access to PNC.

Despite the benefits of PNC services, and the fact that the level 2 and level 3 government facilities offer free pnc care, it has remained deserted in the in third world countries (Tao, Huang, Long, Tolhurst, & Raven, 2011) and in Kenya. The health system seems not to have placed enough energy on postpartum care and this could be attributing to low utilization of postnatal care. Postnatal mothers might be unaware of available postnatal care accorded in the facility, and the community not to comprehend importance the postpartum care. There is no sufficient data to appreciate the causative issues to the low uptake of the PNC in different contexts; therefore the main focus of the study is to determine factors influencing timing of postpartum care here in Kenya.

1.3 Study Objectives

1.3.1 Broad Objectives

To identify the utilization of the Postnatal Care (PNC) in Ngara Health Centre, Nairobi County.

1.3.2 Specific Objectives

i. To Identify level of utilization of the PNC services in Ngara Health Centre, Starehe sub county, Nairobi County.

ii. To examine the client factors that influence utilization of postnatal care services in Ngara Health Centre, starehe sub county, Nairobi county iii. To define the health systems factors influencing utilization of PNC services in Ngara Health Centre, starehe sub county, Nairobi County.

1.4 Research questions

i. What is the level of postnatal care utilization in Ngara Health Centre, starehe sub county, Nairobi County?

ii. What client factors influence the utilization of PNC services in Ngara Health

Centre, starehe sub county, Nairobi County? iii. What health systems factors influence the utilization of PNC services in Ngara

Health Centre, starehe sub county, Nairobi County?

1.5 Alternate hypothesis

i. Socio-demographic factors significantly influence the utilization of the postnatal care services in in Ngara health centre, Nairobi County.

ii. Health system factors significantly influence the utilization of the postnatal care services in Ngara health centre, Nairobi County.

1.6 Null Hypothesis

i. Socio-demographic factors do not significantly influence the utilization of the postnatal care services in Nairobi. ii. Health system factors do not significantly influence the utilization of the postnatal care services in Nairobi.

1.6 Significance of the Study

The research aided in the identification of gaps in the usage of PNC services, which will aid in the design of specific measures to promote the utilization of PNC services. Increasing the use of PNC services will result in a reduction in the risk of maternal and newborn death and morbidity, as well as increased consumption of PNC services. The consequence will be better maternity and child health, which will contribute to Kenya's Vision 2030 target of lowering maternal and child mortality by half by 2030 (G.O.K., 2007).

1.6 Justification of the Study

The main purpose of this study is examining the factors that are associated with the uptake of PNC services. Important matters will be addressed as the current effort to address the poor maternal and child health in Kenya.

The information that will be gathered will be beneficial for health research as well as for initiatives pertaining to maternal and infant health, among other things. These include offering PNC services at all healthcare facilities, providing training and capacity-building for PNC services, and creating measures to measure the success of the offered services.

1.7 Limitation of study

Limitations of the study include possible sampling restriction since all participants were enrolled through the Maternal and Neonatal Child Care Clinics. Mothers who do not pursue maternal and child health care may less likely to attend these clinics hence could not be included in the study. Nevertheless, given the high vaccination coverage in Kenya (96 percent for the first pentavalent dose given at six weeks' post-partum), then most mothers do visit these clinics, at least for their infant's vaccination.

Mother Child booklets were used to confirm attendance and also the service offered. Some may not be updated or well documented. Recalling the events one year may create recall bias. Majority of the women seek their own services at same time they take their children to child welfare clinic and utilize same booklet. The child part were used as a point of reference whenever a woman did not remember exactly when they sought the service.

1.8 Delimitations of study

Since some of the information in the MCH booklets was not well documented, women were asked to recall the events and care given retrospectively. Quigley et al., (2007) found that maternal recall is reliable compared to medical records for certain pregnancy related and delivery events including complications among others.

1.9 Operational Definitions of Key Terms

Health: When it comes to health, it is not only the absence of sickness or infirmity that is important; rather, it is the condition of total bodily, social, and mental well-being (WHO, 1948).

Health facility: Structure, building or institution where medicine the is practiced.

Maternal Morbidity: Is any death, subjective or objective, from state of psychological or physiological well-being of a mother, throughout pregnancy, the delivery and postnatal period up to the 42 days.

Maternal Death (Mortality): The Death of woman during the period of pregnancy or in the 42 days of the pregnancy termination, and this is in regardless of the period and pregnancy site, from any of the cause that is related to or intensified by pregnancy or its management, and not necessarily from the accidental or the incidental causes (WHO,2014).

Maternal mortality ratio (MMR): The total number of the maternal deaths during a given period of time per 100 000 live births throughout same period of time (WHO, 2012).

Postpartum period and postnatal period: These are terms frequently used interchangeably but can also sometimes used distinctly. "Postpartum" refers to matters relating to mother and "postnatal" denotes issues concerning the neonate. For precision WHO panel decided that "postnatal" term is to be used for the issues concerning mother and neonate after birth. Post-partum care was used to refer to the care given specifically to the mother.

Postnatal period: First 6 weeks after delivery (WHO, 2010)

Immediate postnatal period –is the period right after birth and it covers the first 24 hours. (WHO, 2010)

Skilled birth attendant: If you are a qualified health professional (midwife or doctor or nurse), it means that you have received education and training to the level of proficiency in skills necessary to manage normal (uncomplicated) pregnancies, deliveries, and the immediate postnatal period, as well as in the identification, management, and referral of complications in mothers and newborns.

Skilled birth attendance: Being attended to by skilled birth attendant in safe environment (physical space, the equipment, the supplies, drugs and the transport for referral of the obstetric emergencies).

Unmet need for family planning: Those women who are productive and sexually active yet are not using a method of contraception, and are not intending to get any more children or intending to delay the birth of their next child.

Utilization: The measure of population's use of health care services accessible to them. The Health care utilization and health status are utilized to determine how efficiently health care system produces health in a given population. For the purpose of this study, any mother who requested for post-partum care at least once will be considered to have consumed the service.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This section entails the; empirical literature, theoretical framework, conceptual framework, and summary of literature.

2.1 Empirical Literature

2.1.1 Utilization level of Postnatal Care Services

The period after delivery is termed as postnatal. This phase is critical for the survival and for the future of the women and also their new born. Deviations may happen at the period that influences the mothers and neonate's health and the chances for their fit future.

Main purposes of the post-natal care are promoting and retaining good health of mother and the neonates enhancing atmosphere that gives assistance and supportive to the entire family and also to community on the health care needs (G.O.K., 2011; WHO, 2013). The given needs could be both the physical and the mental wellbeing or even social and cultural that influences health and their wellbeing. The new parents,who gave birth for the first time, require support for parenting and its concerns. This enhances appreciation of the delivery for each post-natal care in relation to mother and family and it is adapted in away that meets the needs of every postnatal woman and the newborn (Izudi et al, 2015).

The first review, within 48 hours, ensures the mother and her newborn are assessed by the health provider after giving birth. This provides a chance to recognize and tackle any of the problems, to give counselling on the essential care which includes; The breastfeeding exclusively, care of the cord, maintaining warmth to the infant, proper nutrition of the mother, the Prevention of the Maternal to Child Transmission of HIV

(PMTCT), inform the mother about FP methods and also immunizations. Mother is informed concerning danger signs for her condition and of her neonate and is also encouraged on the early seeking of the health care in case there is any danger signs prior to her postnatal care visits is observed.

In order for a mother to get an opportunity to assess both the mother and neonate, a second postnatal visit is done within 7-14 days. During this visit, mother is also given the health messages. The visit is also called the early post-natal visit and is significant since the main concern from the mothers is identified and intervention planned and done by the health care workers (G.O.K., 2011). The health care workers assess the maternal and neonatal nutrition status and explains concerns that arises regarding the exclusive breast feeding and the overall care of the baby and also the mother. The growth monitoring and immunization is done during the six weeks visit. This is essential since many infants who require care die during this visit (Titaley, et al., 2012). The well-being of the mother is checked, counseling in family planning is done and FP method given is offered and cervical cancer screening is also done.

In the developed countries, nearly all mothers and their neonates receive postnatal services (WHO, 2013); this is in relation to sustainable development goals, which were brought into effect on 2016, and they will continue guiding the United Nations Development Program policy and funding until 2030.

A study that was conducted in some 30 third world countries, during the five previous years, 40% of all the women with live births had not received any of the postpartum care check-ups (WHO, 2010).

In Malawi, 30% of the women attend PNC services (MDHS, 2011) and in the Republic of Congo ,34.6% postnatal women had received PNC by 42 the days after delivery (Mil., Francoise., Dramax., et al., 2012). In Palestine the ones reported to up take the postnatal

care services are 36% (Dhaher, et al, 2008). 15.4% of the mothers go for early post-natal care visit in a study conducted in Uganda (Izudi & Amongin, 2015). It is critical to give a seamless continuity of care pre-nataly, perinataly and this provides proper transmission to the postnatal period and likewise delivers a changeover to the up- take of the child health services and the postnatal care services (WHO, 2013). One of the pillars of the maternal and neonatal period is the postnatal care services and the others include the FP and pre preconception care, the antenatal care, the 9 essential obstetric and the neonatal care and post abortal care (G.O.K., 2011).

In Kenya, recommended visits are; within the 48 hours in the post-natal ward prior to discharge; another visit that is recommended two weeks following giving birth, at the six weeks and at the 6 months (WHO,2018).

Since 2012 (KDHS 2008/2009), PNC adoption in Kenya has increased from 47% to 51%. (KDHS, 2014). One out of every four newborn deaths may be attributed to delayed PNC services (WHO, 2013). Most of the fatalities happen around the time of the first scheduled vaccine visit, six weeks later. It is clear from these research that a sizeable percentage of mothers and their newborns do not get postnatal care.

2.1.2 The Client Factors

There many traditional practices and belief that follows postnatal period which need to be appreciated as this is area of gaining efficient and appropriate care. Phase seclusion is observed in a number of African groups, and this is a phase where the post-natal mothers are retained within the homestead during the first months after delivery (Mrisho et al., 2011).The elder women also control the behavior of the mothers who just delivered (Lubbock and Stephenson,2013). The mother in law makes the decisions if the mother and the neonate will seek the postnatal care services or not. If the delivery was carried

out by the traditional birth attendants, they continue with the postnatal care and many mothers prefer the them since they are accessible and provide tender loving care as compared with the health care workers (Titaley et al.,2010).

Other factors that determine the behavior for the clients in seeking the PNC care services include number of previous births and the experience the mother got during delivery and postnatal care for each of those deliveries, the cost and time associated with the bigger family size reduces the utilization of health care services (Mrisho et al., 2011).

Lack of knowledge is a significant factor in the underutilization of maternal healthcare services. When women lack knowledge, they are less able to make judgments about whether or not to seek assistance on their own. According to Dhaher et al. (2009), the most common reason for women not seeking PNC services was because they did not feel unwell and, as a result, did not need PNC services. There is also another stumbling block which is the inability of health care providers to notify people about PNC services, as well as when and where to seek treatment (Ibid.). Women's lack of information about the necessity of PNC services, as well as their lack of perceived need, are ascribed to the low usage of PNC services, particularly when they are feeling well (Titaley et al., 2011).

In underdeveloped nations, as reported by Tao et al. (2011), women spend more time on a variety of domestic activities than they do on their own health, and they are more likely to prioritize the health requirements of their babies above their own. many women understand the need of monitoring their child's health but do not perceive the necessity for post-natal checks for themselves, particularly if the birth was uncomplicated (Tao et al., 2011). Many women also believe that PNC services are necessary for their children to obtain vaccines (as stated by Warren, Mwangi, Owenya, Kamunya, and Koskei, 2009), and as a result, they only go to clinic when their children's immunizations are going to be administered.

Maternal lack of information about obstetric problems and lack of exposure to mass media have both been linked to poor usage of health care in developing countries (2009). For women who gave birth in a hospital, they indicated that they did not obtain appointments for services upon discharge and were consequently unaware of their availability (Titaley et al., 2009).

Education level of the mother also has a weighty effect on the medical care seeking behavior. The higher the level of maternal education, the more the likeliness of the mother to seek health care services , enable the postnatal mother to connect with the health professionals and also to demand the health care services (Dhaher et al.,2015). Additionally, educated women are more likely to have information and understanding about current medical treatment, as well as a greater capacity to detect the particular anomaly in a timely manner and the desire to seek medical attention. The influence of acquired knowledge is connected with a reduced young age marriages, reduced low fertility, low mortality, adequate maternity care, and a lower risk of HIV/AIDS infection, among other things (Awusi, Anyanwu and Okeleke,2012).

Kenya has a significantly lower under-five mortality rate for neonates whose mothers have completed primary school or who have completed secondary school, which is 59 deaths per 1,000 live births, than for neonates whose mothers have no educational background, which has an 86 death per 1,000 live births rate for neonates whose mothers have no education (KDHS, 2014). The level of education and economic wellbeing of the father have also been shown to have a beneficial influence on the utilization of postnatal care services.

2.1.3 Health Systems Factors

They are offered in two major areas: The accessibility and the quality of the health care services that is being offered. The main aim of the available health facility is to reinstate or uphold fairly the health of the clients that are being served.

The health system comprises of the institutions, organizations, and the resources whose main aim is provision improve the health of the clients who are seeking health services. (WHO, 2010). The general health system comprises of everyone accountable for suitable health, it also includes hygiene, and proper diet, it also involves each division of government, and works within the public sector, the civil society, and the non-forprofit bodies.

In order to access the high-quality health care services, it is built in six major foundation blocks; the governance and leadership, work force that is motivated, proper financial management, the medical supplies and medicine, the health information system, basic health needs addressed by the health care system which addresses the health care needs. Through these foundation blocks, there is provision of quality health services, thus suitable outcomes for the clients and the communities (WHO, 2014). Focusing on the system of health, there are two individual groups; The providers of health care and clients, the main aim of provision of proper postnatal care is not attained minus influential communication by the collection of the two persons.

The providers of Health care look precisely at the quality; they deliberate on the outcome or the services that encounter or exceed best quality of care, the suitable functioning, and quality at large. Regularly, this is devoted to as the quality assurance or the medical quality, and differs mostly on providers' perceptions, (Donabedian,

2011).

In an attempt to raise the bar on care, health care providers often focus on things like staff training and physical facilities. Clients regularly emphasizes on the human perspective

which includes; the quality care, the respectful handling, the privacy and the confidentiality, the health messages, and also counseling and safety, appropriate settings and the hours it takes to travel, practical time of waiting, cost that is attainable, and hygienic, contented health facility (Kamau, 2014).

The level of maternity services provision and the attitude of staff keep mothers away from hospital delivery. These mothers opt traditional birth attendants who are acknowledged that they are more welcoming than the health care providers (Bowser & Hill, 2015). These undesirable health care provider's attitudes at the health care facilities gives the TBAs a chance over health care providers, where the mothers prefer to be attended by the TBAs due to their caring attitude (Fomba et al., 2016).

A mother's personal previous incidents are used to evaluate the lack of respectful maternal care in delivery and post-natally. Their insights have great effect in woman's decision-making criteria for future utilization of the health care facility. If the mother was attended well in the facility, there is high likely hood of her returning to the facility A discourteous or the offensive measures shelters a variety of health care giver's conducts. some of the negative measures include; shouting at the mothers or reprimanding the mothers, probing for inducements, intimidating to deny the provision of health care, abusing the client physically, desertion in that time of the demand, performing procedures exclusive of mother's approval and also keeping the women or neonates at health facility owing to payment failure.

The negative approaches at the health facilities which includes forcing the mothers in labor to share the beds, could be due to inadequate resources in the health system, (Bowser and Hill, 2016).The health care providers should enhance positive affiliation with the mothers so as to acquire the anticipated health concerns. The mother's memories of childbirth experience are conserved for the lifetime and also they are mostly given out

with other mothers, leading to atmosphere of the assurance and no assurance at the time of delivery. Those diverse views on the quality refers to provision of the variety of a safe and real health service provision meeting evidence-based standards and also while satisfying the mother's wishes and the desires (Management Sciences for Health, 2010). There is low probability that the client may go back to a health facility where by she took a difficult trip to health facility only to find a there was hostile environment and the treatment is out of stock, (Lubbock and Stephenson, 2013). If such a situation becomes frequent, the whole community may lead to not going to the health facility even when its required for them to seek the health services.

The accessibility of the health care covers both the cost and physical affluence of going to the health care facility. There is some form of payments made to including travel, despite that all maternal neonatal child care services (MNCH) are hypothetically with no cost in Kenya; disbursing for recommended prescribed medications as considerable blocks to obtaining care and the management (Titaley et al., 2014).The time it takes for the client to arrive to the health facility is a hindrance which inhibits mothers from going to health facilities and is also an issue affecting choice to seek the health care (Titaley et al., 2014).

Inaccessibility of public transport or the unavoidable transport cost leads to several mother being forced to stroll or improvise their way of reaching to the health care (Mekonnen 2012). In the health care facilities located in remote areas, the community members are forced to spend out of their pocket for the transport. Other constrains to uptake the health services for the postnatal mothers include; the waiting time, and the unavailability of health care workers especially where there is acute shortage of staffs and this is for the mothers in low financial status the ones depending on the daily incomes (Titaley et al., 2011).

2.2 Theoretical Framework

Rosenstock and colleagues (1988) developed the Health Belief Model (HBM), which was used in this research in accordance with Rosenstock et al. (1988), HBM is a cognitive model for understanding health-risk behavior. This makes HBM an excellent match for the present study. (1) Perceived vulnerability to an adverse health outcome; (2) perceived severity of the adverse health outcome and its associated consequential outcomes; (3) perceived benefits of given preventive behaviors in terms of assisting postnatal mothers in avoiding the adverse health outcome; and (d) an individual's perception of the benefits of given preventive behaviors in terms of assisting them in avoiding the adverse health outcome. The HBM is useful for predicting whether people will adopt preventative health measures. It also takes into account an individual's perceived self-efficacy, or the confidence with which they believe they can implement such measures (Rosenstock et al., 1988).

The proposed research is grounded on the Behavioral Model of Health Services Use (Andersen, 1995). In the study, dependent variable is the PNC services use; and the independent variables are the client factors to include numerous socio-demographic factors and health systems framework too helps appreciate the probable impacts on personal choice in order to utilize the services given in the health facilities. The concept suggests that access to health care services is a goal of the attitudes and beliefs that facilitate service utilization, as well as the prerequisites for the requirements of receiving health care.

In order for the mothers to participate in preventative behavior, they must feel that the benefits outweigh the costs, as defined by perceived benefits, which relate to advantages of post-natal care. Understanding on importance of seeking health care behavior even if

the mother is not sick encourages mothers to seek assistance from the health care facilities in order to get post- natal care on their maternal and neonatal health issues, as well as to learn on care of their neonates and also their empowerment. It is believed that mothers should be able to exercise self-efficacy, which is defined as the capacity to effectively seek the post-natal care for all the visits in order to achieve the intended result.

In certain cases, perceived obstacles, which show the perceived limitations to doing a given activity, might impact mother's attitudes about accessing services that are made available. This may be due to a lack of understanding of the current services provided by the health facilities, a fear of requesting help from the health care facilities.

Predisposing variables include demographics and socioeconomic position, while enabling ones include access to treatment, affordability, and proximity to medical facilities (Anderson, 1995). What people perceive about the health care services affects their follow up insight of need and the utilization of the services, for instance the attitude, the values and the knowledge, and this is in conjunction with the previous exposure to the health care services which lead s to prediction of mothers' vulnerability to make use of these post-natal care services and these are what were referred to as need based characteristics(Anderson,1995).

The purposefulness of the model is to discover situations that enable or hinders utilization of the postnatal services.

2.3 Conceptual Framework

As illustrated below, this demonstrates the links between the dependent variable and the independent variables.

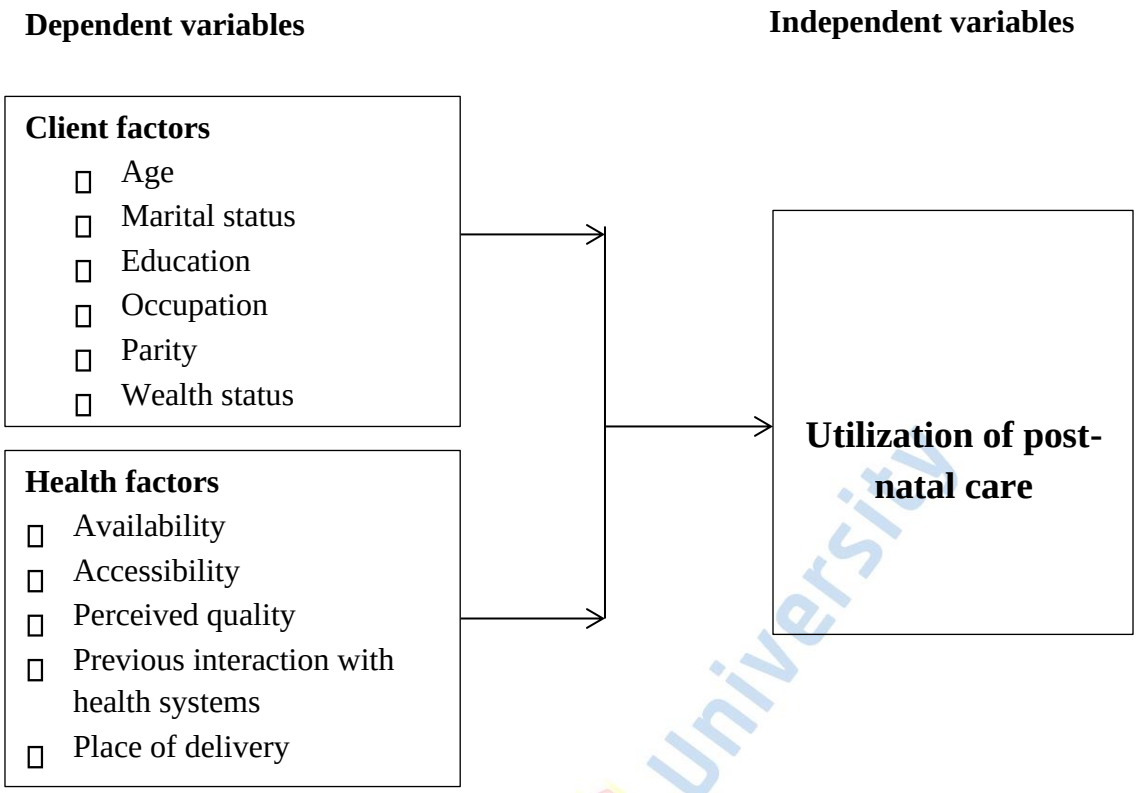

Figure 1: Conceptual Framework

2.4 Summary of Literature

The use of PNC services is important in the continuum of care to promote survival and the health of women and their newborns, even though there are numerous variables that affect maternal and child health outcomes.

Lack of knowledge, failure of health care workers to give return dates are some of the gaps identified in the review. Most women go for post-natal care for the checkup of their children.

In Kenya it is recommended that a postnatal mother and her neonate should get at least three evaluations in the first six weeks after delivery (G.O.K., 2011).

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

The methods used by the researcher to conduct the study is detailed in this section. The research concept, target population, sampling technique, information collection tools and system, pilot study, and information analysis and presentation method are all described in this part.

3.1 Research Design and methodology

Descriptive cross-sectional study design was used in the study. According to Saunders, Lewis, and Thornhill, descriptive survey research covers questions regarding who, what, where, why, and how the issue is (2009). The study's questions or goals and the data collected are connected by the design. Depending on whether the data analysis is demonstrative or just descriptive, survey designs provide a data description that may be presented in words, images, charts, or tables. A research design is a plan or framework that directs how a study will be carried out. The method is well-liked because it makes it possible to get information from respondents in their natural setting (Mugenda & Mugenda, 2010).

3.2 Variables

3.2.1 Dependent Variables

One of two options existed for this variable: either PNC services were used, or they were not. Women who had given birth to a healthy child during the previous year were surveyed to see whether they had sought out post-natal care within the first six weeks after giving birth. A woman was considered to have utilized services if she attended to,

at a health facility at least twice in the post-natal period. In Kenya, three visits are recommended: within 48 hours on the post-natal ward before discharge; or as soon as possible after delivery; a second assessment is suggested one to two weeks following delivery in the MCH-FP clinic; and again at six weeks,(GOK,2018) (within 42 days).

3.2.1 Independent Variables

Several socioeconomic factors were examined, including whether or not women held paid employment, the number of years of education both women and their husbands had completed, the number of children they had, the women's average age, the women's average age of marriage, the women's average age of having children, and the women's average wealth.

Perceived quality of care was analyzed using characteristics from health systems such as staff attitudes, prescription availability, service availability, and facility hours. Distance to facility, transport, and cost of care were studied as variables in study of accessibility. Birth location, delivery method, and the total number of prenatal visits in the most recent pregnancy were some of the medical care-related variables gathered. Attitude factors include whether or not women thought the suggested two visits were appropriate, whether or not they would promote the services to others, and whether or not they saw the services as crucial to their own and their children's health. Questions on respondents' familiarity with postnatal care service options were used to gauge their service knowledge.

3.3 Study site

Ngara Health Centre was built in 1970s, started operation in 1982, Located in; Nairobi county, Starehe sub county, Ngara ward Catchment population: 33,830. Estimated number of deliveries of 840 per year, women of reproductive age is 2338(DHIS,2020)

Staffing: 40 (6 RCOs, 20 Nurses, 2 Lab techs,1 Pharm techs, 2 Data, 5 HTS counselors, 2 Support staff, 2 cleaners). Ngara Health Center offers the following Services; curative, preventive, lab, 24-hour maternity services. It has a total bed capacity: 24 beds.. This facility mainly serve clients of the middle to low socio-economic status .The health centre is at level 3.

Study was under taken in Ngara Health Centre among the post natal mothers who had delivered within one year .The rooms visited were postnatal ward, family planning and immunization rooms.

3.4 Target Population

A population is the total number of entities from whom researchers will choose a representative sample (Sekaran, 2010). But according to Schindler and Cooper (2006), a population element is either a human subject or an object being measured. The study targeted 212 post-natal Mothers seeking maternal neonatal child health from the MNCH clinics to include the immunization room, family planning room who had delivered within one year.

3.5 Study Population

Purposive sampling was used to choose participants from the vaccination and family planning room of the institution, the sole government facility in the area. Mothers with infants less than a year old were selected using a random selection technique until a sufficient number of participants were amassed. Estimates put the number of infants under a year old at about 450. (DHIS 2020). A total of 155 female participants were enrolled in the research (73% response rate). Probability proportional to size was used to

determine the distribution of samples. The Kth. interval was determined by using the hospital's study population as the basis for the calculation.

3.6 Inclusion criteria and Exclusion criteria

3.6.1 Inclusion criteria

Mothers seeking services in the MCH who delivered between six months and 1year during the time of study were included.

3.6.2 Exclusion criteria

The mothers who had given birth beyond one year and those not seeking MNCH services and the mothers with sick babies.

3.7 Sampling procedures

3.7.1 Sample size determination

Representative of the full population as is possible and that it should be drawn from a large sample in order for any speculation to the entire population to be completed with confidence. Choosing some or all of the aggregate data on the basis of which a judgment or conclusion is made may be defined as sampling data in this way: (Kothari, 2006).

Since the sample size is less than 10,000, Yamane formula was employed for this study; Yamane, 1967 formula was used in for calculating the sample size.

95% was used as the confidence level, p = .5.

n denotes the sample size,
N is population size, and;
e is precision level. n =
N/1+N(E) n=
450/1+450(E)2

=212

3.7.2 Systematic random sampling

To get the interval of mothers to be interviewed, the total estimated number of mothers was divided by the sample needed. Thus; 450/212=2nd person.

Table 1: Comparison of the mothers who delivered and those who attend PNC.

Month	Deliveries	Postnatal review at 2 weeks
August 2018	63	38
September 2018	70	42
October 2018	55	40
November 2018	56	40
December	62	36
January2019	75	44
February2019	24	40
March 2019	48	32
April 2019	47	38
May 2019	53	30
June 2019	49	36
July 2019	53	34
	563	410
Total	**655**	**450**

Source: Ngara Hospital (2020)

3.8 Data collection tools

Research instruments are the tools used to collect data, as defined by Oso and Onen (2009). Primary data were collected using a semi-structured questionnaire with closedended questions. The questionnaires used in the research were chosen because they are the most widely used data collecting tools since they are simple to administer to respondents at their places of employment. The researcher identified a health care worker who was trained and used to administer the questionnaire. The mothers were given the

questionnaires and the research assistant could assist those who were not able to read. The questionnaire was selected because it provides respondents with sufficient time to provide well-thought-out responses, it is minimal in cost, and it saves time. Questionnaires are valuable for research because they collect information that is not easily quantifiable, such as people's emotions, motivations, actions, accomplishments, and life experiences, when they inquire about such things. When doing this sort of study, questionnaires are the most effective technique of data gathering (Mugenda & Mugenda, 2009). The investigation tools items were created in order to halt the flow of information in accordance with the study's goals.

3.9 Piloting, Validity and reliability of the data

3.9.1 Piloting

Prior to the data collection visits, the study questionnaires were piloted using the drop and select approach to ensure that they were user-friendly. As such, piloting sessions were conducted to clear up any confusion, identify wrongly stated things, find cases with insufficient room to write responses, and spot clustering of questions. According to Orodho (2012), the process of piloting includes the testing of instruments prior to the actual collection of data from the chosen sample in the field, which is described as follows: According to Mugenda & Mugenda, a pilot test is an essential part of the research process (1999). This is because it gives the researcher and the intended methods and tools a chance to get some experience. By doing a preliminary study, the researcher was able to avoid costly mistakes and keep costs down. As such, piloting sessions were conducted to clear up any confusion, identify wrongly stated things, find cases with insufficient room to write responses, and spot clustering of questions.

Piloting of the questionnaire was done at Mathare North Health Centre, with just 10 participants taking part in the piloting process. The hospital was selected due of its proximity to Ngara hospital as well as its distinctions from it.

The piloting exercise assisted the researcher in identifying confusing questions as well as determining if the procedures to be utilized in the data analysis were suitable for the situation.

3.9.2 Validity

In order to provide answers to the study questions presented by the researcher, the data acquired through the data collecting methods must be of a suitable enough kind. It is crucial to acquire data that is relevant to the research hypothesis while simultaneously optimizing reliability and validity, as emphasized by Mugenda & Mugenda (2003). Cooper and Schindler state that a valid instrument is one that provides an accurate evaluation of the concept being studied (2005). The questionnaire's validity was established by the use of the standards of self-evident measures. Validity of face and validity of content are measures of how well instruments evaluate the things they claim to measure. In order to ensure the questionnaire's face validity, it was exposed to an evaluative process, whereby respondents rated the questionnaire's appearance and the questions' relevance to the study. Because it determines whether or not useful conclusions may be drawn from a study's findings, validity of a research instrument is crucial. Validity is a quality approach that ensures the instrument reliably measures the construct being studied. It asks whether we are measuring the right things to get a sense of the concept (Gay and Airasian), if the results are reliable enough to use in policy decisions, and if we are measuring the right things to get a sense of the concept (2000). The validity of the instruments was determined by discussion of the questionnaire with the

researcher's supervisor and other education professionals who were well-versed in the study's topics of interest. They were asked to categorize each topic in the questionnaire as either Relevant (R) or Irrelevant (I) based on their own experiences

(IR). The content validity was then calculated in order to get the Content Validity Index (CVI), which was calculated using the method below:

CVI =(TR1+TR2)/2

Total Items

Where:

CVI = Content Validity Index

TR1 = Total items marked as relevant by 1st Expert

TR2 = Total items marked as relevant by 2nd Expert

Due to the fact that they aided in detecting existing problems, responses from the pilot sample offered an indication of the dependability and appropriateness of the questions. Modifications were made as needed to unclear directions, confusing questions, and any significant subject omissions, among other things. It was also determined how much time was necessary to complete surveys. As long as the Content Validity Indices for both surveys were more than 0.5, it was assumed that they were both valid (Amin,

2005). According to Mugenda & Mugenda (2009), validity is the ability to demonstrate

3.9.3 Reliability

Using the rater inter rater approach, the researcher was able to determine the dependability (quantitative) of the tools as well as their internal consistency after the instruments had completed piloting. The rater inter rater approach was selected by the researcher because of its ease of use and effectiveness. It is necessary to compare the results of the first and second measurements individually. Specifically, according to

Denscombe (2007), dependability refers to the consistency with which a certain instrument produces the same results across a large number of repeated trials. The importance of reliability in this research cannot be overstated since there can be no legitimate results if dependability is not there (McMillan & Schumacher, 2001). Reliable instruments provide consistent outcomes to the degree that independent administrators produce results that are similar to the reliable instruments (Saunders et al, 2007). After being subjected to the same event repeatedly, Kombo and Tromp (2006) define instrument dependability as the degree to which a research instrument produces identical findings when subjected to the same phenomenon again and again. The data collected during the pilot was utilized to calculate the internal consistency of the instruments, which was then used to verify their reliability using Cronbach's formula. Since just a single administration of the device is required, this procedure is considered the most convenient (Fraenkel & Wallen, 2003). The correlation coefficient was found to be 0.73, indicating that the instruments' dependability is quite high.

3.9.4 Establishment of Credibility

By assessing the quality of the research's assessment, analysis, and findings, we may judge whether or not we can have faith in them as being correct and accurate. Correctness and accuracy are the yardsticks by which credibility is assessed. Research methods that are generally accepted and well-established were used, and informants were selected at random. Through the use of the triangulation approach in the data analysis, several data sources, investigation methodologies, and/or literature were used to orient the meaning of data across different contexts and populations. The use of this form of data triangulation significantly improved believability (Creswell, 2003).

Despite the prevalence of subjective factors in establishing credibility, objective measurements such as shown reliability were employed in evaluations.

3.9.5 Establishment of Dependability

The constancy of discoveries is shown by their dependability. Using a sample of the same respondents and the same instruments at two separate times, the researcher was able to guarantee the dependability (quantitative) of the instruments used. The capacity to supply service that can be relied on is defined by Avizienis et al (2004) as follows: dependability is the ability to avoid the service failures that are more frequent and severe.

3.10 Data Collection Methods and Procedures

The researcher sought permission/approval from the administration of those firms before gathering information. An introduction letter from the School of Postgraduate Studies at Mount Kenya University was requested prior to the administration of the surveys. Mt Kenya University was also contacted in order to get an ethical clearance certificate. In addition, the researcher gained approval from the National Science and Research Council.

We chose and trained a research assistant who would be in charge of administering the questions. Several pre-hospital visits were made in order to schedule a formal appointment for data collection. The questionnaires were delivered to the hospital on the predetermined day by the researcher or his assistant, who was present at the time. Permission, support, and preparedness of the intended respondents to supply the essential data by filling out the applicable instruments were sought and obtained using a variety of means. The responder was asked to read the permission documents carefully, comprehend them completely, and then sign them thereafter.

The study took research ethics into account to improve the response rate. The importance of the study was explained to the responder by the researcher (educated permission). Respondents were given instructions on how their information would be stored and protected, followed up with if they asked any particularly vexing questions, had their intentional interest bolstered, the information-gathering strategy was freed from the potential for emotional harm to respondents, and only respondents were considered competent enough to answer the target.

3.11 Data management – storage, analysis and Presentation of the data

The research was both quantitative and qualitative in nature. The process of studying qualitative data in order to generate an explanation for a given phenomenon is known as qualitative data analysis. In order to grasp your study purpose, qualitative data analysis reveals patterns and themes in your data (Creswell, 2008). The goal of qualitative research is to get an understanding of the target respondents' ideas, opinions, perceptions, and attitudes. It enables us to have a deeper understanding of why things happen the way they do. Researchers may use quantitative analysis to quantify the views, opinions, perceptions and attitudes of their target audience by using statistics. quantitative analysis is the process of collecting, deciphering and summarizing research findings (Cresswell 2002).

Using descriptive and inferential methods, the collected data from the field was analyzed, presented, analyzed, described, and interpreted in a systematic manner. According to the research goals, the collected data was also examined to validate the study questions. Accordingly, each study topic was addressed sequentially in the data analysis process. A study of statistics in relation to a certain circumstance may be done by concentrating on various sections of the problem. Statistical methods used in this investigation included

descriptive statistics. Descriptive statistics like percentages and frequencies were employed in the quantitative analysis of the data set.

Descriptive statistics were applied to the data after it was input into a computer and coded for analysis using SPSS version 25. Questionnaires with small problems were updated, while those with substantial errors were rejected. Inferential statistics; chi square and Fisher exact test at p value<0.05 and 95%confidence interval was used. Tables, pie charts, histograms, bar charts and frequency polygons are the forms in which data was presented.

3.12 Ethical Considerations

The Kenyan government's organizational structure ensures the protection and recognition of people's rights, with the explanation that it is necessary to safeguard the self-worth of individuals and societies, as well as to inspire social fairness and knowledge of the potential of everyone. The concept of sovereignty is recognized in the Bill of Rights. Every Kenyan has the right to access information, according to the country's constitution. The same Constitution also grants citizens the right to use their own judgment, which includes the manner in which they communicate (Republic of Kenya, 2008).

Piracy involves both the theft or misappropriation of intellectual property and the extensive unattributed textual copying of another's work, which is referred to as plagiarizing. Among the many types of intellectual property theft and misappropriation are the unlawful use of innovative ideas or novel procedures that have been received via privileged communication, such as a grant application or manuscript review. All of the writers who contributed to the research have been recognized in the text and have been cited as well.

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 participants 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 were 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, and their names were not to appear anywhere on the data collecting instrument, with the exception of a coded system that would be established and understood only by the researcher.

It was recommended that respondents read and comprehend the consent 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. Because of this, the researcher was much more successful in avoiding biased replies from the respondents.

Respondents were told that they had the option of declining to participate in the research Without losing any privileges or medical care attention postnatally They were asked to provide information about their personal time schedule.

The data acquired from the respondents were handled and put in high discretion to escape seepage to unlicensed persons. It was stored in both hardcopy and electronic format.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.0 Introduction

This chapter presents the research findings of the study with reference to specific research objectives. Findings for each specific objective of the study listed in chapter one was be presented in separate sub sections. First the study sought to study the demographic characteristics of the respondents and their association with utilization of postnatal care services and this is presented in section 4.2. Section 4.3 presents data for objective two, client factors associated with utilization of postnatal care services. Section 4.4 presents

data for objective three, health facility related factors affecting utilization of postnatal care services in Ngara Health Centre, Starehe Sub-County, Nairobi County, Kenya. Section 4.5 presents summary of factors affecting utilization of postnatal care services.

4.1 Response Rate

The research looked at how often people use PNC services, as well as what criteria are most important in determining that number. A total of 155 participants were included for the analysis. We had a response rate of 76%.

4.2 Level of utilization of PNC services

The level of utilization was calculated by collecting and computing data on how many post-natal clinics the mother had attended as per the time of the study. Those who had attended all or missed only one clinic were considered to have high level of utilization while those who had missed more than one postnatal clinic were considered to have low level of utilization. On computation, majority (56.7%, n=88) had low utilization level while (43.3%, n=67) had high utilization.

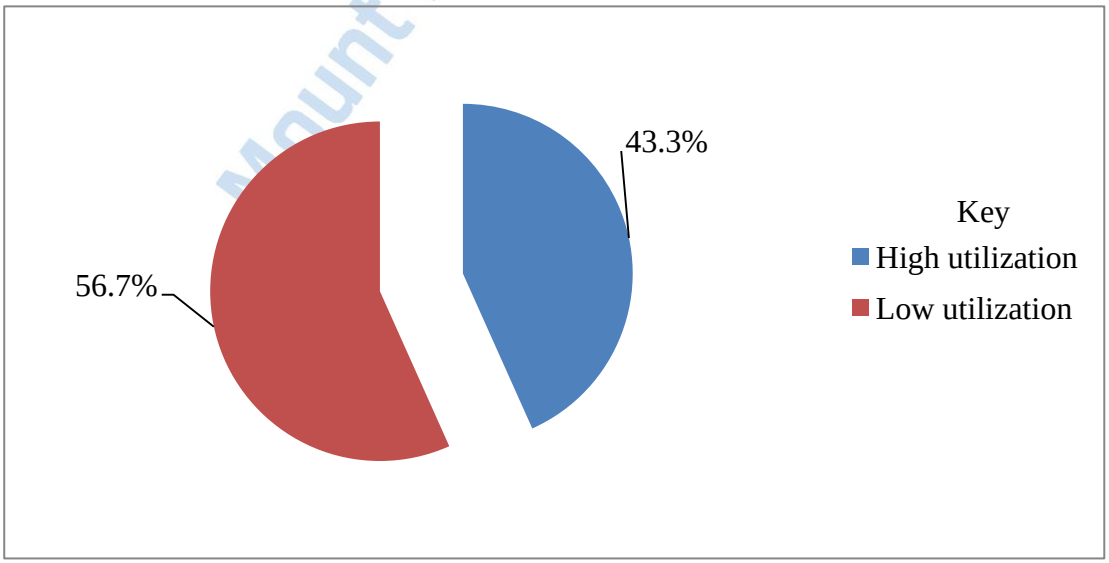

Figure 2: Utilization of PNC services

4.3 Client factors that influence utilization

4.3.1 Age of the respondents

Figure 1 indicates that the age of the mothers was rounded up in complete years and categorized as shown. It was found that the mothers had varied ages. Majority (55.5%, n=86) had an age bracket of 25-34 years, 35.5% (n=55) had an age between 15-24 years, 9% (n=14) had an age between 35-44 years. There was no information or explanation provided for the large disparity in the number of responders in this age group. Figure 2 is a representation of the ages of the youngsters.

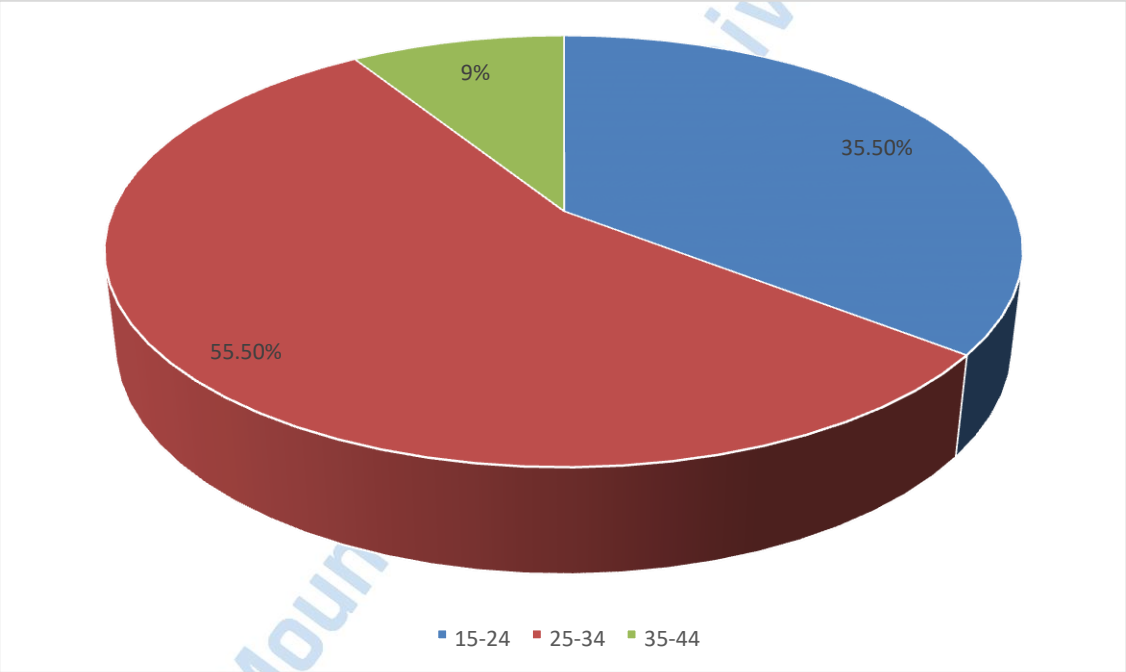

Figure 3: Age of respondent

On analysis, out of 55 mothers who were aged between 15-24 years, 17 had high utilization level of PNC services. Among the 86 mothers who were aged between 25 and 34 years, 46 of them had high level of PNC utilization and out of 14 mothers aged between 34 and 44 years only four of them had high level of PNC utilization. The mothers

age was significantly associated with utilization of PNC services at p value (p=0.016). There was a moderate association between age of the mother and utilization of PNC services at Cramer's V of 0.232. An age above 34 years was associated with low utilization of PNC services.

Table 2: Association between age of the mother and utilization of postnatal care

Variable	Category	Utilization of PNC services		Total
		Low	High	
Age	15-24 years	38	17	55
	25-34 years	40	46	86
	35-44 years	10	4	14
Total		88	67	155

χ^2 (2, N=155) = 8.316, Fisher exact p=0.015

Source: Field Data (2021)

4.3.2 Marital status of the respondent

The study also determined the marital status distribution among the mothers. The results were presented in figure 3.

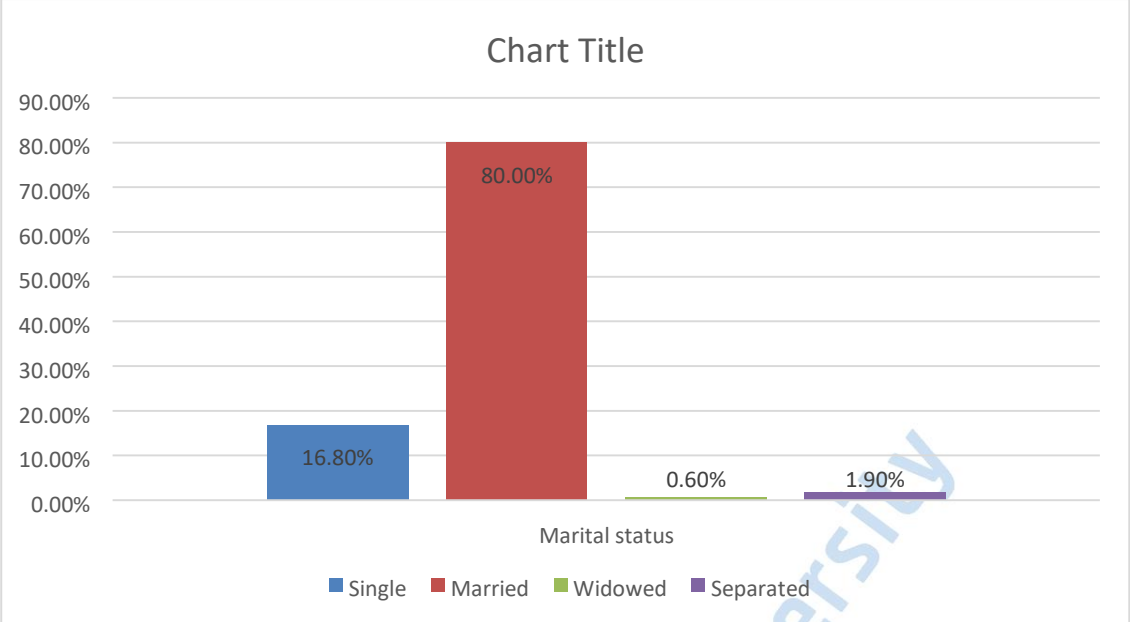

Figure 4: Marital status of the mother

Out of the 26 mothers who were single, 9 of them had high level of utilizing PNC services. Among the 124 mothers who were married 54 of them were found to be highly utilizing PNC services and out of the three mothers who were separated two of them were highly utilizing the PNC services. It was also noted that the two mothers who were widowed were all highly utilizing PNC services. It was evident that there was a moderate association between marital status and utilization of PNC services at

Cramer's V of 0.162 but the results were not statistically significant at p value >0.05.

Table 3: Association between marital status of the mother and utilization of PNC services

Variable	Category	Utilization of PNC services		Total
		Poor	Good	
Marital status	Single	17	9	26
	Married	70	54	124
	Separated	1	2	3

	Widowed	0	2	2
Total		88	67	155

χ^2 (3, N=155) = 4.089, Fisher exact test p=0.252

Source: Field Data (2021)

4.3.3 Level of education of the mother

Level of education was varied from no formal education to bachelor degree in university level. Both those who attended primary level of education certificate or dropped before completing primary level were classified as primary, secondary level of education consisted of those who had completed secondary level of education and university level included all those who were in the university by the time of study or had completed university training. The study findings showed that majority of the participants (40% n=62) had secondary level of education followed by primary level of education (23.2%, n=36) and no formal education level of education had the least proportion (0.6%, n=1). These results are summarized in table 4.

Table 4: Level of education of participants

Level of education	Frequency	Percentage
No formal education	1	0.6
Primary	36	23.2
Secondary	62	40
College certificate	28	18.1
College Diploma	16	10.3
Bachelor's degree	12	7.7

Source: Field Data (2021)

On analysis, increase in level of education was moderately associated with high utilization of PNC services at Cramer's V of 0.220. This was evident when out of 62

mothers with secondary level of education, 27 had high level of utilizing PNC services. At the same time, out of 28 mothers who had college certificate, 13 of them had high level of utilizing PNC services. However, these results were not statistically significant at p value >0.05.

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Table 5 Association between level of education and utilization of PNC services

Variable	Category	Utilization of PNC services		Total
		Poor	Good	
Level of education of participant	No formal education	1	0	1
	Primary	23	13	36
	Secondary	35	27	62
	College certificate	15	13	28
	Diploma	5	11	16
	Bachelor's degree	9	3	12
Total		88	67	155

χ^2 (5, N=155) = 7.495, Fisher exact test p=0.158

Source: Field Data (2021)

There was a moderate association between level of education and utilization of PNC services at Phi of 0.220. On correlation, the Spearmans (r) was 0.061. These results were not significantly affecting the utilization of PNC servicesχ^2 (5, N=155) = 7.495, Fisher exact test p=0.158.

4.3.4 Gross monthly household income for the participant

Since economic status is a sensitive issue, the income was categorized and the respondents were asked to tick the range in which their monthly income fell in.

Majority reported to be earning Kshs. 5,000 and below with the least proportion earning above Kshs. 20,000. The figure 4 shows a summary of participants' monthly household income.

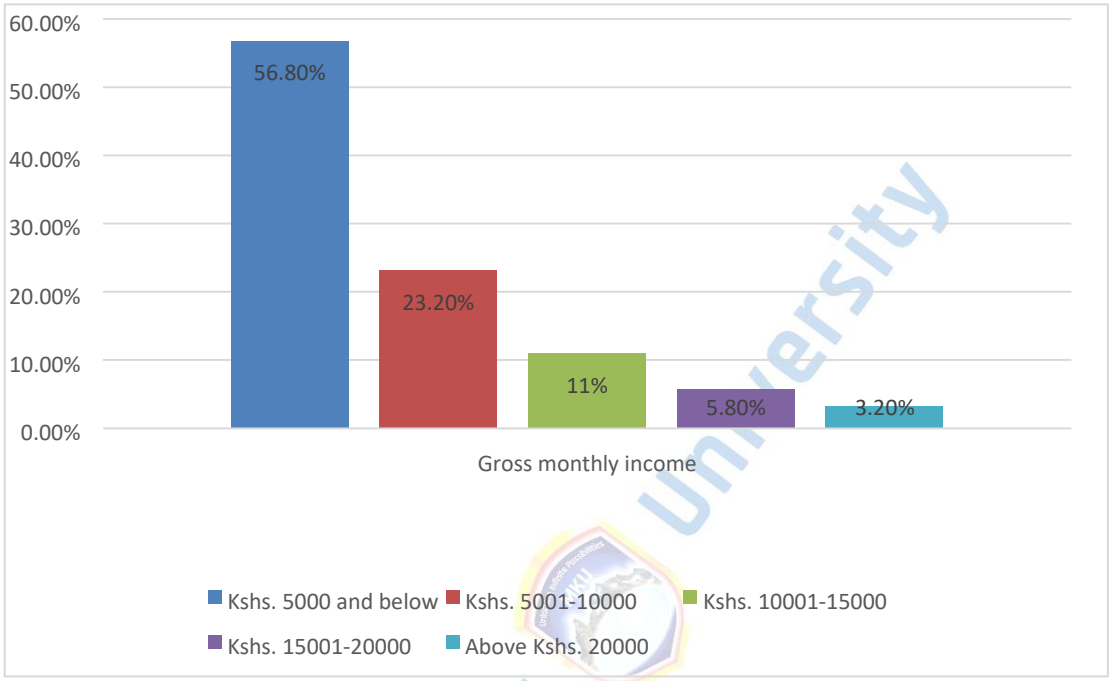

Figure 5: Monthly household income for the participant

There was a weak association between monthly household income and utilization of PNC services at Phi of 0.193. These results were not significantly affecting the utilization of PNC χ^2 (4, N=111) = 4.118, Fisher exact test p=0.399

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Table 6 Association between monthly household income and utilization of PNC services

Variable	Category	Utilization of PNC services		Total
		Low	High	
Monthly household income of the participant in Kshs.	<5000	54	34	88
	5001-10000	22	14	36
	10001-15000	6	11	17
	15001-20000	3	6	9
	>20000	3	2	5
Total		88	67	155

χ^2 (4, N=155) = 6.264, Fisher exact test p=0.180

Source: Field Data (2021)

4.3.5 Occupation of the participant

The mothers reported to be involved in various jobs as a source of their daily bread. Majority (52.3%, n=81) reported to be unemployed, 27.7% (n=43) reported to be selfemployed, 10.3% (n=16) were formally employed, and 9.7% (n=15) were casual workers at the time of study. Table 7 gives a summary of the findings.

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Table 7 Occupation of the respondent

Occupation	Frequency	Percentage
Casual worker	16	10.3
Unemployed	81	52.3
Formal Employment	15	9.7
Self-employment	43	27.7

Source: Field Data (2021)

Among the 15 mothers who were formally employed, 10 were found to be highly utilizing PNC services and among the 43 who were self-employed 14 of them had high utilization levels of PNC services. It was also noted that among 81 participants who reported to be unemployed, only 33 were found to be having high levels of utilizing

PNC services. Out of the 16 mothers who were casual workers at the time of the study, 10 had high levels of utilizing PNC services. There was a moderate association between the mothers' occupation and utilization of PNC services at Cramer's V of 0.227 and negative correlation of Spearmans' (r) 0.049. These results were statistically significant at χ^2 (3, N=155) = 7.978, Fisher exact test p=0.046.

:

Table 8 Association between occupation and utilization of PNC services

Variable	Category	Utilization of PNC services		Total
		Low	High	
Occupation of the participant.	Self employed	29	14	43
	Unemployed	48	33	81
	Formally Employed	5	10	15
	Casual worker	6	10	16
Total		88	67	155

χ^2 (3, N=155) = 7.978, Fisher exact test p=0.046

Source: Field Data (2021)

4.3.6 Number of children the mother had

It is important to determine the number of children a client has, since the experience in caring for other children can influence attendance and utilization of postnatal care services in the current postnatal period. The current study found that majority of the mothers (43.2%, n=67) had one child, 32.9% (n=51) had two children, 16.8% (n=26) had three children and a few (0.6%, n=1) had above four children.

Table 9: Number of children a mother has

Number of children mother had	Frequency	Percentage
None	5	3.2
One	67	43.2
Two	51	32.9
Three	26	16.8
Four	5	3.2
Above four	1	0.6

Source: Field Data (2021)

The mothers who had more children were less likely to utilize postnatal care services. However, there was a strong association between number of children the mother had and utilization of postnatal care services at Cramer's V of 0.335. The study showed that the mothers with few children were more likely to attend the PNC services than those with more than four children .The number of children a mother had was significantly associated with utilization of postnatal care services ($p<0.05$).

Table 10: Association between the number of children the mother had and her utilization of PNC services

Variable	Category	PNC Utilization		Total
		Poor	Good	
Number of children the mother had.	None	3	2	5
	One	27	40	67
	Two	39	12	51
	Three	14	12	26
	Four	4	1	5
	Above four	1	0	1
Total		88	67	155

χ^2 (5, N=155) = 17.445, Fisher exact test p=0.018

Source: Field Data (2021)

4.3.7 Loss of a child

Previous loss of a child especially during the postnatal can motivate a mother to attend and utilize all the postnatal visits. The researcher found that a few mothers (7.7%, n=11) had lost a child previously. The figure 5 below shows a summary of the results.

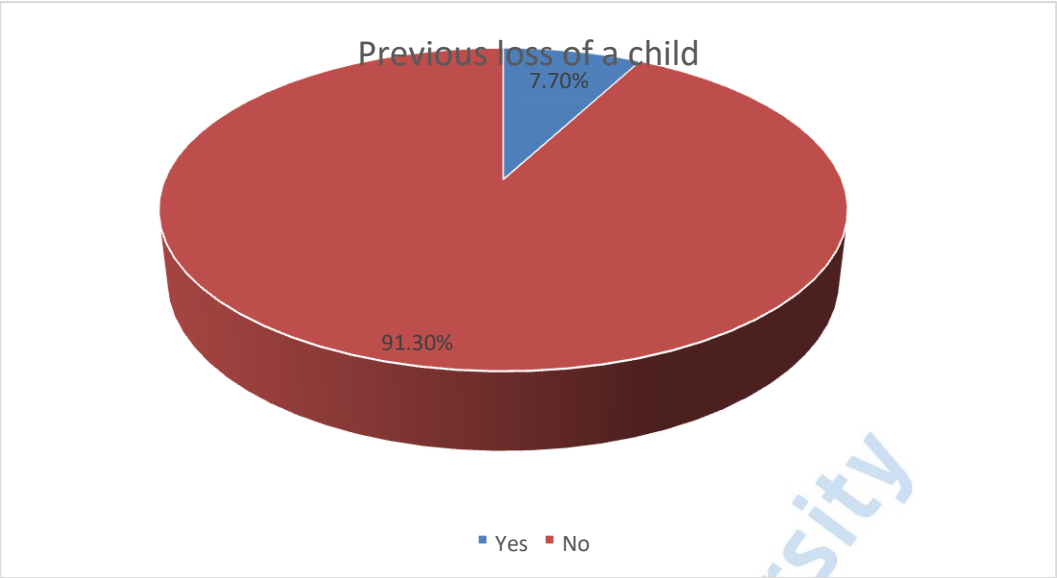

Figure 6: Previous loss of a child

Out of the 11 mothers who had lost their babies previously, 9 of them sought postnatal services. This indicates that loss of a baby motivated the mothers to attend to PNC services so that they prevent loss of the current baby. There was a moderate association between previous loss of a baby and utilization of PNC services at Cramer's V of 0.225.These results were statistically significant at ($p<0.05$). The study also found out that despite the fact that a few mothers lost their babies previously, all the babies had been born in a hospital facility.

Table 11: Association between previous loss of baby and utilization of PNC services

Variable	Category	Utilization of PNC services		Total
		Low	High	
Previous loss of a baby experience.	Yes	2	9	11
	No	86	58	144
Total		88	67	155

χ^2 (2, N=155) = 7.851, Fisher exact test p=0.020

Source: Field Data (2021)

4.3.8 Antenatal care visits attended in the current baby's pregnancy.

During pregnancy the mothers attend varied number of ANC visits, despite the number, in each visit the mothers are health educated on both care of pregnancy and postnatal care. The researcher wanted to explore if the mothers who attended more visits were more likely to use postnatal care services more. The results of the study showed that majority (39.8%, n=6) of the participants had attended more than four visits, and the least group (3.2%, n=5) had attended one clinic. The table 12 below shows a summary of the results.

Table 12: Number of ANC clinics attended in the current postnatal period

Number of ANC visits attended during pregnancy of current baby	Frequency	Percentage
One	5	3.2
Two	12	7.7
Three	35	22.6
Four	43	27.7
More than four	60	39.8

Source: Field Data (2021)

Among the five mothers who had attended one clinic, three were found to utilize postnatal care services, out of 12 who had attended two clinics 5 were found to utilize the postnatal services. Also, among 35 mothers who had attended three ANC clinics, 10 of them were utilizing the postnatal care services. There were 43 mothers who had attended four ANC clinics and among them 20 were utilizing PNC services and among the 59 mothers who had attended more than four ANC clinics, 29 were utilizing the

PNC services. Therefore, these results indicate that the number of ANC visits attended did not influence the utilization of the PNC services. The results showed a weak association between number of ANC visits attended during the pregnancy of the current baby and utilization of PNC services at Cramer's V of 0.143. However, the results were not statistically significant at ($p>0.05$).

Table 13: Association between ANC visits and utilization of PNC services

Variable	Category	Utilization of PNC services		Total
		Low	High	
Number of ANC visits attended for the latest pregnancy.	None	1	0	1
	One	2	3	5
	Two	7	5	12
	Three	25	10	35
	Four	23	20	43
	More than four	30	29	59
Total		88	67	155

χ^2 (5, N=155) = 5.443, Fisher exact test p=0.312

Source: Field Data (2021)

4.3.9 Mode of delivery of the baby

Each mode of delivery has its own complications that might influence a mother to attend for postnatal care services. The current study wanted to identify which mode of delivery is associated with high levels of utilization of PNC services. The results showed that majority (72.9%, n=113) delivered via spontaneous vertex delivery (SVD) which was

considered as normal delivery in the current study. The figure 6 below shows a summary of the results.

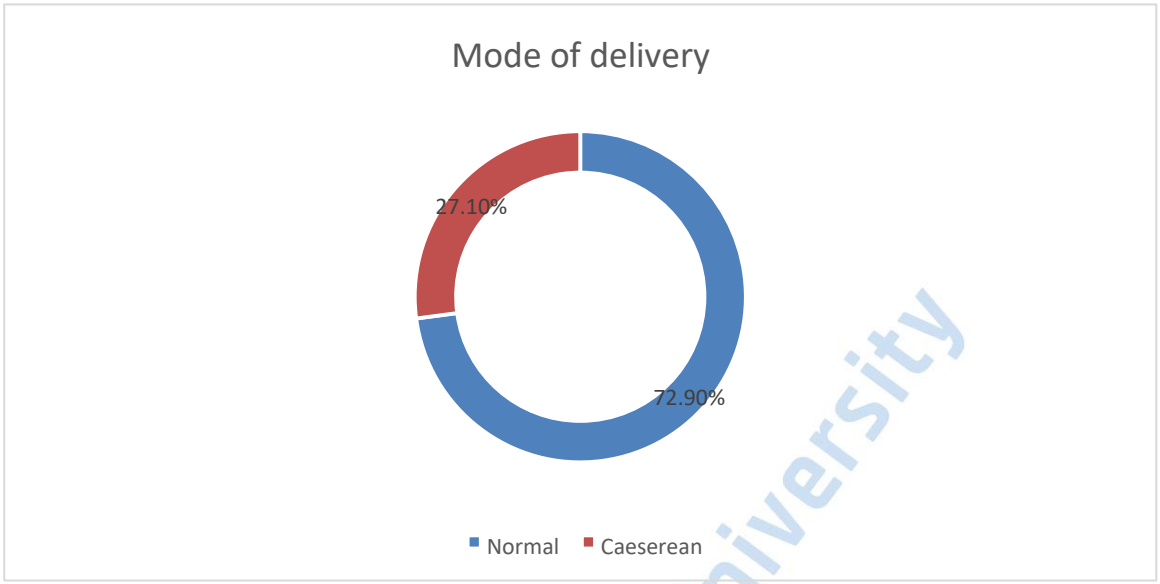

Figure 7: Mode of delivery

Out of 115 mothers who delivered via normal mode, 51 of them were found utilizing PNC services and among 38 mothers who delivered via caesarean mode 15 were highly utilizing the PNC services. The results also showed that mothers either mode of delivery had varied influence on utilization of PNC services. These results were not statistically significant at ($p>0.05$).

Table 14: Association between previous loss of baby and utilization of PNC services

Variable	Category	Utilization of PNC services		Total
		Low	High	
Mode of delivery.	Normal	64	51	115
	Caesarean	24	16	40
Total		88	67	155

χ^2 (2, N=155) = 2.352, Fisher exact test p=0.503

Source: Field Data (2021)

4.3.10 Length of stay in the hospital post delivery

Most human beings do not like being admitted for long especially after recovery. In case of delivery, the mothers wish to be discharged soonest possible so that they can go home to celebrate with the family about the newborn and others want to go back and attend to other family roles. Therefore, the researcher wanted to identify if the time these mothers spent in the hospital post-delivery actually determined their utilization of PNC services and how. The results showed that majority (63.9%) of the mothers were discharged between 1-2 days post-delivery. The figure 7 below gives a summary of the results.

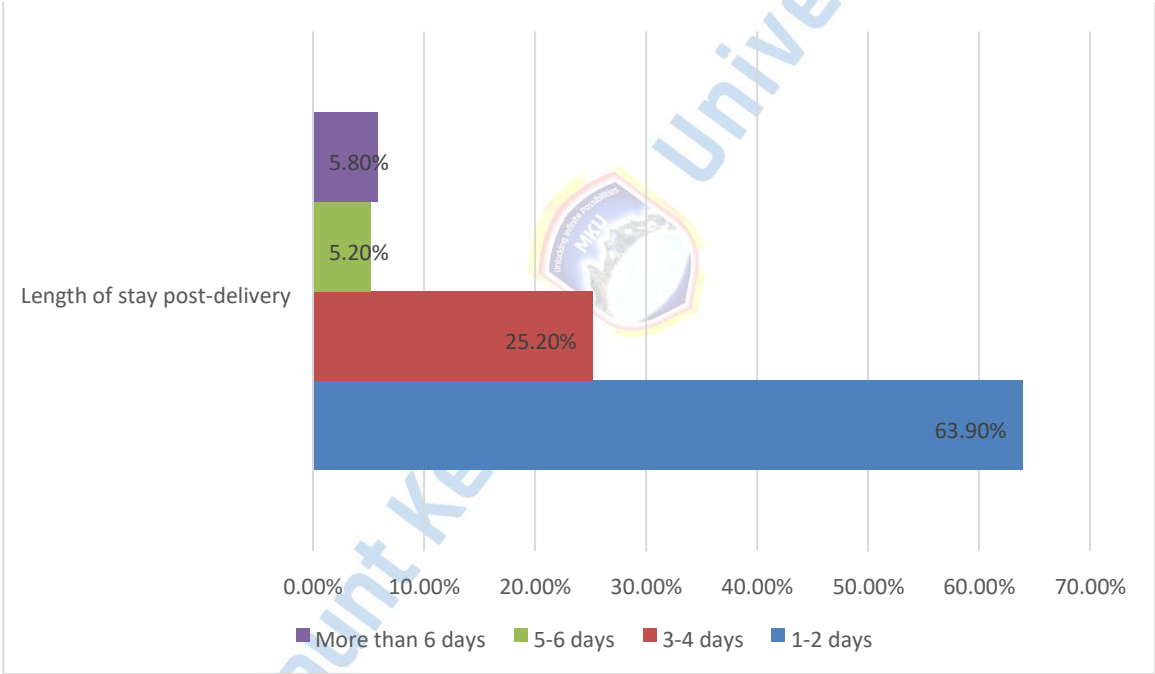

Figure 8: Length of hospital stay post-delivery

On computation, out of 99 mothers discharged after 1-2 days, 44 were found to highly utilize the PNC services. Among the 39 who were discharged between 3-4 days postdelivery, 14 of them were highly utilizing the PNC services. It was also found that out of 8 mothers who were discharged after 5-6 days post-delivery, 4 of them had high utilization level of PNC services and among 9 mothers who were discharged after 6 days

post-delivery, 5 of them were utilizing PNC highly. These results show that as the number of days increase postnatally before discharge of the mother, the more likely the mother is to utilize PNC services though the association was weak at Cramer's V of 0.102. These results were not statistically significant at p value >0.05.

Table 15: Association between length of stay in the hospital post-delivery and utilization of PNC services

Variable	Category	Utilization of PNC services		Total
		Low	High	
Length of stay in the hospital post-delivery.	1-2 days	55	44	99
	3-4 days	25	14	39
	5-6 days	4	4	8
	More than 6 days	4	5	9
Total		88	67	155

χ^2 (3, N=155) = 1.620, Fisher exact test p=0.764

Source: Field Data (2021)

4.3.11 Return date given for postnatal mothers

The return date the mothers are given to visit the health facility depends on mode of delivery and condition of the mother. In normal circumstances the mothers are given varied return dates. In the current study, the return dates were classified as after 24-48 hours post-delivery, after 1-2 weeks post-delivery, and after six weeks post-delivery. The findings showed that majority (81.3%, n=126) of the mothers were given a return date of between 1-2 weeks post-delivery and both return dates of 24-48 hours and 6 weeks

were the least reported at 1.3% (n=2) respectively. The summary of the results is shown in the figure 9 below.

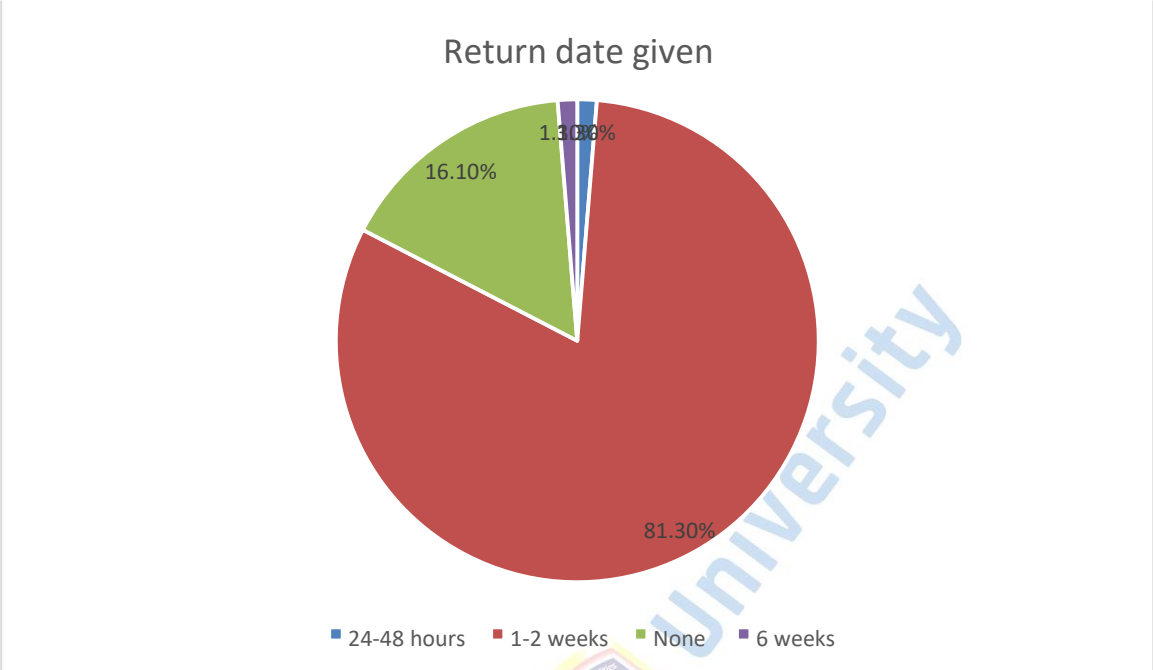

Figure 9: Return date given

Among the mothers who were never given a return date for PNC clinic, 5 out of 25 turned up for the services. Majority did not utilize the PNC services. It was noted that among those given a return date of 24-48 hours none turned up and among those given return date of 6 weeks all turned up. This shows a return date of six weeks had higher chances of the mothers utilizing the PNC services compared to other recommended return dates. These results were significant at p value <0.05.

Table 16: Association between return date given and utilization of PNC services

Variable	Category	Utilization of PNC services		Total
		Low	High	

Return date given to the postnatal mothers on discharge.	None	24-48 hours	20	5	25
			2	0	2
		1-2 weeks	66	60	126
		6 weeks	0	2	2
Total			88	67	155

χ^2 (3, N=155) = 10.636, Fisher exact test p=0.006

Source: Field Data (2021)

4.3.12 Presence of complications following delivery

Whenever the mothers develop complications post-delivery, its thought that they are likely to utilize PNC more than those without complications. The researcher wanted to validate this assumption. The findings revealed that majority of the participants (87.1%, n=143) never experienced complications post-delivery as shown in the figure 9 below. The few mothers (12.9%, n=12) who reported to have had complications said they suffered from headache, increased blood pressure, wound infection, bladder injury and postpartum hemorrhage.

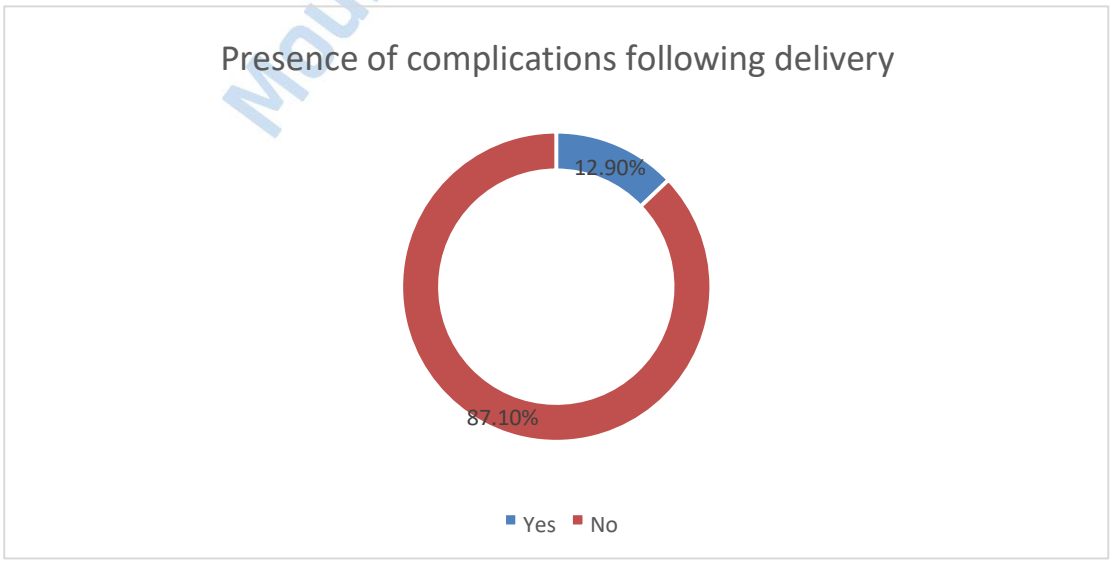

Figure 10: Presence of complications

Among the 20 mothers who had complications, 15 were found to be utilizing the PNC services at high level. This implied that the fear of more complications increased utilization of PNC services to prevent further complications and promote the health of the mother. These results were significant at p value <0.05. There was a moderate association between having complications post delivery and utilizing PNC services at Cramer's V of 0.247.

Table 17: Association between having complications post-delivery and utilization of PNC services

Variable	Category	Utilization of PNC services		Total
		Low	High	
Had complications post-delivery	Yes	5	15	20
	No	83	52	135
Total		88	67	155

χ^2 (1, N=155) = 9.447, Fisher exact test p=0.003

Source: Field Data (2021)

4.4 Health facility related factors affecting utilization of postnatal care services at Ngara Health Centre

4.4.1 Physical accessibility of the facility

The researcher explored the distance the mothers cover to get the postnatal services from the facility. The distance was estimated in kilometers. Majority of the mothers (48.4%, n=75) reported to cover 1-5 kilometers to access the facility and the least population (24.5%, n=38) covered more than five kilometers as shown in the figure below.

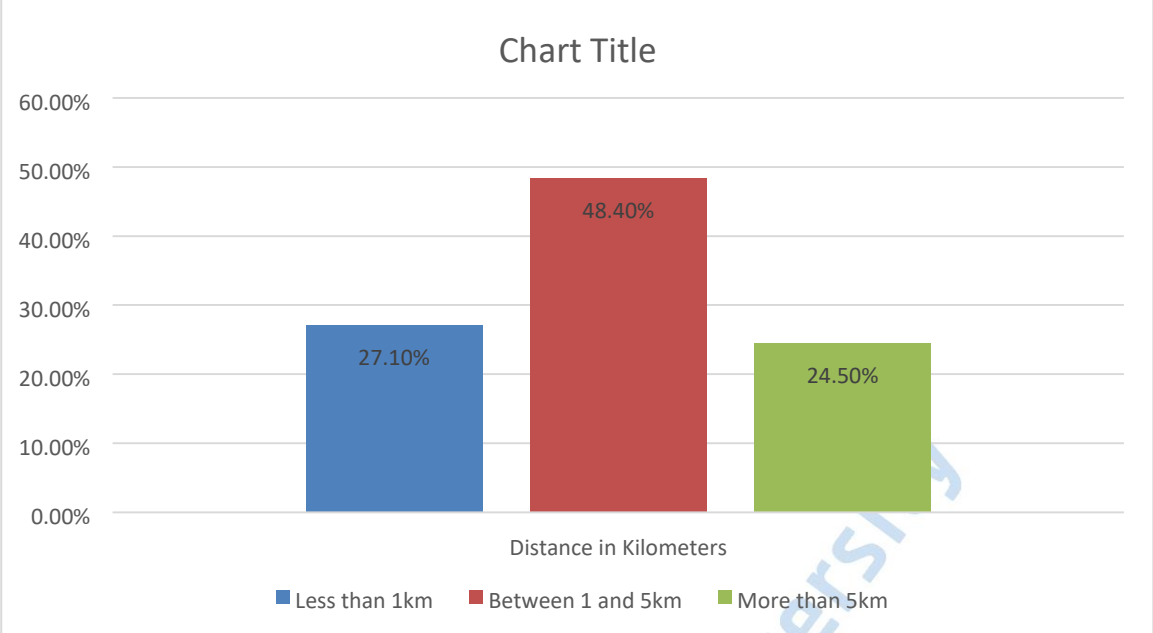

Figure 11: Distance to health facility

Majority of the mothers were covering 1-5 km to access the facility, out of 75 who covered this distance 32 of them were utilizing these services at higher level. Half of those covering more than 5km to access the services were also found to utilize the services at high level. This indicates that the distance covered to access the services did not determine the utilization of PNC services. There was a weak association between distance covered and utilization of PNC services at Cramer's V of 0.120 and the results were not statistically significant at p value>0.05.

Table 18: Association between distances covered to access the facility and utilization of PNC services

Variable	Category	Utilization of PNC services		Total
		Low	High	
Distance covered to access the facility.	Less than 1km	26	16	42
	1-5km	43	32	75

	More than 5km	19	19	38
Total		88	67	155

χ^2 (3, N=155) = 2.217, Fisher exact test p=0.461

Source: Field Data (2021)

4.4.2 Number of ANC clinics attended during the latest pregnancy

The mothers are taught on importance of postnatal visits. The researcher wanted to know if those that attended more clinics were utilizing postnatal services more. The results showed that majority of the mothers (43.9%, n=68) had attended two ANC clinics. The figure 11 below gives a summary of ANC clinic attendance.

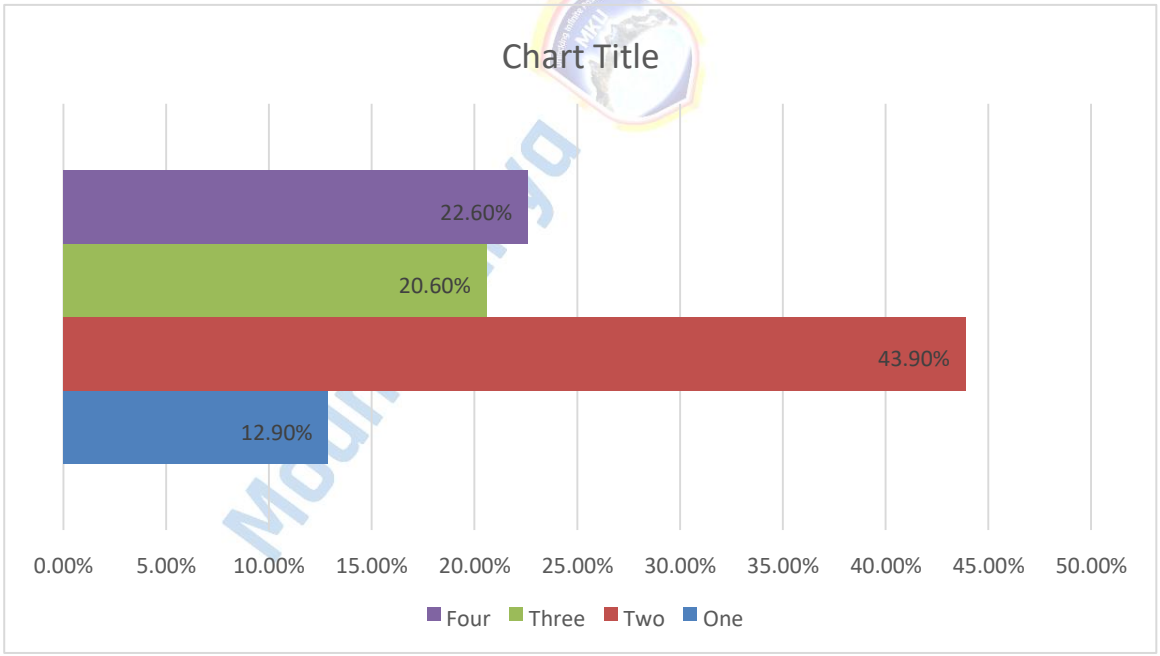

Figure 12: Number of postnatal clinics attended

4.4.3 Turnaround time for delivery and reception of postnatal services

Turnaround time for delivery of services influences demand for the services from a facility. The researcher wanted to establish if the time taken to serve the postnatal mothers influenced their utilization of the service. The results found that the time taken to serve each mother was varying with the majority (47.4%, n=74) being served within 30 minutes. The table 19 below shows a summary of the results of turnaround time in postnatal service delivery.

Table 19: Turn around time for postnatal care service delivery

Turnaround time in postnatal service delivery	Frequency	Percentage
Within 30 minutes	74	47.7
30 minutes – 1 hour	44	28.4
More than 1 hour	37	23.9

Source: Field Data (2021)

The results showed that among the 74 mothers who had been served within 30 minutes previously they had high level of utilizing PNC services compared to 8 mothers out of 36 mothers who spent more than one hour in the clinic. There was a strong association between turnaround time in the clinic and utilization of PNC services at Cramer's V of 0.328 and these results were statistically significant at p value<0.05.

Table 20: Association between turnaround time in the clinic and utilization of PNC services

Variable	Category	Utilization of PNC services		Total
		Low	High	
Turnaround time in the clinic.	Within 30 minutes	30	44	74
	30 minutes-1 hour	29	15	44

	More than one hour	29	8	37
Total		88	67	155

χ^2 (3, N=155) = 16.675, Fisher exact test p=0.001

Source: Field Data (2021)

4.4.4 Reasons for seeking health care services in the facility

Every mother who comes to the clinic is treated individually and each of them has different reasons for attending the clinic. The researcher therefore wanted to explore the reasons that brought the mothers who participated in the study to the clinic. The findings revealed that majority (74.8%, n=116) had come for the visit because they had been told to come on that date (was given a return date to the clinic on that day), others came because they were unwell, for check-ups, brought sick baby and for both mother and baby check-up as shown in the table 21 below.

Table 21: Reason for attending postnatal clinic

Reason for attending postnatal clinic	Frequency	Percentage
For my check-up	4	2.6
For my baby's check-up	8	5.2
I was unwell	15	9.7
My baby was unwell	12	7.7
Health care worker asked me to come on this day	116	74.8

Source: Field Data (2021)

The mothers who reported not to have sought PNC services previously, reported that it was because they had not been given a return date to the clinic.

On cross tabulation, the ill health of either the mother or the baby contributed more to the utilization of the PNC services. Among the 116 mothers who reported to have been given a return date for that day, 79 had low utilization of PNC services. There was a strong association between reason for seeking the postnatal care services and utilization of the PNC services at Cramer's V of 0.475 and the results were statistically significant at p value <0.05.

Table 22: Association between reason for seeking PNC services and utilization of PNC services

Variable	Category	Utilization of PNC services		Total
		Low	High	
Reason for seeking PNC services.	For my check up	4	0	4
	For my baby's check up	1	7	8
	I was unwell	2	13	15
	My baby was unwell	2	10	12
	Health worker asked me to go back	79	37	116
Total		88	67	155

χ^2 (4, N=155) = 34.902, Fisher exact test p<0.001

Source: Field Data (2021)

4.4.5 Client satisfaction with PNC services during the visit

Satisfaction of the clients with the services offered during the clinic was measured using a Likert scale. The scale had three options: unsatisfied, satisfied and very satisfied. Majority of the clients (77.4%, n=120) reported that they were satisfied with the services while a few mothers (1.3%, n=2) were very unsatisfied as shown in figure 13 below.

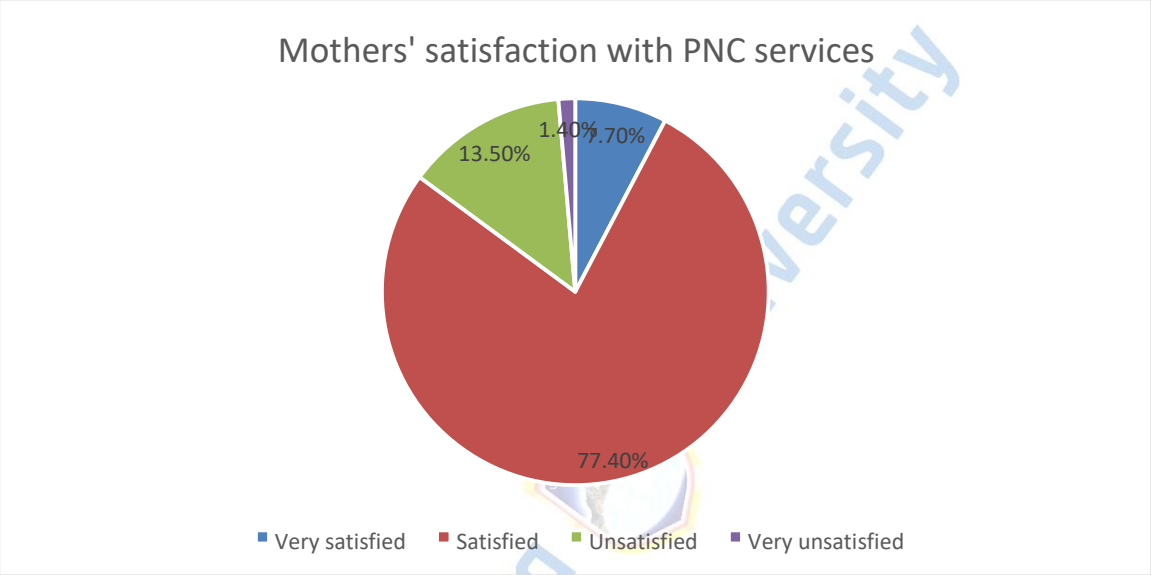

Figure 13: Mother's satisfaction with PNC services delivered

Those who were satisfied reported to be attended in good time (5.2%, n=8), met friendly staff (51.6%, n=80), and those who generally satisfied by the services were 19.4% (n=30). It was also found out that the few mothers (n=2) who were unsatisfied had been served by unfriendly staffs.

Among the 12 mothers who were very satisfied, 9 had high level of PNC utilization while out of 120 who reported to be satisfied; only 52 were highly utilizing PNC services. It was evident that level of client satisfaction was moderately associated with utilization of PNC services at Cramer's V of 0.230 and the results were statistically significant at p value <0.05.

Table 23: Association between client satisfaction and utilization of PNC services

Variable	Category	Utilization of PNC services		Total
		Low	High	
Extent of client satisfaction with PNC services offered at the facility.	Very satisfied	3	9	12
	Satisfied	68	52	120
	Unsatisfied	16	5	21
	Very unsatisfied	1	1	2
Total		88	67	155

χ^2 (3, N=155) = 8.201, Fisher exact test p=0.037

Source: Field Data (2021)

4.4.6 Child immunization

According to the Kenyan Ministry of health, the mothers should take their babies for routine child immunization and complete all the sessions. Child immunization is part of postnatal care services offered in health facilities. The researcher wanted to know if the mothers seeking PNC services at Ngara Health Centre came only for child immunization or they also came to seek the other components of postnatal care. This was explored in various ways.

First the mothers were asked if they had brought their babies for immunization. The results showed that almost all the mothers (98.7%, n=152) had brought their children for immunization.

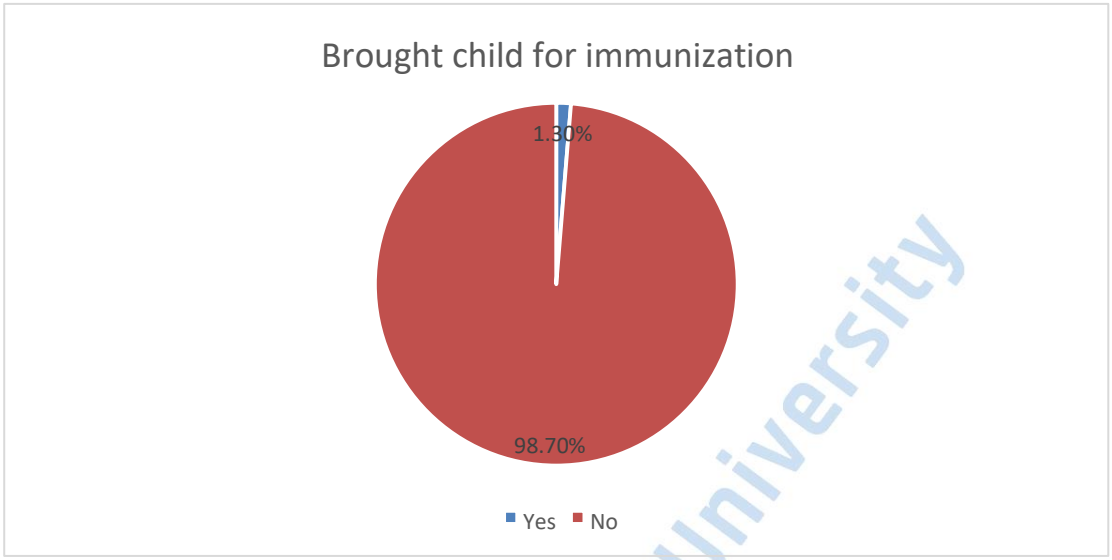

Figure 14: Brought child for immunization

After immunization, the mothers were asked if the health care provider asked them if their baby had any health problem and, in this majority (54.8%, n=85), said yes.

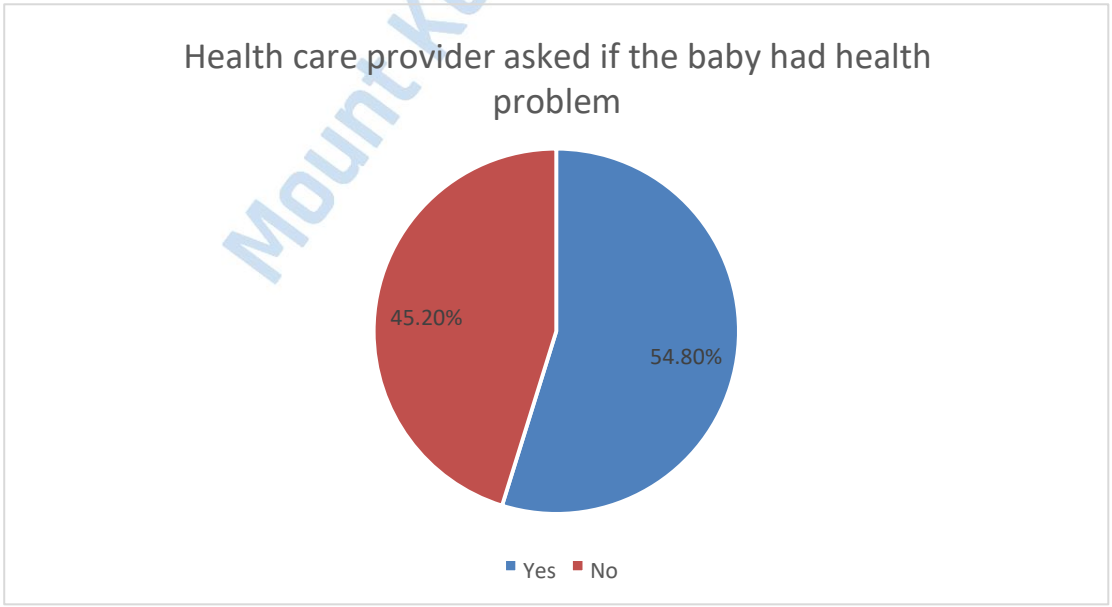

Figure 15: Health care provider asked if the baby had health problem

The mothers were then asked if they were examined after the baby had been immunized. Majority of the mothers (67.7%, n=105) reported that they were examined after their baby had been immunized.

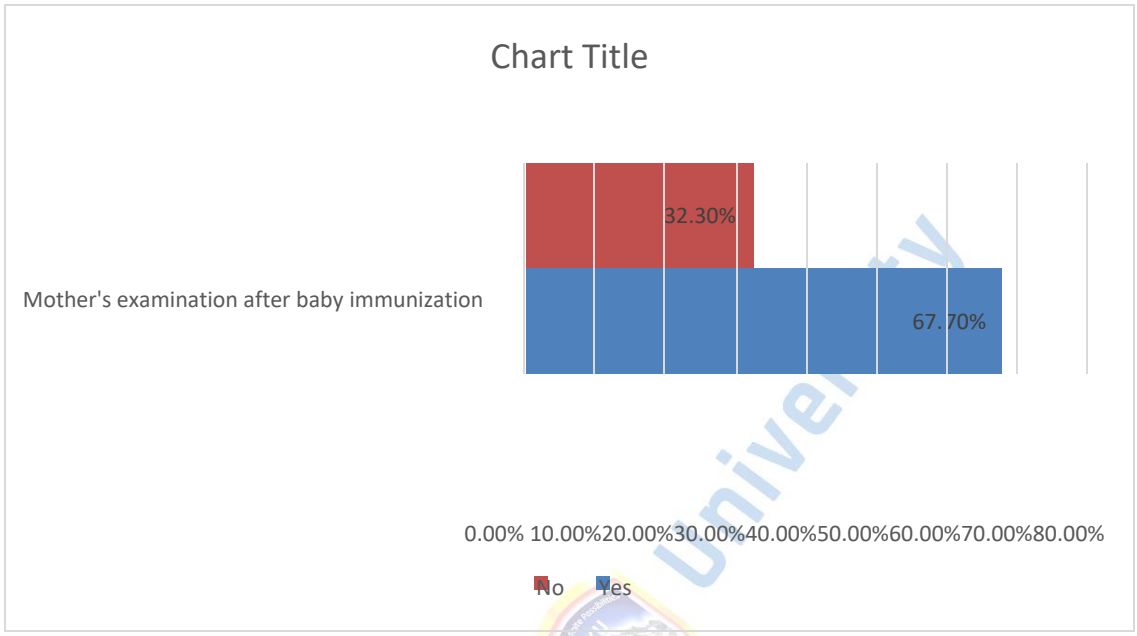

Figure 16: Examination of the mother after baby immunization

Lastly the mothers were asked if the health care provider gave them health messages during the visit. Majority of the mothers (71%, n=110) reported to have been given the health messages.

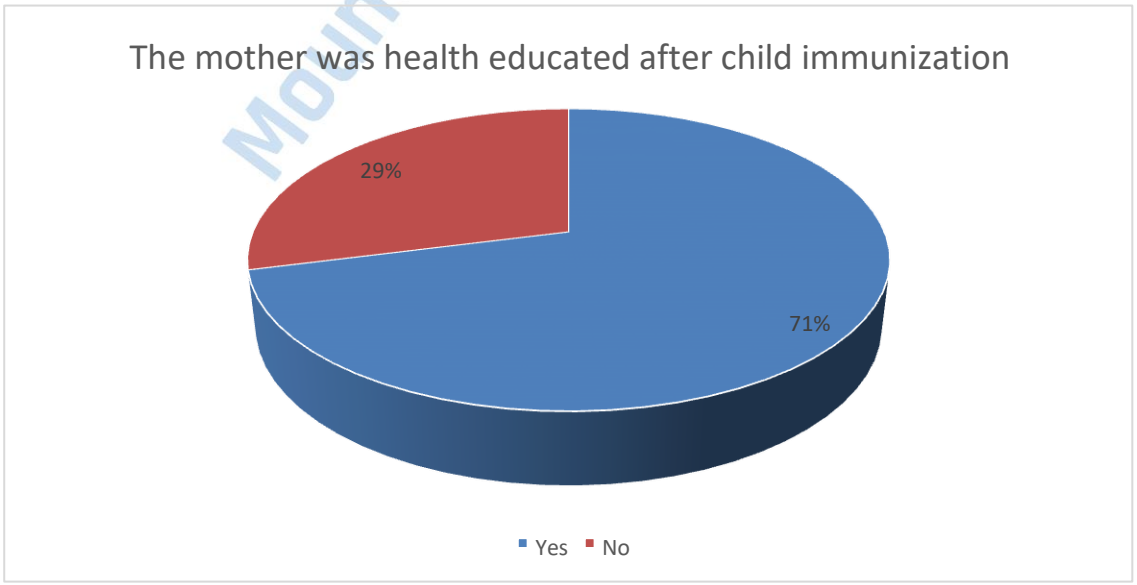

Figure 17: Mother received health education after baby's immunization

The mothers who had been given health messages after immunization of the baby were found to utilize PNC services more than those were never health educated. Out of 109 mothers who received health messages 53 of them had high level of utilizing PNC services compared to 13 out 45 who never received the health messages. These results were statistically significant at p value< 0.05.

Table 24: Association between reception of health messages post baby's immunization and utilization of PNC services

Variable	Category	Utilization of PNC services		Total
		Low	High	
Reception of health messages post baby's immunization.	Yes	56	53	109
	No	32	14	46
Total		88	67	155

χ^2 (1, N=155) = 6.377, Fisher exact test p=0.041

Source: Field Data (2021)

4.5 Client discrimination by health worker

Discrimination of any nature hinders client health seeking behavior. The study sought to identify if the clients were discriminated whenever they sought health care services at Ngara Health centre. A few mothers (3.2%, n=5) reported to be discriminated at the facility. However, majority reported not to be discriminated. Among those who were discriminated, scolding the main issue. On computation, the results were not statistically significant. The figure 17 below shows proportion of mothers who were discriminated at the facility.

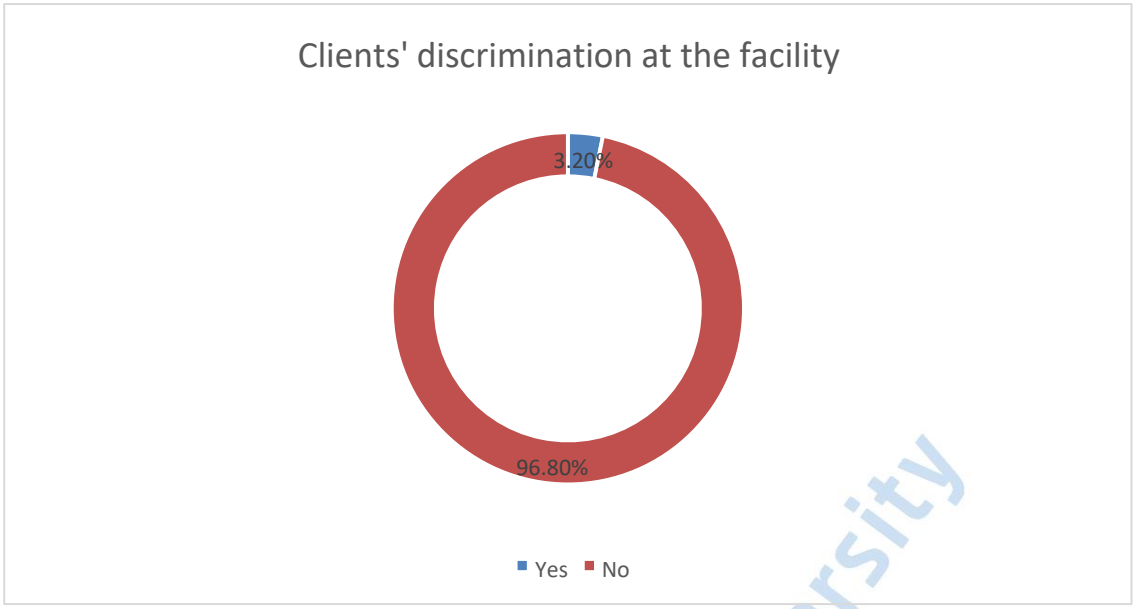

Figure 18: Clients discrimination at health centre

4.7 Summary of significant factors affecting utilization of postnatal services at Ngara Health Centre.

After cross tabulating various factors affecting utilization of PNC services, the study found the following factors significant at p value <0.05. These factors included; age of the mother, occupation of the mother, number of children the mother had, return date to the clinic given, mother had post-delivery complications, turnaround time for PNC services, reasons for seeking health care at the facility, client satisfaction with PNC services and reception of health messages after child immunization. All these factors had significant Chi-square p value or significant Fisher exact test p value.

To identify the determinants of utilization of postnatal care services at Ngara Health Centre, the researcher entered all these factors on a regression model and ran a step wise forward regression followed by backward step wise regression. The entry was set at 0.05 and removal at 0.1. Four factors were found to significantly determine the utilization of postnatal services. They included; number of children the mother had, history of loss of

a child, duration taken to receive postnatal care services and reasons for seeking postnatal care services (for checkup, or ill health of either mother or baby)

The Omnibus test of Model Coefficients was significant. The model was fit at p<0.001

Table 25: Chi-squire

Steps	Category	Chi-squire	Df	Sig
Step1	Step	35.400	4	.000
	Block	35.400	4	.000
	Model	35.400	4	0.000

Source: Field Data (2021)

Variables in the equation

Table 26: Omnibus test of Model

		B	S.E	Wald	Df	Sig	Exp(B)
Step 0	Constant	-.273	.162	2.828	1	.048	.761

Source: Field Data (2021)

The model indicated that the factors summarized in table 27 were significantly associated with community participation in rural health care programs.

Table 27: Regression table

Variable	B	S.E	Wald	Df	Sig.	Exp (B)	95% C.I for EXP(B)	
							Lower	Upper
How many children do you have	-.450	.216	4.323	1	.038	.638	.417	.975
Have you lost any child	-1.716	.844	4.137	1	.042	.180	.034	.939
How long did you take to receive postnatal care	-.657	.240	7.475	1	.006	.519	.324	.830
Why did you seek postnatal care	-.556	.194	8.223	1	.004	.574	.392	.839
Constant	7.242	2.028	12.758	1	.000	1397.484		

Source: Field Data (2021)

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

In this chapter, the researcher presents a summary of the major findings of the study. Based on these findings, conclusions are drawn which inform different recommendations to different stakeholders.

5.1 Summary of major findings

5.1.1 What is the level of utilization of PNC services?

Most respondents (53.7% overall) seldom or never used PNC. Less than half of the women in the research (45.9%) went to PNC at least twice in the first 42 days after giving birth, which is the minimum number of visits advised by GOK (2018). 51% of women had a postnatal checkup during the first two days following their most recent live delivery

(KDHS 2014). In comparison to antenatal care (where attendance is at 98%) and delivery (where skilled attendance is at 70%), it is clear that PNC services are underutilized and the weakest in the maternal neonatal continuum of care (KDHS 2014). The World Health Organization (2013) and the Government of the Kingdom of Sweden (G.O.K.) both urge for universal access to maternity care, therefore this is a long cry from what is needed (2018). Most respondents (53.7% overall) seldom or never used PNC.

In various contexts within African nations, low PNC attendance rates have been documented; a Lawn and Kerbe study (2016). Only 19% of post-natal moms in Ethiopia who were surveyed by the DHS went to a PNC during the first six weeks after giving birth (Mekonnen et al., 2017). One research found that just 34.6 percent of Congolese postnatal mothers had gone to PNC in the first 42 days after giving delivery (Dramax et al., 2012). Due to low use rates, many women and their babies experience a break in the continuity of treatment during this crucial time when improper care might lead to serious illness or even death. However, just 26% of research participants made it to the clinic within two weeks after receiving a PNC diagnosis, which is a crucial time frame. This is consistent with data from a research conducted in Uganda, whereby only 15.4% of mothers were seen within a week after giving birth (Izudi et al., 2015).

5.1.2 What are the clients factors influencing utilization of PNC services?

As for demographic characteristics, the respondents were drawn from different age groups with majority (55.5%) aged between 25-34 years. Majority of the respondents (80%) were married and most of them (40%) had attained secondary level of education. The monthly income level for majority of the respondents (57%) was Kenya shillings 5000 and below, and most of them (52.3%) were unemployed. Out of these

characteristics, age of the respondents significantly

As for client factors, majority of the mothers (43.2%) had one child and majority (92.3%) had not lost any child. Most of the respondents (39.8%) had attended more than four antenatal visits, and majority (72.9%) had had spontaneous vertex deliveries. As for length of hospital stay, majority (63.9%) of the mothers were discharged between 1-2 days post-delivery and majority (81.3%) were given a return date of between 1-2 weeks post-delivery. Majority of the participants (87.1%) never experienced complications post-delivery. Out of these client factors, number of children influenced utilization of PNC services ($p=0.018$), loss of a child at $p=0.02$, nature of return date given at $p=0.006$ and presence of complications after delivery at $p=0.003$. It was shown using regression analysis that respondents with a secondary or higher degree were more likely to use PNC services than those with a primary education. As an example, Titaley and colleagues discovered that higher levels of mother education significantly increased the likelihood that their children would seek medical attention while sick (Titaley et al., 2009). For several reasons, educational attainment is a significant factor in the selection of health care providers. Women with higher levels of education are better able to make informed decisions about their health care preferences and access to medical information. In fact, a 2016 research found that women with higher levels of education are more likely to be financially independent, to have more freedom both within and outside the home, to be self-assured in making choices about their health care, and to demand such services for themselves (Dhaher et al., 2016). Additionally, women who have completed higher levels of education are more likely to be up-to-date on the latest medical practices and be able to identify the symptoms of various diseases (Mrisho et al., 2018). Awusi et al. (2009) found that respondents who were married to a spouse with a college degree were more likely to use PNC services. Those who were self-employed were 65-70% less likely to

make use of the services than those who were employed by a company. It was determined via the FGDs that this is because moms had to take time away from their regular activities in order to visit the clinic, so losing earnings. Gaining employment is akin to gaining independence, which may have a knock-on effect on a family's financial situation and, in turn, encourage the use of health care services.

Lower and middle class respondents were found to be less likely to use services than those in the highest wealth level, suggesting that economic status is a predictor of service consumption. Women from wealthier backgrounds are more likely to get postnatal care, which is in line with the results of Wang et al. (2011) and Izudi et al.

(2015). In contrast to past studies, we found no correlation between the use of PNC services and a woman's marital status, religion, or parity (Mwaniki 2002, Rullbock et al., 2018).

Transportation choice was shown to be a predictor of PNC service utilization: individuals who drove themselves were more likely to use the service than those who used public transportation, and walkers were less likely to use the service than drivers. Higher educated people have a greater financial capacity to support a variety of transportation options. The research found that the quality of local transportation options was high, which might encourage people to make use of the services available.

5.4 Health Ssystems Factors Aassociated with PNC utilization

There was a positive predictive relationship between service quality expectations and actual PNC use. Those who gave positive feedback about a service's quality were 52% more likely to use it than those who gave negative feedback. These findings are consistent with those of other studies (Onah, et al., 2016; Mrisho et al., 2016; Kamau 2014) that found that factors such as the timeliness of care, the expertise of medical professionals, the desire for privacy, the perception of the availability of necessary equipment, and the

friendliness of staff all played a role in whether or not people used health services. Where several options exist, patients are willing to go longer if they believe that one of those options will provide them with better treatment (Gbrysch & Campbell, 2016).

They also said that regardless of how accessible a facility may be, if its quality is low, it will be underutilized. These results were found to be consistent with those of the FGDs, which revealed that many local women come to a certain hospital because to the high quality of care it is said to provide. The moms in this research were not deterred by the cost of care, and those who had to pay for PNC services were more likely to use them than those who received them for free. Important in our system when maternity care is provided at no cost to the mother, yet the women seem to have prioritized service

quality.

It is clear from this research that the moms received inhumane treatment; these findings corroborate those of previous Kenyan studies that have revealed similar cases of disrespectful treatment of patients (Centre for Reproductive Rights and Federation of Women Lawyers, 2017). According to Bowser et al., disrespectful care is a significant barrier to service use (2014). Consistent with the results of this research, which showed that neither distance nor cost of treatment discouraged PNC usage, Rosman et al. (2016) found that women "vote with their legs," choosing to travel to the facility they believe to provide the best care. Considering that just 15% of the moms reported knowing about PNC services, it is likely that many HCWs are failing in their duty to notify them. Titaley et al., (2017) found similar results; they found that even among women who gave birth in a health institution, many reported not receiving appointments for the services on discharge. Women who gave birth in a private or faith-based hospital were more likely to utilize PNC services. This may be because these facilities can better cater to each

patient's unique needs. Izudi et al. (2015), Gbrysch, and Campbell have all found results that are consistent with these (2017).

The KDHS reports that only 43% of the population as a whole has completed high school, therefore the high education level of the participants in this research may be a contributing factor to the excellent quality seen here (2014). Education has been linked to a greater awareness of one's rights and the expectation of receiving high-quality services (Titaley et al., 2009, Awusi et al., 2017).

5.1.3 What are the health facilities factors influencing utilization of PNC services?

As for health facility related factors, most of the mothers (48.4%) covered 1-5 kilometers to access the facility and most of them (43.9%) had attended two ANC clinics in the latest pregnancy. Most mothers (47.4%) reported a facility turnaround time of 30 minutes, and majority (74.8%) honored return dates because they had been instructed by the health providers. Majority (77.4%) reported that they were satisfied with the PNC services offered and 98.7% were seeking immunization services during the PNC visits.

Majority (54.5%) reported that the health providers asked about the health condition of the babies, and 67.7% reported to have been examined after their babies had been immunized. Moreover, 71% reported to have received health messages from the health providers. Majority of the respondents (96.8%) reported that the services were nondiscriminatory and gave suggestions of service delivery improvement. These included; ensuring mothers spend less time during the clinics, after health education the mothers to do return demonstrations and mothers to be given feedback.

Out of these factors, turnaround time significantly influenced utilization of PNC services ($p=0.001$), reason for seen PNC services at $p=<0.001$, client's satisfaction at $p=0.037$ and health education of the mother after babies immunization at $p=0.041$ Those who assessed their familiarity with PNC services as low were also found to use them less often. It

became clear throughout the FGDs that women in the research group were unsure about the frequency and components of PNC services, which might delay the start of care for both mother and child. Women's low use of PNC services has been linked to their unawareness of its significance and their perception of not having a need for it, particularly if they are currently healthy (Lullbock et al., 2016). Most mothers were aware of PNC services, but many were unsure of when they should seek them.

This study's findings suggest that moms' knowledge of PNC service focuses mostly on the vaccination component. Patients with a more favorable outlook on care were more likely to make use of PNC services. Women who do not experience any symptoms after giving birth often do not understand the need of postnatal care in maintaining good health. According to Dhaher et al. (2009), the primary reason why women do not seek PNC services is because they do not believe they need them. Other research have shown similar results. Many mothers say their primary reason for using PNC services is to get their children immunized, therefore they only bring their kids in for checkups when it's time for their shots, as reported by Warren et al. (2016). The World Health Organization (2013) suggests postnatal care for all mothers and infants, even those who do not perceive any problems, for the purpose of a general assessment of their physical and mental well-being. This is because women may ignore some of the negative health outcomes that can occur during the puerperium because they may not notice the early or initial signs. There is a common misconception that only mothers and infants with health issues need to actively seek out postnatal care.

5.1.4 Regression analysis

Four factors were found to significantly determine the utilization of postnatal services. They included; number of children the mother had, history of loss of a child, duration

taken to receive postnatal care services and reasons for seeking postnatal care services (for checkup, or ill health of either mother or baby)

5.2 Conclusions

- The level of utilization of PNC services was low
- Majority of the respondents were generally satisfied with services at Ngara Health Center, and felt that services rendered were non-discriminatory
- The higher the number of children that a mother had, the higher the chances that she would seek PNC services at Ngara Health Center
- Loss of a child significantly influenced uptake of PNC services where mothers with such history were likely to seek services at Ngara Health Center
- Mothers cared about turnaround time and would take up PNC services if turnaround time would reduce
- The underlying motivation for seeking PNC services is to have the baby checked for illness or to receive pending immunizations.

5.3 Recommendations

- The government should ensure that by use of qualified and experienced personnel that they educate the communities on the importance of PNC.
- The health care providers should be time conscious when handling clients at the clinic in order to reduce the overall turnaround time, to avoid missed opportunities.
- The health care providers should emphasize the need for checking maternal health status so that mothers would come for PNC services, even if the baby does not have any health need or pending immunizations.

- The research took a survey of some of the ways the clients perceived that can improve the care they receive. These included; ensuring mothers spend less time during the clinics, after health education the mothers to do return demonstrations and mothers to be given feedback.

5.4 Recommendations for Further Research

Further research on the factors that influence PNC service use is needed.

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APPENDICES

Appendix I: Letter of Introduction

MARY WANJIRU KAMAU.
MOUNT KENYA UNIVERSITY.
PO BOX342-01000 THIKA.

THE DIRECTOR OF HEALTH,
NAIROBI COUNTY,
P.O BOX, 34349-00100
NAIROBI.

THE INCHARGE,

NGARA HEALTH CENTRE,
P.O. BOX ,34349-001 NAIROBI.

RE: <u>PERMISSION TO CONDUCT A RESEARCH</u> I am pursuing a master of science in Nursing (Midwifery) at Mt Kenya university, and I intend to carry out a research under the following topic: Factors influencing postnatal care at Ngara Health Centre, Nairobi County.

I hereby seek consent to carry out the research on the above topic, in your institution.

Upon completion, I will provide feedback on the findings of the study. Thank you.

Yours Faithfully,

Mary Wanjiru Kamau.

MScN/54101/2016

Appendix

II: Consent Form

Research title:

Factors Associated with Utilization of Postpartum in Ngara health centre, Nairobi County

Introduction:

My name is Mary Kamau, and I am a post-graduate student at Mount Kenya University pursuing a masters of science in nursing and midwifery. Because it is a requirement for my degree program, I am doing research at the Ngara Health Centre in Nairobi County to discover the factors that influence women's use of postnatal care services. You were chosen at random to take part in this study.

I sincerely invite you to take part in the research; but, before you can decide whether or not to join, I would want to clarify what the study comprises.

The objective of the research.

According to the study's objectives, variables that are linked with usage of post-natal care in the Starehe subcounty will be identified and evaluated. The findings of the study will provide information to those involved in maternity and neonatal health about some of the reasons why women in Starehe subcounty do not get post-natal care, as well as how to provide better post-natal care.

Following the completion of the research, the material gathered will be used to produce a report, which will then be presented as a dissertation to Mount Kenya University's School of Nursing.

Although there are no immediate incentives for you, the information you provide will be very valuable. By using it, policymakers will be able to enhance the delivery of postpartum care in health-care institutions.

Risks

Participating in this research has no hazards or risks, but it will need you to devote some of your time to provide the necessary information. Certain personal information may be requested, but the replies you submit will be anonymous and private, and they will not be used against you in any manner. There will be no negative consequences to you or our institution as a result of the information you provide.

For your involvement in this research, you will not get any monetary or other kind of reward in exchange for your time.

Confidentiality

Everything that the informants contribute to this research will be kept strictly secret. Your name will not show on any of the forms used to gather the data. Only codes will be used to identify you and your belongings. It is intended that only the study investigator and the research assistants have access to the forms that will be used to collect data. The forms will be stored under lock and key, and only the researchers and research assistants will have access to them.

Participation is entirely voluntary.

You are under no obligation to provide a response to any question to which you do not want to reply, and you have the freedom to withdraw from the discussion at any time if you feel uncomfortable. Your candid replies to these questions, on the other hand, will help us get a better understanding of how to enhance the services we provide. Expected time in the interview.

About 30 minutes for every questionnaire will be used.

Contacts of Researcher

If you have any questions regarding this study during and after the study you are free to contact the principal researcher; Mary Kamau on telephone 0723290699or Email: wanjirukam@yahoo.com

Or

The Chairman Mount Kenya University, Ethics Review Committee (MKU-ERC) P O Box 342 – 01000 THIKA

After my explanation regarding the study, would you be having any questions?

Consent certificate_____ having read through and been clarified to concerning the study, I have also been given opportunity to inquire any concern about it and the queries enquired responded to my fulfillment. I therefore give my consent willingly to participate as participant in this study.

Participant's name _____

Participant's signature _____ Date------/……/ .....

Statement by the researcher/person taking consent

After having correctly read out information on this page to the potential participants to the best of my ability, I confirm that the participants has not been forced to consenting,but has given the consent in a voluntary way.

Appendix

III: Consent form (Kiswahili)

Utafiti:Tathmini ya kata ya Nairobi.
Utangulizi:
Jina langu ni Mary Kamau. Mimi ni mwanafunzi katika chuo kikuuu cha Mount Kenya. Mimi ninafanya utafiti katika vituo vya afya katika Wilaya ya starehe,ili kujua ni sababu gani zinazo fanya kina mama kupata au kutopata huduma ya afya ya baada ya kujifungua. Utafiti utatimiza nusu ya mahitaji ya shahada ya Masters ya uuguzi katika Chuo Kikuu cha Mount Kenya. Wewe umechaguliwa kushiriki.
Naomba muda wako wa kama dakika thelathini ili uweze kujibu baadhi ya maswali yangu. Kwanza nitapitia fomu ya idhini kukusaidia kuelewa utafiti ili kukuwezesha kuamua kama utashiriki au la.

Madhumuni ya utafiti.

Lengo la utafiti huu ni kutathmini sababisha kina mama kupokea au kutopokea matibabu ya baada ya kujifungua kama inavyotakikana. Utafiti huu utawajulisha wadau wa afya ya uzazi nawatoto changamoto na vizuizi vinavyokubana na akina mama wanapojifungua zizowazuia kupata matibabu wanayohitajika kupata. Hii itawasaidia kuelewa ni mikakati gani inaweza kuwekwa ili kuwawezesha wamama kuzipata hizi huduma.

Faida.

Nitatumia taarifa utakayonipa kuandika ripoti kwa ajili ya kazi yangu ya kitaaluma. Habari hii inaweza kutumiwa na watunga sera kuboresha utoaji wa matibabu ya baada ya kujifungua kwa akina mama wanaojifungua. Hii italeta matokeo mazuri katika afya ya akina mama na watoto wachanga na kupunguza matukio ya maradhi na vifo wakati wa kipindi cha kwanza baada ya kujifungua.

Hatari

Huwezi kuwa kwa hatari yoyote ukishiriki katika utafiti huu. kujitolea katika mahojiano haya haiwezi ikakuathiri wewe au kituo hiki kwa njia yoyote.
Sehemu yako katika utafiti Nakukaribisha wewe kama mama kunipa maoni yako na taarifa juu ya huduma ya afya kwako ya baada ya kujifungua uliopeata. Utanielezea pia vile wewe unafahamu juu ya hii huduma. Fidia
Hutapokea fedha yoyote au fidia nyingine kwa ajili ya kushiriki katika utafiti huu.

Usiri

Taarifa zote ambazo zitakusanywa na mradi huu itakuwa siri. Taarifa itapatikana kwa mtafiti peke yake. Nakala za majibu zitakua bila.
Hiari ushiriki
Huna rasma ya kutoa jibu la swali ambalo hutaki kujibu, na una haki ya kuacha kushiriki katika hatua yoyote kama wewe utajisikia vibaya. Hata hivyo majibu yako na uaminifu kwa maswali haya itatupa ufahamu bora wa matibau ya baada ya kujifungua anayopewa mama.

Muda

Inatarajiwa wakati wa mahojiano utachukua takriban dakika 30.
Nini kinatokea kwa habari?
Taarifa zote zinazotolewa zitatumika kuandika taarifa na itawasilishwa kama dissertation katika Chuo Kikuu cha mount kenya .. Nakala itapatikana katika Chuo Kikuu cha mount Kenya chuo cha sayansi uuguzi
. Unaweza kupata nakala kwa kuwasiliana na mimi kwa anuani ifuatayo.

Mawasiliano

Kama una tatizo wasiwasi, au maswali yanayohusiana na utafiti huu tafadhali wasiliana na

mimi, au kamati ya maadili county ya Nairobi ya kwa anwani ifuatayo:
Mary kamau kwa simu 0723290699 au Email: wanjirukam@yahoo.com
Ama The Chairman Mount Kenya University, Ethics Review Committee (MKU-ERC) P O Box 342 – 01000 THIKA
Jina la mshirik.....Saini ya Mshiriki.....Tarehe...../...../..... Taarifa ya mtafiti / mtu kuchukua ridhaa
Baada ya kusikiliza habari hii una maswali yoyote?
Hati ya Idhini Nimesoma habari hapo juu. Nimepewa muda wa kuuliza maswali kuhusu utafiti huu na maswali ambayo nimeomba yamejibiwa na nikaridhika. Mimi nakubali kwa hiari kushiriki katika utafiti huu.

Appendix

IV: Questionnaire

Mothers' questionnaire

Section 1: SOCIO- DEMOGRAPHIC INFORMATION

No.	Question		Coding Category	Tick (√)
Q1	How old are you?	1	15-24 years	
			25-34 years	
		2 3	35-44 years	
		4	Above 44 years	
Q3	What's your marital status	1	Single	
		2	Married	
		3	Widowed	
		4	Separated	
		5	Divorced	
Q4	What's your highest level of education? (one response only)	1	No education	
		2	Adult education	
		3	Primary education	
		4	Secondary education	
		5	College Certificate	
		6	Diploma	
		7	Bachelor's Degree	
		8	Master's degree	
Q5	What is your current occupation?	1	Formal employment	
		2	Self employed	
		3	Casual job	
		4	unemployed	
Q6	What is your approximate household income in a month?	1	≤5000	
			5001 to 10000	
		2 3 4	10001 to 15000	
			15001 to 20000	
		5	Above 20000	
Q7		1	Less than 1Km	

	How far from this facility do you live?	2	1 to 5 Km	
		3	More than 5Km	

Section 2 Obstetric History

No.	Question		Coding Category	Tick (√)
Q8	How many children do you have?	1	None	
			One	
		2 3	Two	
		4	Three	
		5	Four	
		6	Above four	
Q9	Have you lost any child?		Yes	
		1 2 1	No	
Q10	Where was this baby born?		Home	
		2	Health facility	
Q11	During this baby's pregnancy, how many ANC visits did you attend?	1 2	None	
			One	
		3	Two	
		4	Three	
		5	Four	
		6	More than four	
Q12	What was the mode of delivery for this baby?	1	Normal	
		2	Caesarean	
Q13	How long did you stay in the hospital after delivery?		1-2 days	
		1 2 3	3-4 days	
			5-6 days	
		4	More than 6 days	
Q14		1	None	

Appendix

	What return date were you given for postnatal care?	2	24-48 hours	
		3	1-2 weeks	
		4	6 weeks	
Q15	Did you have complications during or soon after delivery?	1	Yes (Go to Q16)	
		2	No	
Q16	If yes, which ones?			
Q17	Did you feel discriminated against by the health workers in any way?	1	Yes	
		2	No	

PNC INFORMATION

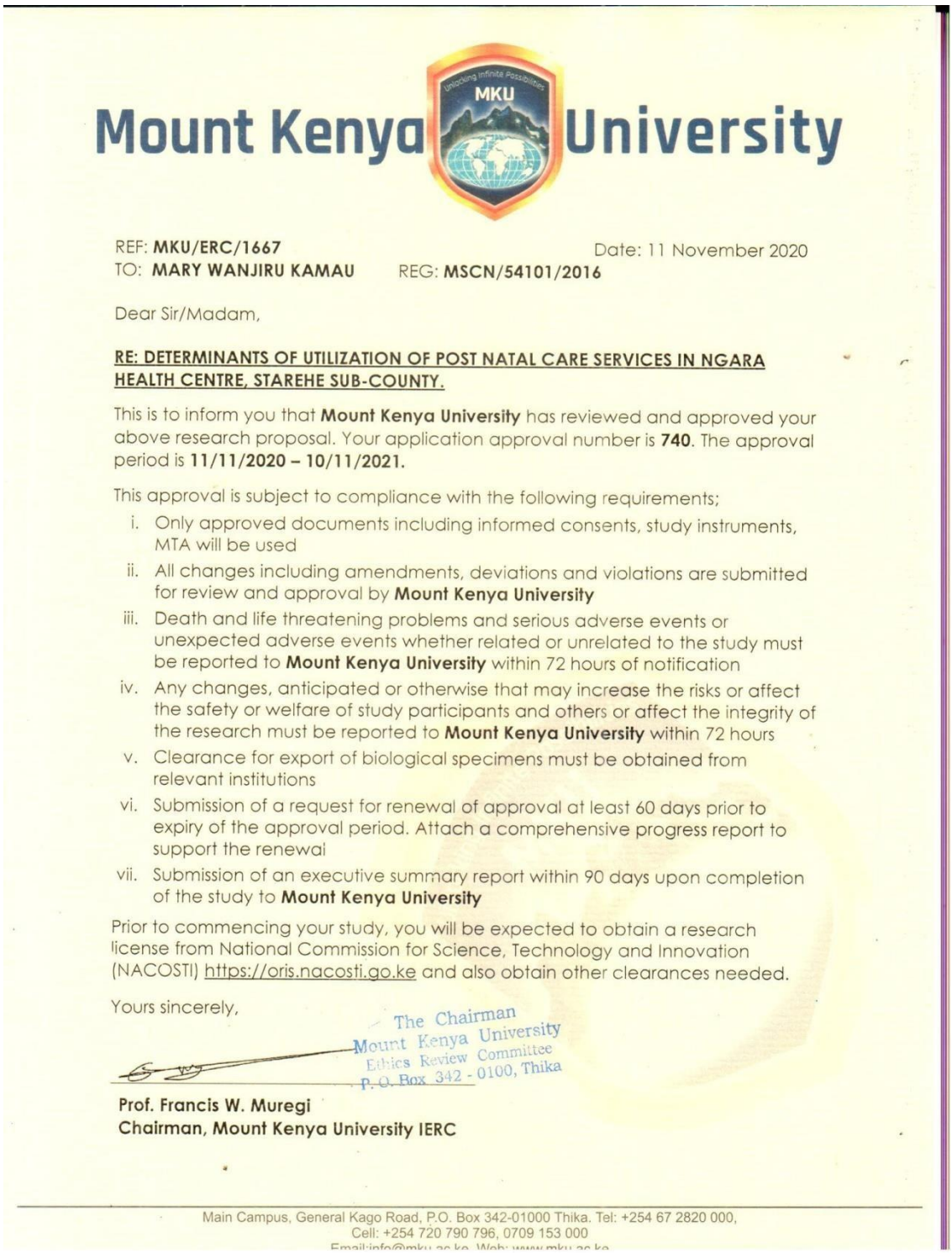
No.	Question		Coding Category	Tick (√)
Q18	How many postnatal clinics have you attended?		1	
		1	2	
		0 2 3 1	3	
			4	
Q19	How long does it take to receive postnatal care services?		30 minutes	
		2	30 minutes-1 hour	
		3	More than one hour	
Q20	Why did you seek postnatal care?	1	For my checkup	
		2	For my baby's check-up	
		3	I was unwell	
		4	My baby was unwell	
		5	Health care worker asked me to go back	
Q21	To what extent were you satisfied with PNC services during the last visit?	1	Very satisfied	
		2	satisfied	
		3	unsatisfied	
		4	Very unsatisfied	
Q22	Why were you satisfied?	1	Attended in good time	
		2	Friendly staff	
		3	Other (specify)	
Q23	Why were you dissatisfied?	1	Long waiting time	
		2	Unfriendly staff	
		3	Other (specify)	
Q24	Why did you not seek PNC?	1	I was not sick	
		2	I was not given return data	
		3	Facility was far	
		4	Services were poor	

		5	Other (specify)	
Q25	Have you ever taken your child for immunization?	1	Yes	
		2	No	
No.	Question		Coding Category	Tick (√)
Q26	When the baby was immunized, did the health worker ask whether you had any health problems	1	Yes	
		2	No	
Q27	When the baby was immunized, did the health worker examine you?	1	Yes	
		2	No	
Q28	When the baby was immunized, did the health worker give you information on your health?	1	Yes	
		2	No	
Q29	Did you feel discriminated against by the health worker in any way?	1	Yes (Go to Q 30)	
		2	No	
Q30	How did the health worker discriminate against you?			
Q31	How can PNC services be improved?	1		
		2		
		3		
		4		

THE END

THANK YOU FOR YOUR TIME

Appendix V: ERC Authorization



Mount Kenya University

REF: **MKU/ERC/1667** Date: 11 November 2020
TO: **MARY WANJIRU KAMAU** REG: **MSCN/54101/2016**

Dear Sir/Madam,

RE: DETERMINANTS OF UTILIZATION OF POST NATAL CARE SERVICES IN NGARA HEALTH CENTRE, STAREHE SUB-COUNTY.

This is to inform you that **Mount Kenya University** has reviewed and approved your above research proposal. Your application approval number is **740**. The approval period is **11/11/2020 – 10/11/2021.**

This approval is subject to compliance with the following requirements;

i. Only approved documents including informed consents, study instruments, MTA will be used
ii. All changes including amendments, deviations and violations are submitted for review and approval by **Mount Kenya University**
iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to **Mount Kenya University** within 72 hours of notification
iv. Any changes, anticipated or otherwise that may increase the risks or affect the safety or welfare of study participants and others or affect the integrity of the research must be reported to **Mount Kenya University** within 72 hours
v. Clearance for export of biological specimens must be obtained from relevant institutions
vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal
vii. Submission of an executive summary report within 90 days upon completion of the study to **Mount Kenya University**

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

Yours sincerely,

The Chairman
Mount Kenya University
Ethics Review Committee
P. O. Box 342 - 0100, Thika

Prof. Francis W. Muregi
Chairman, Mount Kenya University IERC

Main Campus, General Kago Road, P.O. Box 342-01000 Thika. Tel: +254 67 2820 000,
Cell: +254 720 790 796, 0709 153 000
Email:info@mku.ac.ke Web: www.mku.ac.ke

Appendix

VI: NACOSTI Authorization

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **278656**

Date of Issue: **19/January/2021**

RESEARCH LICENSE

This is to Certify that Miss.. MARY WANJIRU KAMAU of Mount Kenya University, has been licensed to conduct research in Nairobi on the topic: DETERMINANTS OF UTILIZATION OF POSTNATAL CARE SERVICES IN NGARA HEALTH CENTRE,STAREHE SUB-COUNTY for the period ending : 19/January/2022.

License No: **NACOSTI/P/21/8448**

278656

Applicant Identification Number

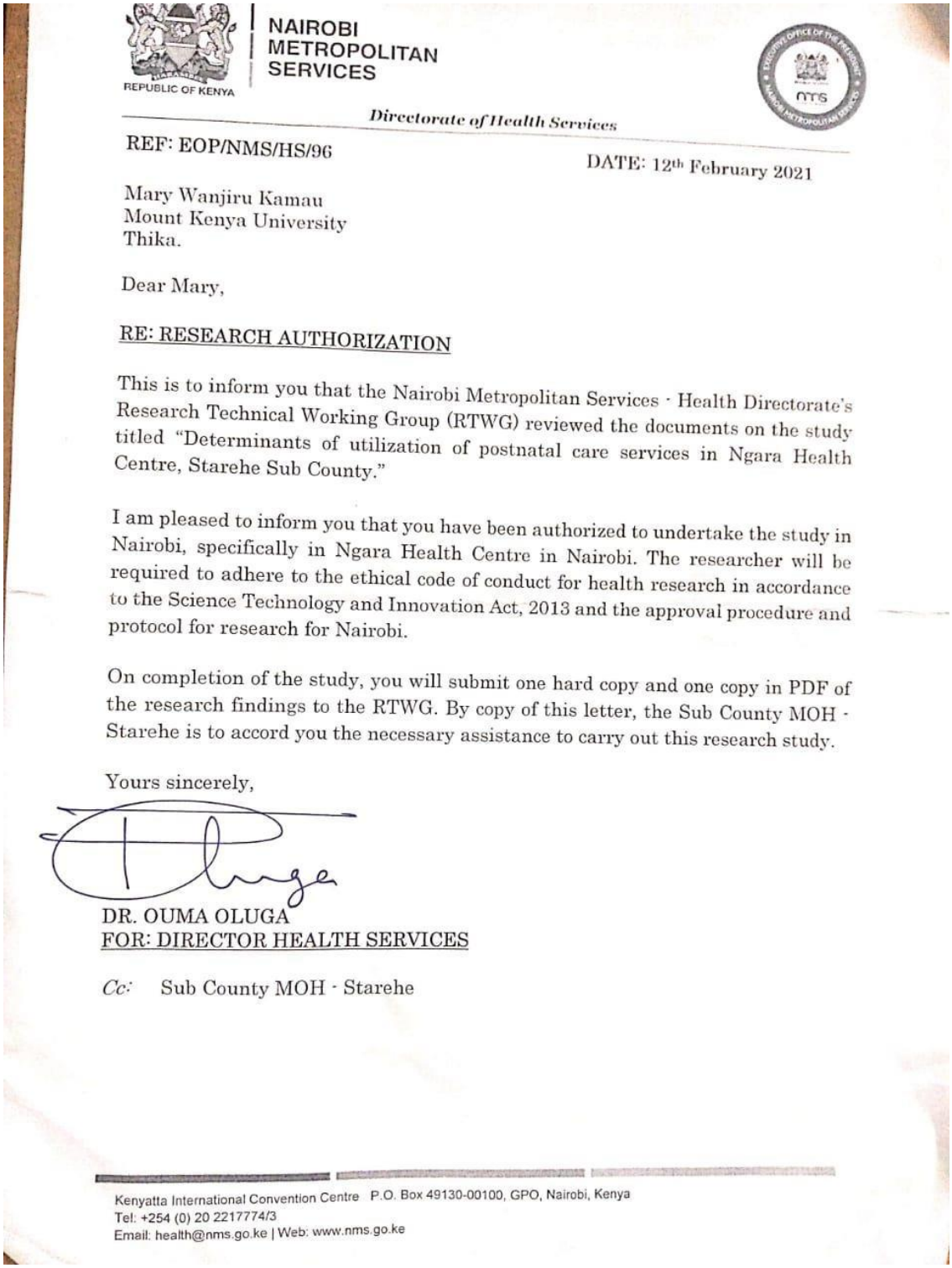
Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

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

Appendix

VII: NMS Authorization



REPUBLIC OF KENYA

NAIROBI METROPOLITAN SERVICES

Directorate of Health Services

REF: EOP/NMS/HS/96

DATE: 12th February 2021

Mary Wanjiru Kamau
Mount Kenya University
Thika.

Dear Mary,

RE: RESEARCH AUTHORIZATION

This is to inform you that the Nairobi Metropolitan Services - Health Directorate's Research Technical Working Group (RTWG) reviewed the documents on the study titled "Determinants of utilization of postnatal care services in Ngara Health Centre, Starehe Sub County."

I am pleased to inform you that you have been authorized to undertake the study in Nairobi, specifically in Ngara Health Centre in Nairobi. The researcher will be required to adhere to the ethical code of conduct for health research in accordance to the Science Technology and Innovation Act, 2013 and the approval procedure and protocol for research for Nairobi.

On completion of the study, you will submit one hard copy and one copy in PDF of the research findings to the RTWG. By copy of this letter, the Sub County MOH - Starehe is to accord you the necessary assistance to carry out this research study.

Yours sincerely,

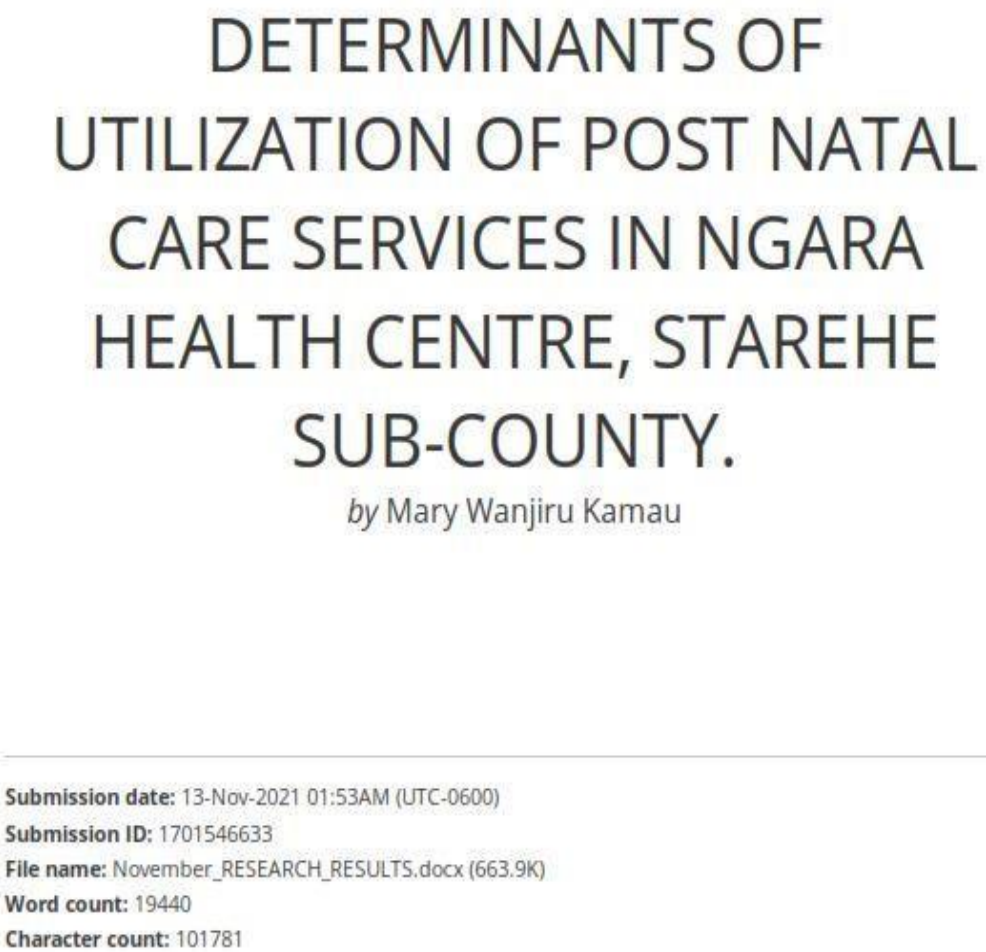
DR. OUMA OLUGA
FOR: DIRECTOR HEALTH SERVICES

Cc: Sub County MOH - Starehe

Kenyatta International Convention Centre P.O. Box 49130-00100, GPO, Nairobi, Kenya
Tel: +254 (0) 20 2217774/3
Email: health@nms.go.ke | Web: www.nms.go.ke

Appendix

VIII: Similarity Index



Appendix

DETERMINANTS OF UTILIZATION OF POST NATAL CARE SERVICES IN NGARA HEALTH CENTRE, STAREHE SUB-COUNTY.

ORIGINALITY REPORT

20%	18%	6%	7%
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BANGLADESH", Asian Population Studies, 2009
Publication

111 Ahmad Siyar Noormal, Volker Winkler, Ali Maisam Eshraqi, Andreas Deckert, Shinkay Noormal, Iftekhar Sadaat, Peter Dambach. "Factors Influencing the Uptake of Short-term Contraceptives Among Women of Reproductive Age in Afghanistan Further Analysis of Afghanistan Demographic and Health Survey 2015 (A Cross Sectional Study)", Research Square Platform LLC, 2021 <1%
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