

**FACTORS INFLUENCING UTILIZATION OF
POSTNATAL CARE SERVICES AMONG WOMEN OF
REPRODUCTIVE AGE ATTENDING CHILD WELFARE
CLINIC AT KISII TEACHING AND REFERRAL
HOSPITAL, KISII COUNTY, KENYA**

NICHOLAS ONGERA MAYIEKA

MASTER OF SCIENCE

(Public Health)

**JOMO KENYATTA UNIVERSITY OF
AGRICULTURE AND TECHNOLOGY**

2019

**Factors Influencing Utilization of Postnatal Care Services among
Women of reproductive Age Attending Child Welfare Clinic at Kisii
Teaching and Referral Hospital-Kenya**

Nicholas Ongeru Mayieka

**A thesis Submitted in partial Fulfillment for the Degree Master of
Science in Public Health in the Jomo Kenyatta University of
Agriculture and Technology**

2019

DECLARATION

This thesis is my original work and has not been presented for a degree in any other university.

Signature..... Date.....

Nicholas Ongera Mayieka

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

Signature..... Date.....

Prof. Gideon Kikuvi, PhD

JKUAT, Kenya

Signature..... Date.....

Dr. Daniel Mokaya

JKUAT, Kenya

DEDICATION

I dedicate this thesis to my late mother Elizabeth Kemuma for her love of education; she always dreamt of better maternal and child health – which provides much of background for this work. She called out and nurtured my potential, went through great pain to ensure I got the basic education and taught me the value of hard work. Lastly, my dedication goes to my wife and son Junior for their love and encouragement throughout the period of study.

ACKNOWLEDGEMENTS

I wish to sincerely thank the Almighty God and appreciate all the people who supported me when I was conducting this study. In a special way, I would like to acknowledge the following:

1. My Supervisors at the School of Public Health, Prof. Gideon Kikuvi and Dr. Daniel Mokaya for their unwavering and tireless support and guidance.
2. Kisii Teaching and Referral Hospital Administration for granting permission to carry out the study in the facility.
3. All study participants for consenting to take part in this study.

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LIST OF ABBREVIATIONS AND ACRONYMS

ANC	Antenatal Care
PNC	Postnatal Care
CWC	Child Welfare Clinic
MOH	Ministry of Health, Kenya
GOK	Government of Kenya
KDHS	Kenya Demographic and Health Surveys
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
WHO	World Health Organization
SPSS	Scientific Package for Social Science
KNH -UON ERC	Kenyatta national hospital-university of Nairobi ethics and research Committee
DHIS	District Health Information System
FP	Family Planning
KEPH	Kenya Essential Package for Health
KNBS	Kenya national Bureau of Statistics
IMR	Infant Mortality Rate
SDGs	Sustainable Development Goals
HRH	Human Resource for Health
MNCH	Maternal Newborn and Child Health
NMR	Neonatal Mortality Rate
PPH	Post-Partum Hemorrhage
SSA	Sub-Saharan Africa
PMTCT	Prevention of Mother to Child Transmission

DEFINITIONS OF TERMS

- Child welfare clinic:** - monitor and support the physical, mental and social development of the child and, if necessary, arrange for them to be examined and to receive treatment elsewhere.
- Focused postnatal care:** - personalized assessment after birth up to six months. It has four scheduled visits, within 48 hours, within 2 weeks between 4 to 6 weeks and at six months.
- Infant mortality:** - probability of dying before the first birthday.
- Maternal health:** - Refers to the wellbeing of a mother during pregnancy and after birth.
- Maternal mortality:-** Is the death of a woman while pregnant or within 42 hours of termination of the pregnancy irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by pregnancy and its complications but not from accidental or incidental causes (WHO, 2012)
- Neonatal mortality:** - the probability of dying within the first 28 days of life.
- Postnatal Care Services:** - are preventive care practices and assessments that are designed to identify and manage or refer complications for both the mother and the baby.
- Postnatal care utilization:-**the mother and her new born had at least three check-up attended by a health care worker in the postnatal care period (42 days).
- Postnatal clinic:** - in this study postnatal refers to a clinic in a public health facility where postnatal and physical examinations are conducted on the mother and the Newborn and the necessary care to address given needs (Birrell & Birrell, 2000).

ABSTRACT

It is a disaster to witness mothers and their young ones losing their lives from preventable maternity related causes, 30 – 40% of maternal deaths in Africa are due to hemorrhage, mostly in postpartum period. A large proportion of maternal deaths occur during the first 48 hours after delivery. Yet this is when coverage and programs are at their lowest along the continuum of care. In Sub-Sahara Africa only 13% attended postnatal care, 57% utilized PNC services in Kenya, while in Nyanza region where Kisii County falls under had the highest post neonatal mortality 31/1000 live births (KDHS, 2014). The objective of the study was to determine the factors that influenced utilization of postnatal care services among women of reproductive age attending Kisii Teaching and Referral Hospital. It was a descriptive cross-sectional study that utilized quantitative techniques targeted 268 mothers with children aged 7 to 14 weeks who attended child welfare clinic. Data was collected using semi-structured and pretested interviewer administered questionnaires and analyzed using IBM SPSS version 23 after cleaning, coding and entry. Logistic regression was fitted, possible association and statistical significance were measured using odds ratio at 95% confidence interval and $P < 0.05$. The research was approved by Kenyatta National Hospital/ University of Nairobi Ethics Review Committee, also informed consent was obtained from all participants after fully explanation of the study design and purpose. Overall, it is about 35.8% of the participants, who utilized postnatal services, 70% of the participants were aged between 21 to 30 years. Participants who were employed were more likely to utilize postnatal care services (OR 2.1, 95% CI 1.1 to 4.0, $P = 0.022$). Furthermore, participants who were taught about postnatal care services during the antenatal clinic were more likely to utilize postnatal care services (OR 2.3, 95% CI 1.2 to 4.4, $P = 0.008$). Morbidity and Mortality occasioned by majority (64%) who were found not to have utilized PNC services will continue to pose serious challenges in effort towards addressing maternal and child care. Place of delivery, accessibility to health facility, teaching about PNC during ANC visit and health work force had direct association with PNC utilization. There is need for enhanced advocacy and communication to the mothers on the importance of PNC services and scheduling mothers based on the national PNC follow-up would increase the utilization.

CHAPTER ONE

INTRODUCTION

1.1 Background Study

Postnatal care (PNC) is the care provided to women and newborns in the first six weeks after birth while Postnatal period is the time interval that starts from the birth of the baby to six consecutive weeks with recommended time visit, that is 6-24 hours, day 3, week 2 and week six following childbirth (WHO, 2014). Postnatal period is very crucial to the health and wellbeing of the mother and her newborn (Landge *et al.*, 2017).The ineffective utilization of PNC services has made both the mother and the child vulnerable to morbidity and mortality in low and middle income countries. Even though the health of the mother is highly regarded as the health of the society, more than 289,000 maternal deaths occurred globally every year due to pregnancy, childbirth or the postnatal period complications, of which two thirds maternal deaths occur after delivery which shows the significance of postnatal period. Maternal mortality remains unacceptable high across much of the developing countries especially Sub-Saharan Africa and South Asia accounting for 87% of maternal deaths (WHO, 2014), a large proportion occurring during the first 48 hours after delivery with postpartum hemorrhage being the major cause.

Globally, more than half a million women die each year from complications of pregnancy and childbirth, a large proportion of maternal deaths occur during the first 48 hours after delivery and accounting to 99% in developing countries(WHO,2013) .The maternal mortality in sub-sahara Africa averages to 640 deaths per 100,000 live births. Every year ,3 million neonates die within their first month of life, representing 40% of all deaths of children under the age five (WHO, 2014) .In Sub-Sahara Africa one in nine children dies before the age of five, which is more than the average number of deaths in developed countries (Lozano *et al.*, 2011) .The care during puerperium for the woman has influence on maternal deaths if the woman does not attend post-natal care services and yet this is one of the most important maternal health-care services for not only prevention of impairment and disabilities but also reduction of maternal mortality (UNICEF, UNFPA, 2010).

As a result, millennium development goal 4 and 5 focused on reduction of child mortality by two-thirds and reduction of maternal mortality by three-quarters between 1990 and 2015, respectively (Chola *et al.*, 2015; Lancet, 2010). The United Nations have set targets for 2030 to further reduce child and maternal mortality (Kamau *et al.*, 2015).

Considerable progress has been made globally in improving maternal health. Around the world, 72% of women give birth attended by skilled personnel and the maternal mortality ratio has decreased from 380 to 210 per 100,000 live births between 2000 and 2013. Yet in South-East Asia and Sub-Sahara Africa only 67% and 48% of women give birth with the assistance of skilled personnel, respectively (WHO, 2014). Postnatal care reaches even fewer women and newborns: less than half of women receive postnatal care visit within 2 days of childbirth (Lawn *et al.*, 2014). An analysis of demographic and health survey data from 23 Sub-Sahara African Countries found that only 13% of women who delivered at home received postnatal care within 2 days of birth (WHO, UNICEF, UNFPA, World Bank and UN Population Division, 2014). Maternal Health is a challenge and efforts need to be put in place to achieve the global goal of reducing the maternal mortality ration to less than 70 per 100,000 live births by the year 2030 (WHO, 2015)

Postnatal care services can be defined as preventive care practices and assessments that are designed to identify and manage or refer complications for both the mother and the neonate in the first six weeks after birth (WHO, 2014). Typically, such services include an integrated package of routine maternal and neonatal care as well as extra care for the neonates that are considered particularly vulnerable because, for example, they are preterm, have low birth weight, are small for gestation age or have mothers infected with Human Immunodeficiency Virus (HIV) (WHO, 2006).

1.1.1 Possible interventions for the mother

Iron and folic acid supplementation for at least 3 months, Screening for-and treatment of-infection, hemorrhage, thromboembolism, postnatal depression and other conditions. Prophylactic antibiotics given to women who have third-or fourth-degree perinea tear, Counseling on early and exclusive breastfeeding, nutrition, birth

spacing and family planning options-including any available contraceptives (WHO, 2014).

1.1.2 Possible interventions for the neonate

Care of the umbilical cord. A special care for preterm, low birth weight and HIV infected neonates (WHO, 2014), Screening, treatment of infections and postnatal growth restrictions. Assessment of factors predisposing through infant anemia and teaching the mother to seek additional care for her neonate if she notices danger signs such as convulsions or problem with feeding.

Complications following the childbirth are more common and aggravated in developing countries. The long-term maternal complications in the postnatal period include chronic pain, impaired mobility, damage to the reproductive system and infertility (Safe Motherhood, 2012), some women suffer genital prolapse after bearing several children, this condition is extremely uncomfortable and can lead to other complications in future pregnancies if not properly addressed in the postnatal period (Koblinsky, Chowdhury, Moran, & Ronsmans, 2012).

Safe motherhood alert (2008) reported that the factors which prevent women in developing countries from getting postnatal care include distance from the health services; cost, including direct fees and the cost of transportation, multiple demands on women's time, women's seek of power in decision-making within the family; and poor quality of services including poor handling by the health service providers.

The picture is different in developed countries, according to the World Health Organization (2012) 90% of mothers received postnatal care. Hode *et al.* (2011) reported an increase in utilization of postnatal care services at six weeks by women in developed countries and virtually all women and their infants received postnatal care services, even though the nature and frequency of this care varies considerably.

A study in Thailand by Suwankhong and Liamputtong (2015). pointed out that many Thai women see their reproductive health problems as the consequences of inadequate postnatal services from the health workers, although traditional postpartum belief and practices of not attending postnatal care bound.

Poor rural women seem to hold on strongly to their traditions of not attending postnatal care when compared with their urban counterparts.

The objectives of postnatal care services are to support the mother and the family in the transition to a new family constellation, prevent, early diagnosis and treat complications of the mother and infant, refer the mother and the infant for specialist care when necessary, counsel on baby care, support breastfeeding, counsel on maternal nutrition and supplementation if necessary, counsel and provide contraception service and immunize the infant. With limited resources, contact with the health care system at least during the first twenty four hours and before the end of the first week would be the most effective strategy for reducing maternal and neonatal deaths (www.pathfinder.com,assessed July 2016).

Despite the importance of the postnatal care it is the most neglected period in developing countries even the need for care and support after birth is less recognized and approximately one-third of women in sub-Saharan Africa give birth in facilities, and not more than 13 percent receive postnatal care services within two days of the delivery. Whether women deliver at home or in the facility, postnatal care services are often absent. Moreover, if PNC services were available, often lack essential elements of care required for the optimum health of the mother and her newborns (WHO, 2010). However, it has been noted that many women who give birth at health facility in the developing world are discharged within hours after childbirth without any indication where they can obtain further care or support (Titaley *et al.*, 2009)

Women should not die in child birth because the vast majority of maternal deaths can be prevented or reduced if women had accessed to, or visited maternal health services during pregnancy, childbirth and the first month after delivery, it also shows that women living in sub-Saharan Africa has one in 16 chance of dying in pregnancy, childbirth and after childbirth. In Tanzania, for instance, puerperal mothers in rural

areas with no education are thought to be more at risk of health problems than their counterparts with formal education (UNISA, 2010).

In Ethiopia, the proportions of mothers attend PNC services are very much lower than the sub-Sahara Africa. The great majority (92%) of women who had live birth in the preceding five years did not receive PNC services. Among women who received PNC services, 4% were examined within four hours, and 2% within 2-3 days of delivery. Generally only 7% of women received PNC services within two days as recommended (Berhan & Berhan, 2014).

In Kenya the maternal mortality ratio is at 362 deaths per 100000 live births (KDHS, 2014) with the risk of dying being 1:20 is still high and the recent estimates of WHO, UNICEF, UNFPA, the World Bank Group and UN Population Division also highlight insufficient progress. For every maternal death there are at least 30 women who suffer short or long term disabilities (National Guidelines for quality obstetric and perinatal care, 2010), with postpartum hemorrhage contributing to 34% of maternal deaths and it is the most common cause of maternal mortality in Kenya (WHO, 2010). 61% of live births were delivered in the health facility; 62% were assisted by a skilled provider. 53% of women who gave birth in two years before the survey received postnatal care checkup in the first two days after delivery. 38% of women received postnatal care within four hours after delivery, 9% received care within 4-23 hours, and 6% were seen 1-2 days following delivery. Overall 43% of women did not receive a postnatal checkup within the first six weeks after delivery. In the North-Eastern region, 80% of women did not have any postnatal care, Coast 43.3%, Eastern 34%, Central 23.7%, Rift Valley 49.6%, Western 60.8%, Nyanza 36.7% and Nairobi 25.1% (KDHS, 2014)

The infant mortality rate is 39 deaths per 1000 live births and the under-five mortality is 52 deaths per 1000 live births (KDHS, 2014). At these levels, about one in every 26 Kenyan children die before reaching age one, and about one in every 19 does not survive to his or her 5th birth day. Neonatal mortality has exhibited the slowest rate of decline (33%). A child born in Nyanza region is almost twice as likely to die before age five as a child born in central region. Nairobi has the second

highest under-five mortality rate; following Nyanza (72 deaths per 1000 live births). The neonatal mortality rate in Kenya is 22 deaths per 1000 live births, 1.4 times the postnatal rate. The perinatal mortality rate is 29 per 1000 pregnancies (KDHS, 2014). Infant and child mortality rates are also regarded as indices that reflect the degree of poverty and deprivation of a population. Under-5 and infant mortality rates are two indicators used to monitor child health under millennium development goal (MDG) 4. The government of Kenya is undertaking a number of interventions aimed at reducing maternal and childhood mortality, targets for these programs, including vision 2030 indicators, sustainable development goals and National expanded free maternity services program dubbed 'LINDA MAMA'. Despite renewed focus and recent progress in child survival, a lot of effort need to be directed at child health to achieve the global goal of ending preventable deaths of newborns and under-five by the year 2030 (United Nations Development and Program, 2015).

The Kenya Maternal and Newborn Health Model; the six pillars of maternal and newborn include: pre-conceptual care and family planning focused antenatal care, essential obstetric care, essential newborn care, targeted postpartum care, and lastly post-abortion care. These services are underpinned by the foundation of the skilled attendants and a supportive and functional health system (MOH, 2011)

The Model recognizes the potential role communities have in the promotion of their own health. It reiterates the importance of strengthening the interface between the community and health services, as well as promoting the human rights approach to the health service delivery.

These elements are also identified by the National Health Sector strategic plan II 2005-2010 as the key areas of focus. (National guidelines for quality obstetric and perinatal care, 2011). In Kenya postnatal care services are available and National guidelines for postnatal care encourages all mothers to make use of postnatal care services. Unfortunately, many women attend antenatal care clinics and give birth in public facilities but the same women do not attend postnatal care clinics (MOHSS, 2011). There are consequences if mothers do not utilize postnatal care services or if postnatal care services are not available.

1.2 Statement of the Problem

Globally ,more than half a million women die each year from complications of pregnancy and child-birth , majority within the first 48 hours post-delivery. It is estimated that three quarters of women do not receive postnatal care and this leads to a bout 60-80% of maternal deaths in this period (WHO 2013). In Africa, most mothers and newborns do not visit the health institution following birth, indicating that postnatal care programs are among the weakest of all reproductive health programs. In sub-sahara Africa, maternal and child mortality remains unacceptably high accounting for 87% of deaths (WHO, 2014). In Kenya 57% utilized postnatal care, 43% being from rural areas compared with 65% from urban (KDHS, 2014). Postnatal care consistently has among the lowest coverage of interventions on the continuum of maternal and childcare, with a reported median for countdown countries at 28% (Lancet, 2015).

The Government of Kenya launched national expanded free maternity services program dubbed “Linda mama” which was a great step forward towards improving access and quality of maternal, newborn and child health care services in the country as well as attainment of health goals as outlined in Kenya’s vision 2030 and the Sustainable Development Goals, these did not translate into adequate utilization of postnatal care services. In Kisii Teaching and Referral Hospital, 88% of women attended antenatal care, 47% of them delivered in the health facility and 10.42% were reported to attend postnatal care checkups within six weeks after delivery (MoH, 2015), from the above statistics and information ,PNC has been poorly utilized and it is with these that the researcher found out that there is need for determining the factors influencing utilization of postnatal care services among women aged 15-49 years attending child welfare clinic at KTRH. In the absence of postnatal visit puerperium mothers are at risk and could result in ill health therefore, the time to unpack the” black box” of PNC service delivery is now.

1.3 Justification of Study

Postnatal care coverage is on a decreasing trend in comparison to other maternal and infant health services .Despite the fact that majority of maternal and newborn deaths occur within the first week of postnatal period, (WHO, 2014) healthcare providers across Sub-Saharan Africa continue to advice mothers to come back to the facility for a first check-up only after 6 weeks; this is a visit for survivors (Charlotte *et al.*, 2006).

In Kenya, it is noteworthy that more than half of the infants born in the health facility (52%) did not receive PNC services while in Nyanza region where kisii county falls under had the highest post neonatal mortality 31/1000 live births (KDHS,2014). Effective utilization of postnatal care is a key initiative towards attainment of the United Nations Sustainable Development Goals ; goal 3 that aims to reduce maternal mortality to less than 70/ 100000 and Neonatal mortality to less than 12/1000 live births. Postnatal care is essential for treating and diagnosing complications arising after delivery, Particularly, for non-institutional birth, If routine postnatal care reached 90% by babies and their mothers, 10 to 27% of the newborn deaths could be averted (WHO, 2014).The results of this study will bring out a better understanding on the factors influencing utilization of PNC services in kisii county which will lead to appropriate intervention that will improve utilization of PNC.

1.4 Objectives of the Study

1.4.1 Broad Objective

To determine the factors influencing utilization of postnatal care services among women of reproductive age attending Child Welfare Clinic at Kisii Teaching and Referral Hospital

1.4.2 Specific Objectives

- i. To determine the Socio-demographic characteristics of women of reproductive age attending Child Welfare Clinic at Kisii Teaching and Referral Hospital.

- ii. To determine the proportion of women utilizing postnatal care services among women of reproductive age attending Child Welfare Clinic at Kisii Teaching and Referral Hospital.
- iii. To establish the socio-economic factors influencing utilization of postnatal care services among women of reproductive age attending Child Welfare Clinic at Kisii Teaching and Referral Hospital.
- iv. To identify health service provider and health facility factors influencing utilization of postnatal care among women of reproductive age attending Child Welfare Clinic at Kisii Teaching and Referral Hospital.

1.5 Research Questions

- i. What are the socio-demographic characteristics of women of reproductive age attending child welfare clinic at Kisii Teaching and Referral Hospital?
- ii. What proportion of women of reproductive age are utilizing the postnatal care services attending Child Welfare Clinic at Kisii Teaching and Referral Hospital?
- iii. What are the socio-economic factors that influence the utilization of postnatal care services among women of reproductive age attending Child Welfare Clinic at Kisii Teaching and Referral Hospital?
- iv. What are the health providers and health facility factors that influence utilization of postnatal care among women of reproductive age attending Child Welfare Clinic at Kisii Teaching and Referral Hospital.

1.6 Conceptual Framework

In this study, the dependent variable is the utilization of PNC services; while the independent variables are several socio-demographic characteristics, Socio-economic factors and Health provider and facility factors. The framework also helps understand the potential influences on an individual's decision to make use of health services. The conceptual framework was adopted from the Anderson's Behavioral Model. The model suggests that the use of health services is a function of the predisposition to use the services, factors that enable or impede use and need for the service. Anderson (1995) refers to demographic factors and household wealth status as the predisposing

factors; while availability of services, cost of care and distance to the facility are seen as enabling factors. Attitudes and knowledge that people have about health care services also influence their subsequent perception of need and use of these services. This coupled by a woman's previous exposure to healthcare services indicates a strong predictor of her susceptibility to make use of available reproductive health services. According to Anderson (1995), these are the need-based characteristics. The purpose of the model is to discover the conditions that either facilitate or impede utilization of postnatal care services.

1.6 Conceptual Framework

The conceptual framework illustrates the relationships between the dependent variable and independent variables as shown in figure 1.1.

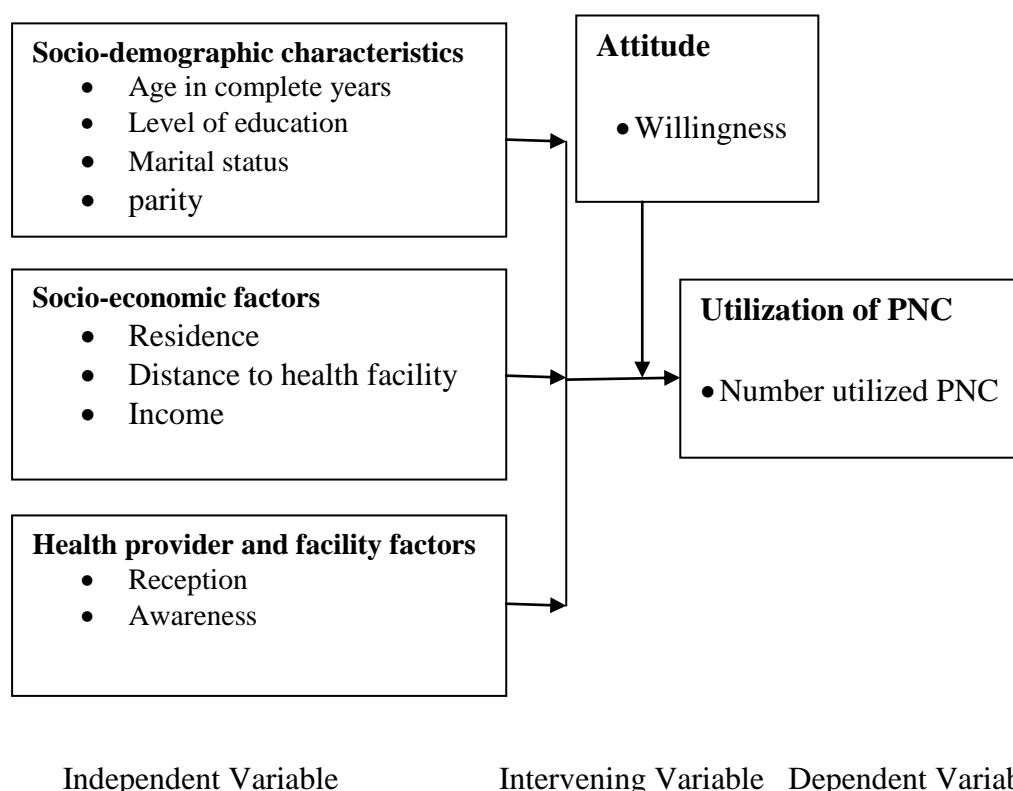


Figure 1.1: Conceptual Framework Source; Adopted from Behavioral Model of Health Services Use (Andersen, 1995)

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

As the millennium development goals come to a close in the year 2015 and we entered the new sustainable development goals (SDGs) era, the global community health took stock of accomplishments over the past decades and continuing challenges for the future. Most maternal and infant mortality deaths occur in the first 42 days after child birth (Lancet, 2014). Despite the critical importance of this period for both maternal and child survival (Lancet, 2005) postnatal care consistently has among the lowest coverage of interventions on the continuum of maternal and child care, with reported median for the countdown countries at just 28% (Lancet, 2015).

For intrapartum care, poor quality at the facilities, perceived or actual, is now recognized as an important deterrent to care seeking and use (Bohren *et al.*, 2015). Just as a woman who felt that their antenatal care was of poor quality will not return for intrapartum care (Berhan & Berhan, 2014). Families will not bring mothers and their neonates for postnatal care facilities if they are discouraged staff or treated poorly at the prior visits (Sacks & Kinney, 2015). Efforts to improve postnatal care need to include more sensitive metrics for care need to include more sensitive metrics monitoring progress not only for population coverage, but quality and client satisfaction as well. What is needed is greater attention on the content of postnatal care itself: for example, which specific interventions are delivered to parturient women and neonates? Are these interventions following state-of-the-art clinical guidelines? Is care provided to the mother-baby dyad intergraded, culturally-sensitive, and client centered? Is increased service use contributing to improved health outcomes? (Chaturvedi *et al.*, 2014).

Poorer, less educated and rural women have been shown to have lower coverage of postnatal care (Langlois, Miskurka, Zunzunegui, Ghaffar, Ziegler & Karp, 2015), these are same disadvantaged groups that experience more discrimination and disrespect in facilities as well (Bohren, Vogel, & Hunter *et al.*, 2015). Reducing

barriers to access, including distance and cost, are imperative. Efforts to mitigate inequities in transport to facilitate, such as bus and voucher schemes have shown effectiveness in improving equity of access (Langlois *et al.*, 2015). Yet more effort and investment is needed in ensuring services for all are accessible and high quality. It is incumbent on us to accelerate the trajectory and talk about continuing efforts to increase coverage and equity. The time to unpack the “black box” of postnatal care services delivery is now and greater attention should be provided to quality postnatal care in research, policy and practice.

2.3 Postpartum and Postnatal Care

In many countries, postpartum or postnatal care is not clearly defined in national guidelines and standards. The taxonomy around the period after birth is also confusing with “postpartum” generally attributed to the mother and “postnatal” to the baby but sometimes used interchangeably although neonatal is also applied for the first month of the baby’s life. World Health Organization is now recommending the term “postnatal” applicable to both the mother and the baby (WHO, 2014) and used throughout this thesis. No single visit addresses all postnatal needs of mother and infant. Postnatal care; this is the care given to both the mother and the baby from birth in order to reduce the incidence of complications and deaths as well as to promote the health of the mother and the baby. However, it is now recommended that the regular follow up of both the mother and the baby be extended until at least the first year (WHO, 2014). The content and timing of PNC in Great Britain was formalized following statutory legislation in 1902 because too many women were dying following childbirth mainly due to sepsis (NCY; RCM: and RCOG; making sense of commissioning maternity services in England; 2010). Another European country that proved successful in reducing maternal mortality dramatically is Sweden and this dependent on the public health system, which was based in turn on equity and an alliance between midwives and doctors in a system of close supervision and surveillance (Högberg, 2004). By the mid-20th Century many western countries had seen a rapid decline in maternal mortality (Loudon, 2000).

However maternal mortality in the postnatal period is still a problem in many African countries. In low income countries the day 40th day visit is, in effect, a visit for the survivors of the postnatal period (Warren *et al.*, 2006). The earlier identification of complications for both the mother and the baby is therefore critical. Few developing countries have mechanism in place, however, to ensure that mothers and newborns are assessed early and monitored closely during the initial six week period.

Evidence suggests that there are some crucial moments during the postnatal period when contact with the formal health system through skilled healthcare workers could be pivotal: the immediate postnatal period covers the first 24 hours following childbirth (whether at home or in the health facility), during which the baby's physiology adapts and the risks to the mother of the postnatal hemorrhage (which is greater than 30% of the maternal mortality in Africa and Asia) (Lancet, 2008), and other significant morbidity are highest. Day 2 through 7 are defined as early postnatal period and the period from days 8 through 42 as the late postnatal period (WHO, 2010).

Providing additional care to women in the extended period from week seven to six months or one year would also support the transition to uptake of family planning and child welfare services as well as immunizations advise for both mother and infant. In recent years there have been more consensus by the technical expert on the content of PNC (the what) (WHO, 2014) but questions do still remain about the best timing (when) and place (where) for postnatal visit and who can deliver the postnatal package.

2.4 Goal of Postnatal Care

The overall goal of PNC is to equip the service providers with knowledge and skills on the targeted postnatal care. Targeted postnatal care is one of the pillars of maternal and newborn health in Kenya which focuses on supporting and maintaining maternal and newborn/infant well-being throughout the postnatal period. It is a goal oriented, timely, friendly and simple comprises four focused personalized visits or assessments after the birth to at least six months postnatal. It should be given to every mother and her newborn baby (National Orientation Package, 2011) also to

maintain and promote the health of the woman and her baby and foster an environment that offers help and support on family and community on health needs (GoK, 2011; WHO, 2013). These needs can involve physical and mental health as well as social and cultural issues that can affect health and wellbeing.

Elements of targeted postnatal care include assisting the mother and family to develop a personalized postnatal care plan. Provision of care to the mother and baby by skilled attendant, emergency preparedness and complication readiness for both the mother and the baby. Postnatal care should be started during ANC to assist the mother and her family to have a postnatal care plan to enable the client and her family identify danger signs in the mother and baby, action to take in case of emergency, have money set aside to use and transport plan in case of emergency. The following are the recommended timing for PNC for mother and baby; within 48 hours of birth, within 1-2 weeks, within 4-6 weeks and within 4-6 months (National Orientation Package, 2011).

2.5 Content of Postnatal Care

The falling coverage along the continuum of care include weak linkages to clearly defined content and timing of postnatal services contributing to the discontinuity between services received during pregnancy and delivery and the post delivery period (Lancet, 2012). Low coverage in the postnatal period negatively influences other maternal, newborn and child health (MNCH) programs. For example, the lack of support for healthy home behaviors, such as establishing early and exclusive breastfeeding can have ongoing effect for the infant in terms of under nutrition. Additionally, newborns and mothers are frequently lost to follow up during the postnatal period for prevention of mother-to-child transmission (PMTCT) of HIV. Therefore attention to the postnatal period is critical for offering opportunities to deliver key preventive care services (immunization, infant feeding counseling and FP) and treatment of ongoing morbidity for all women and their babies. Most women require uncomplicated care during the immediate, early and late postnatal period, however there needs to be protocols and systems in place to address any deviation from unexpected recovery (WHO, 2010).

A good quality postnatal check should therefore be a comprehensive or integrated package that covers a range of issues that affect both the mother and the baby.

The package of care should include physical examination of the woman to check for uterine involution; check her breast (for signs of mastitis); extent of bleeding, plus counseling on danger signs that might occur during the postnatal period; use of FP; exclusive breastfeeding, cord care, keeping the infant warm and nutrition (National Orientation Package, 2011).

2.6 Inadequate Utilization of PNC.

Half of postnatal maternal deaths occur during the first week after the baby is born, and the majority of these occur during the first 24 hours after childbirth (Ronsmans *et al.*, 2006). Hemorrhage is the leading cause of maternal mortality in Africa and accounts for 34% of deaths (Kinney *et al.*, 2010). Severe pre-eclampsia and eclampsia can occur up to 72 hours after delivery (WHO, technical consultation on postpartum and postnatal care in department of making pregnancy safer, 2010). Sepsis and infection claim another 10% of maternal deaths, virtually all during the postnatal period (Nkurumah *et al.*, 2010) Sepsis is the highest in the first six weeks after birth but stays higher after six weeks for women because of the issues such as untreated anemia, sepsis or repeated pregnancy (a comparison of four African countries Lancet, 2012) where HIV prevalence is high, women living with HIV and with limited access to antiretroviral drugs are also at increased risk of maternal deaths in the first few weeks (Gray *et al.*, 2010). In fact in countries with high rates of HIV, indirect causes of maternal deaths from HIV associated with infections now exceeding direct causes of hemorrhage, hypertension and sepsis (Calvet & Ronsmans, 2013; Madzimbamuto & Magobe, 2013).

National mortality rates are very high in Sub-Saharan Africa. Each year, at least 1.16 million African babies die in the first 28 days of life-and 850,000 babies are stillborn (WHO, 2010).

The harsh reality is that about 4 million infants do not live through the immediate postnatal period, and a large number of them are disabled due to pregnancies and births that are poorly monitored or handled (Bern *et al.*, 2003). Ensuring a safe motherhood and a healthy childhood remains a major challenge in Sub-Saharan Africa and Kenya is no exception. There has been slow progress in reducing newborn deaths, especially in the first week of life. Two major causes of newborn deaths are preterm birth complications and intra-partum related (birth asphyxia), which are closely linked to the quality of care provided during child birth (Kinney *et al.*; 2010). The greatest cause of newborn is infection yet this is the most feasible cause to prevent and treat 38% of babies in Sub-Saharan Africa die of infections, mainly after the first week of life (Bryce *et al.*, 2010). Newborn and child survival the 2010 report; the majority of the deaths are low birth weight babies, many of whom are preterm in addition long term disabilities and poor development often originate from childbirth and each postnatal period (Warren *et al.*, 2006).

2.7 Utilization of Postnatal Care Services:-

The health of mothers is mostly regarded as the health of the society, an estimated 287,000 maternal deaths occur worldwide (WHO, 2014). Maternal mortality remains unacceptability high across much of developing world especially Sub-Saharan Africa and South Asia accounting for 87% of maternal deaths (WHO, 2013). In developed countries virtually all women and their infant receive postnatal care (WHO, 2013). In a study conducted in 30 developing countries, an average of 40% of all women with a live birth in the previous 5 years did not receive postnatal care check-ups (WHO, 2010). According to Malawi demographic and health survey (MDHS, 2011) 30% of mothers attended PNC services while in Congo 34.6% of postnatal women had attended PNC by 42 days after delivery (Francoise, & Donen, 2012). In Palestine the uptake of PNC has been reported to be 36.6% (Dhaher, Mikolajczyk, Maxwell, & Kramer, 2008). A study done in Uganda showed that 15.4% of mothers attended the early postnatal care (Izudi & Amongin, 2015).

Every year, three million neonates die within the first month of life, representing nearly 40% of all deaths of children under the age of five and almost all newborn deaths are in the developing countries (WHO, 2014). In Sub-Saharan Africa, one in nine children die before the age of five, which is more than 16 times higher than the average number of deaths in developed regions (Foreman *et al.*, 2014).

18 million women in Africa currently do not give birth in a health facility which poses challenges for planning and implementing postnatal care for women and their newborns (Dibari, 2014). In Africa, most mothers and newborn do not visit the health institution following birth, indicating that postnatal care programs are among the weakest of all the reproductive and child health programs (WHO, 2013).

A large proportion of maternal and neonatal deaths occur during the first 48 hours following childbirth and provide important opportunity to access the infant development to offer newborn care (WHO, 2012).

In Kenya 43% of women did not receive a postnatal checkup within the first six weeks after delivery. 53% of women received PNC within the critical two day period following delivery (KDHS, 2014). The majority of newborns (62%) did not receive postnatal checkup in the first week after birth, it is noteworthy that more than half of infants born in a health facility (52%) did not receive postnatal checkups (KDHS, 2014). The timing of postnatal care services is very important and at least one in four child deaths occur during the first month of life (WHO, 2013). These deaths often take place before child health services begin to provide care, usually at six weeks for the first immunization visit. From these studies it is clear that a large proportion of women and children are without health care during this critical period.

In Kisii teaching and referral hospital, where the study was conducted, percentage of women and neonates with postnatal checkup in the first two days after birth was 10.42% (KDHS 2, 2015). However there were scanty information about postnatal care utilization with no published studies on factors influencing utilization of postnatal care services in Kisii county and the key strategy to reduce maternal and neonatal morbidity and mortality is through utilization of postnatal care.

2.8 Factors Influencing Utilization of Postnatal Care Services

2.8.1 Socio-Demographic Characteristics

Socio-demographic characteristics which were found to influence the uptake of postnatal care services include age, marital status, occupation and parity (Kinuthia, 2014). Workineth and Hailu, (2014) study in Ethiopia indicates that 9.1% of the respondent were in the age range 15-19years. Regarding their educational status, majority of 33% of the participants attended elementary schools, housewives were 31% followed by maid servants 14.5% and 24.4% got higher scores concerning the occupational status of the respondents very few members of the respondents reported that monthly income was 500-1000 Ethiopian birr. Chubike and Idam, 2013 study show that mothers of age group 25 to 35 years utilize antenatal care and skilled attendance most followed by group 35 to 44 years while those of 15 to 24 years show the least utilization of these services. The analysis of variance (ANOVA) result further show that the age of the mother has a significant effect ($p < 0.05$) on the utilization of maternal health care.

Maternal occupation on the utilization of maternal health care services show that cleaners and laborers attended antenatal care more often but utilize institutional delivery and skilled attendant the least while the women professionals attend the antenatal care least but utilize the institutional delivery and services and skilled attendants the highest in Abathiliki urban Nigeria. Regarding parity it is generally argued that those who have more than three living children tend to believe that they are more experienced to handle their maternal and reproductive issues, as such, they utilize postnatal care services less frequently as compared to those who have had less than three children (Raj Baral, 2012).

Educated women are more likely to enjoy more autonomy within and outside the household and the skills acquired from schooling enable women to communicate with the health professionals and demand healthcare services as reported by Dhaher, Mikolajezyk and Kramer (2008).

Educated women are also likely to have improved knowledge and information on modern medical treatment and have greater capacity to recognize specific illness and appreciate the need to seek health care (Titaley *et al.*, 2009). The influence of education is also associated with high age at marriage, low fertility and mortality, good maternal care, and reduced vulnerability to HIV/AIDS as reported by Awusi, Anyanwu and Okeleke (2009).

2.8.2 Socio-Economic Factors

Accessing and utilizing skilled care can be influenced by a woman herself, that is, if she cannot afford, get or choose to seek skilled care due to some factors such as geographical, economic and cultural factors; presence of skilled care will not have any impact on quality of care (Borghi *et al.*, 2003). Moreover, individual clients can influence provision of postnatal care services mainly due to negative attitudes and lack of knowledge concerning postnatal care services. For example, women who do not attend ANC services are less likely to adhere to PNC as recommended after delivery as they might lack proper information about the importance of postnatal visit (Wang *et al.*, 2011).

As per WHO report (2012), majority of the women who did not attend prenatal care did not attend PNC services as well. Furthermore, bad attitudes, some religious beliefs and some cultural practices influence majority of the women not to adhere to PNC services as required. For instance, WHO recommend all women who give birth at home to receive postnatal care services for at least 24 hours after birth, but due to the factors listed above and lack of knowledge on importance of postnatal care services many women break the continuity of the care. To increase utilization of the postnatal care services, health education needs to be employed to mothers and their community in general. This will; motivate mothers to utilize postnatal care services. Information in this regard should be given during ANC period and through other communication means such as radio, television, magazine and leaflets.

Mothers from higher socio economic households are more likely to be aware of the benefits of obtaining postnatal care through different media such as Television and Newspapers than their counterparts from low socio-economic groups. This evidence is in line with similar studies conducted in India and Nepal where mothers from higher socio-economic groups attend postnatal services (Neupane *et al.*, 2013; Rahman *et al.*, 2011).

Poverty has wider and more intricate implications for maternal outcomes than are acknowledged in extant research. To deliver their expected impact, current efforts to promote better maternal outcomes must be guided by a more thorough perspective of the link between women's livelihoods and their health and wellbeing, urban poor women in Nairobi associates poverty with the adverse maternal outcomes. However, their accounts and lived experiences of the impact of poverty on maternal outcomes underscore dynamics other than those typically stressed in the extant literature. To them, poverty primarily generates adverse maternal outcomes by exposing women to exceedingly hard and heavy workloads during pregnancy and the period surrounding it; to intimate partner violence; as well as inhospitable and unpleasant treatment by service providers (Izugbara & Ngilangwa, 2010). Rich mothers who had PNC checkup 15 times higher than poor mothers, delivered in the private hospitals and those who delivered by the doctors. The poor women were found to have lower maternal health care services utilization than the rich group; merely 14% of the women from the poorest group had full ANC compared to the 50% of the women from the richest group. Safe delivery was almost universal among those women from the richest group (92%) whereas only 30% of the poorest women had a safe delivery. More than half of those women from the richest group (55%) had PNC while the corresponding figure was only 19% amongst those from the poorest group.

2.8.3 Proportion of Women Utilizing Postnatal Care

Education of the women and their husbands was linearly related to maternal health care service utilization. The higher proportions of the educated women have used maternal health care services than women without any formal education.

It is evident that, among the women with 10 or more years of schooling, 48% had received full ANC 88% had safe delivery, and 54% had PNC. The corresponding figures among the illiterate women were 13%, 18%, and 28% respectively in India. (Kumar *et al.*, 2015)

Level of utilization of postnatal services in a population-based study about ANC and PNC services utilization is 77.4% and 37.2% respectively. The practiced probabilities using logistic, showed that women, who were literate, have exposure to media and women with low parity are more likely to use both ANC and PNC (Regassa, 2011). According to (Khanal *et al.*, 2011) in a study, factors associated with utilization of postnatal care services among mothers of Nepal, 43.2% reported attending postnatal care within the first six weeks of birth, while 40.9% reported attending immediate postnatal care. Mothers who were from urban areas, from rich families, who were educated, whose partners were educated, who delivered in health facility, who had attended a four or more antenatal visit, and whose delivery was attended by a skilled attendants were more likely to report attending at least one postnatal care visit. Furthermore, mothers who reported agricultural occupation and whose partners performed the same job as the mothers were less likely to have attended at least one postnatal care visit.

Similarly, mothers who were from the urban areas, rich families, educated plus the partners attended four or more antenatal visits, delivered in a health facility and those in a presence of skilled birth attendant were more likely to report attending immediate postnatal care (Khanal *et al.*, 2011). In study conducted by Halerman *et al.*, 2012, titled utilization and associated factors of postnatal care in Adwa town, Tigray, Ethiopia showed that 264 (78.3%) mothers had attended postnatal care services while 73 (21.7%) had not attended postnatal care services. About 205 (78.6%) of the mothers attended ANC services 50.7% had attended four times and above. Self-employed mothers were 9.1% times more likely to have had postnatal care than women hadn't any job.

2.8.4 Influence of Health Provider and Health Facility Factors

Postnatal guidelines consist of scientifically developed recommendations to assist the health care providers and client's decision about effective and efficient maternal and children health care specific clinical circumstances (Clinical practice guidelines, 1990). Evidence based guidelines are the greatest contributors to the quality of care in terms of health care practices as well as patient health outcomes. For instance, a study which was done by Lugtenberge, Bergers and Westert in 2009, showed that adherence to standards as per guidelines is an effective way in improving the process and the structure of client's care. This implies that failure to adhere to postnatal care guidelines may have the effects on the quality of the care as several essential interventions could be missed unknowingly, which may have an impact on both women and their babies.

Several factors have been identified to influence implementation of postnatal care guidelines. These factors were: inadequate knowledge and skills, insufficient number of integrating guidelines into practices, these in turn affect the quality of the postnatal care services (Brand *et al.*, 2005). The health workers look at quality objectively; they consider products or services that meet or surpass standards of safety, proper function, and otherwise general excellence. This is often referred to as quality assurance or medical quality and it depends mainly on providers' perspectives as documented by Donabedian (2005). Providers tend to highlight technical competence, infrastructure, and logistical support in an effort to improve quality. Clients often emphasize the human aspect of care; respectful treatment, privacy and confidentiality, information, and counseling in addition to safety, convenient location and hours, reasonable waiting times, affordable cost, clean and comfortable facility (Mrisho *et al.*, 2009; Kamau, 2014).

Moreover, it has been shown in literature, due to the inadequate number of skilled personnel, majority of the health care workers are not using clinical guidelines effectively as the same workforce were also involved in providing other care services within the facility, as nearly 30% to 40% of clients are not receiving care as planned and almost 20% of care given to mothers were unnecessary (Grol & Grimslow,

2003) also it was discovered that all the facilities that were studied lacked essential medical equipment's as well as medicine for diagnosis purpose in Malawi. The attitude of health workers, especially nurses who are in contact with mothers most of the time, is very important. If the attitude of health workers is positive to mothers during antenatal care, mothers are likely to come back for postnatal care. Friendly health care providers, who listen and not judgmental, makes it easier for clients or patients to reveal health concerns, these clients are likely to return for follow up care (WHO, 2002). Disrespectful and abusive treatment covers a range of health provider behavior, such as shouting at or scolding patients threatening to withhold health care, physical abuse abandonment in times of need, and detaining mothers or babies at the facility due to failure to pay.

Abuses stemming from lack of resources within the healthcare system, such as forcing women in labor to share a bed as reported by Bowse and Hill (2010). If individuals makes arduous trip to health facility only to find staffs that indifferent and medicine out of stock, the likelihood that the same individual will make the trip again in the future is low as observed by Lubbok and Stephenson (2008). When this scenario becomes common place, an entire community might become less likely to seek health services and even when they are needed. Assessing health care services may be facilitated but the location and distance of the facility. If the locality of the facility is near the residents of clients and if there is efficient transport to the health facility may enhance the utilization of health services (Kaufman, 2002). One of the factors preventing women in developing countries from seeking health services is distance from health facilities (Kasholia & Campel, 2006). Because of long distances from health facilities women have to look for transport which is cash in order to reach health facilities.

The unavailability of public transportation of prohibitive cost of transport means that many women have to walk or improvise a way to reach health care (Mekonnen & Mekonnen, 2002). The remoteness from health facilities also increases community members' out-of-pocket expenditure for transportation costs. In addition, the opportunity costs lost due to travel, waiting time are constraints to the uptake of services, and this is especially true for those in low economic status who depend on daily wages (Titaley *et al.*, 2010).

CHAPTER THREE

MATERIALS AND METHODS

3.1 Study Site

The study was conducted at Kisii Teaching and Referral Hospital, in Kisii County; which was one of the forty seven counties in Kenya. It shares common borders with Nyamira to the North East, Narok County to the South and Homabay and Migori counties to the West. The county lies between latitude 0 degrees 30⁰ and 1 degrees South and longitude 34 degrees 38⁰ and 35 degrees East. The county covers a total area of 1,317.5 km². The hospital was selected as an area of study because it offered PNC to mothers and their newborns after discharge from the hospital and clients from other health facilities within the region. The facility was located in Southwestern Kenya and the County government of Kisii runs it. It had a catchment area encompassing 1.3 million people from the entire Gusii region with daily workload of 200 newly admitted in-patients and 400 outpatients.

3.2 Study Design

The study was a descriptive cross sectional design that utilized quantitative technique for data collection. Cross-sectional studies are carried out at one time point or over a short period. They are usually conducted to estimate the prevalence of the outcome of interest for a given population. Such a design helps asses a sample at one specific point in time, it was ideal since it is most suitable as the researcher is intending to gain immediate knowledge and information on factors affecting utilization of postnatal care services as they exist on the ground

3.3 Study Population

The study population targeted all mothers who attended Child Welfare Clinic with children between 7 to 14 weeks of age at Kisii teaching and referral hospital. Study population comprised of 900 mothers (KTRH, Monthly report, 2017).

3.3.1 Inclusion Criteria

- a) Mothers who attended Child Welfare Clinic at Kisii Teaching and Referral Hospital with children between 7 to 14 weeks and who are biological mothers.
- b) Those mothers who gave informed consent to participate in the study with babies between 7 to 14 weeks old.

3.3.2 Exclusion Criteria

- a) Mothers with children aged 7 to 14 weeks attended child welfare clinic but refusal to consent to the study.
- b) Those mothers who had children requiring urgent medical attention.

3.4 Sampling procedure

3.4.1 Sample size determination

Going by the proportion of number of women attending maternal newborn and child health clinic in a duration of 1 month, the sample size was determined as described by (Fisher *et al.*, 1998) for a large population of more than 10000.

$$n = \frac{z^2 Pq}{\delta^2}$$

$$\frac{1.96^2 \times 0.53 \times 0.47}{0.05^2}$$

$$= 383$$

Applying Yumane's formula (1967); for population that is less than 10000 it is necessary to do correction of minimum sample size determination so that the desired minimum sample size is reduced.

$$\frac{n}{1 + \frac{n}{N}} = \frac{383}{1 + (\frac{383}{900})}$$

$$= 268$$

Where n= desired sample size

z = standard normal deviation that corresponds to 95% confidence interval

p = proportion to targeted population estimate

δ = degree of precision, which is 5%

3.4.2 Sampling technique

Systematic random sampling was done based on the number of women attending Child Welfare Clinic for duration of One month. The researcher identified the total number of women that attend CWC daily and computed the desirable sample size; consenting clients who met inclusion criteria were recruited.

The sample size was calculated against the total population to obtain the constant K which was the sampling interval using the following formula:

$$k = \frac{N}{n}$$

Where n is the sample size, and N is the population size. The population of women attending the MNCH clinic were put into a sequential order, ensuring the subjects been studied were randomly distributed.

A random number for instance X_{-} was selected, between 1 and K (sampling interval). The first sample size subject was the x^{th} then every k^{th} subject will be selected.

$$K = \frac{N}{n} = \frac{900}{25(\text{working days})} = 36$$

Sampling population per day was 36 women

$$K^{\text{th}} = \frac{900}{268} = 3^{\text{rd person}}$$

3.4.3 Data Collection

Data was collected using a pretested semi-structured interviewer administered questionnaires via face to face interview, the questionnaires was first prepared in English and later translated to Kiswahili and Ekegusii depending on the participant's preferred language and back to English to ensure consistency.

3.4.4 Questionnaire administration

Questionnaires were pretested in order to establish if they captured all the variables in this study. Content validity of the instrument was ensured through constructive criticism from colleagues in the maternal health department who had an extensive experience and expertise in questionnaires construction. The questionnaires were revised and improved according to the advice and suggestions made.

The pretesting was done at Marani Sub-County Hospital of Kisii County by the principal researcher where questionnaires were administered to 30 mothers who attended the maternal newborn and child health clinic; the participants were not part of the study. The necessary instruction in simplified medical terms was used to ensure correct interpretations. The mothers were only interviewed after being sampled, identified the respondent and informed consent was obtained by the researcher, administer the questionnaire in the language they understand better.

3.4.5 Validity and Reliability

Care in development of the instrument was taken so that the wording did not have any ambiguities; pretesting was done to find out if the respondents interpreted all questions in the same way. Information from the pre-test was used to refine the tools prior to the main study. Reliability was also ensured through selection and training of one research assistant, engaging him in the pre-test and supervising him during the data collection process. Completed questionnaires were checked daily and errors were corrected.

3.4.6 Recruitment and Process of Obtaining Consent

Eligible mothers were approached by the principal investigator. The interviewer explained to the potential study participants the purpose and method of the study. Informed verbal and written consent using a predefine consent form was obtained from the mother (Appendix II).

3.4.7 Data management

Data was entered using Microsoft Access Software by the researcher. Error was minimized by cleaning and rechecking all data entries with the original data forms. The data was imported to MS Excel which was used for coding and validation. Data was coded and double entered in a password protected excel spread sheet by the principal investigator. A back up of these data was done regularly to avoid any loss or tampering. Hard cover books were also used to store data and any vital information collected and observed during the study period. Data cleaning and validation were performed to achieve a clean set that was then exported as a Statistical Package for Social Sciences (SPSS) file. All data did not have recognizable names and all study records were properly kept in lockable drawers for confidentiality.

3.4.8 Data Analysis

Data was transferred to SPSS software package (version 23.0 software) for analysis. Fisher's exact test was applied to determine the significance of differences of relative frequencies.

Bivariate analysis was performed using chi square to determine the association between the dependent and independent variables. Multivariate logistics regression using backward method was then performed. Only variables with a $p < 0.05$ were entered into the initial model. To remain in the model, a significance of $p < 0.05$ were required, the variables that remained in the final model were presented and odds ratios were calculated for all other variables in this model.

3.4.9 Data Presentation

MS Excel was used to generate graphical presentation. The data was presented in graphs, pie charts and tables for analysis.

3.4.10 Dissemination of Results

The findings of the study were presented to Jomo Kenyatta University, School of Public Health as a thesis and report to Kisii Teaching and Referral Hospital.

The results were made available to policy makers in Kisii County and Health workers within Kisii Teaching and Referral Hospital to facilitate the improvement of health services (Utilization of PNC). Findings were also published on a medical journal.

3.5 Ethical Consideration

The study was performed according to good clinical practices and to the modified Declaration of Helsinki (WHO, 2001). Permission to conduct the study was obtained from the hospital administrator in Kisii Teaching and Referral Hospital.

Clearance was obtained from Jomo Kenyatta University of Agriculture and Technology-College of Health Science and Kenyatta National Hospital-University of Nairobi Ethics and Research Committee (KNH-UON ERC) ,ref :KNH-ERC/A/99.

Participants were enrolled into the study only after voluntary informed consent (Appendix II) after which the questionnaire (Appendix III) were administered by the principal investigator. The clients were free to withdraw from the study at any time. The respondent's privacy were respected and protected. There were no risks associated with participating in the study. No monetary benefit was associated with participation in the study. Prior to the study sensitization meeting with the MNCH clinic health workers was held and the objectives explained. All information about the client were handled with utmost confidentiality and only used for intended purposes. The data was stored in electronic formats by restricted access and hard copies were kept in lockable cabinets and the questionnaires were coded.

CHAPTER FOUR

RESULTS

4.1 Demographic and socio-economic characteristics of the study participants

4.1.1 Distribution of study participants by age

A total of 268 participants attending the Child Welfare Clinic at Kisii Teaching and Referral Hospital were recruited into this descriptive cross sectional study. The mean age of the participants was 26.94 (\pm 5.74) years with median of 27 years (range 17 to 45 years). Majority, 187 (69.8%) of the participants were aged between 21 to 30 years followed by those aged between 31 to 40 years at birth of the last child, (Figure 4.1; Table 4.1).

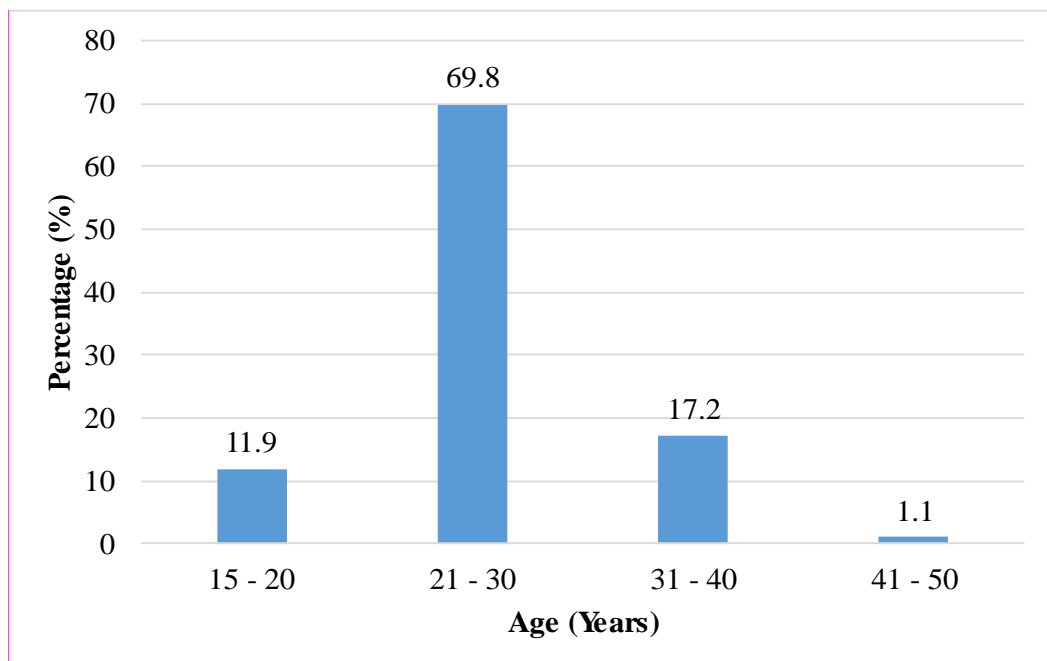


Figure 4.1: Distribution of study participants by age

4.1.1.1 Distribution of study participants by highest level of education

Most of the participants (59%) had secondary school education, with 26.9% having post-secondary level of education. Only 35 (13.1%) participants had primary education as shown in Figure 4.2.

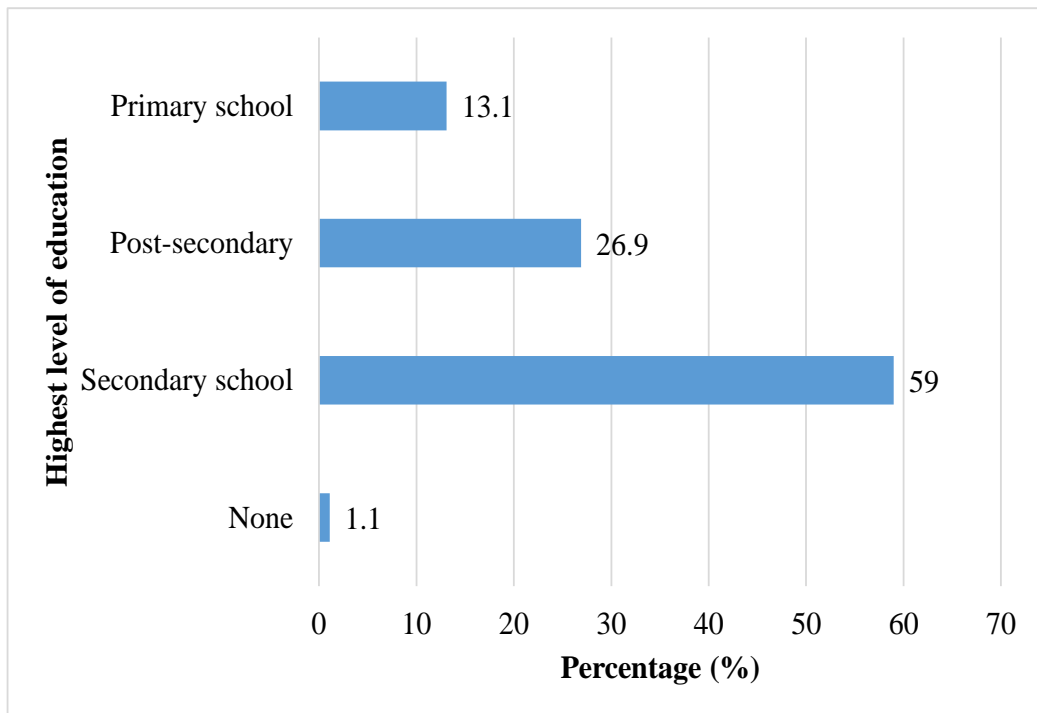


Figure 4.2: highest level of education

4.1.1.2 Distribution of study participants by marital status

Figure 4.3 shows the marital status of the participants. Majority 88.1% of the study participants were married (Figure 4.3; Table 4.1).

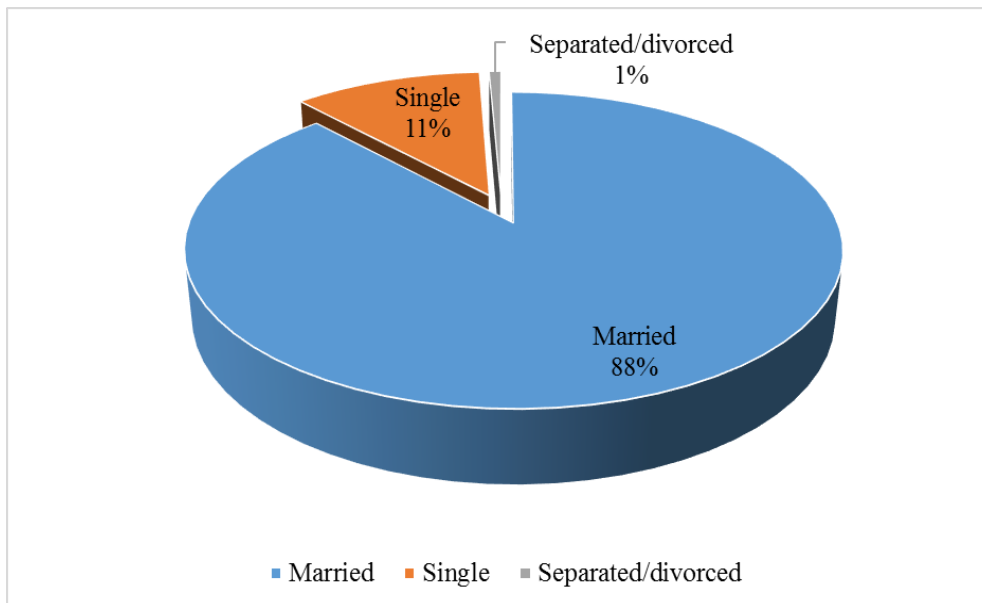


Figure 4.3: Marital status of the participants

4.1.1.3 Distribution of study participants by number of children

The mean number of children was 1.89 (± 1.049) with median of 2 children (range 1 to 6 children). Approximately 122 (45.5%) of the study participants had 2 or 3 children, while 120 (44.8%) had only one child. Only 24 (9%) of the participants were from households with 4 to 5 children while 2 (0.7%) of the participants were from households with more than 5 children (Figure 4.4; Table 4.1).

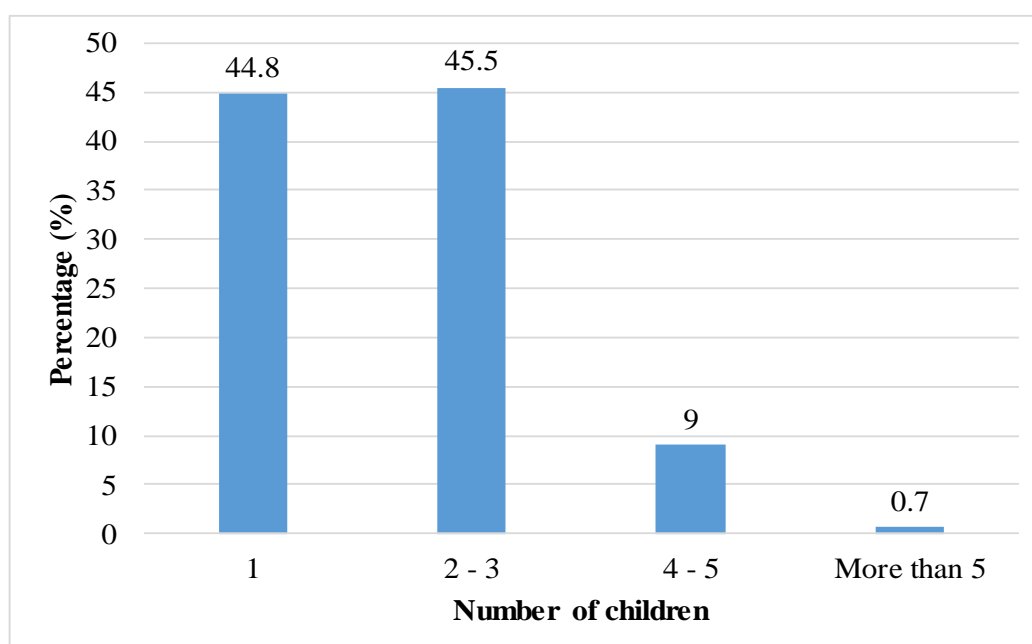


Figure 4.4: Number of children per household

Table 4.1: Demographic characteristics of the study population

Demographic characteristics	Frequency (N)	Percentage (%)
Age (Years)		
15 - 20	32	11.9
21 - 30	187	69.8
31 - 40	46	17.2
41 - 50	3	1.1
Highest level of education		
No formal education	3	1.1
Secondary school	158	59
Post-secondary	72	26.9
Primary education	35	13.1
Marital status		
Married	236	88.1
Single	30	11.2
Separated/divorced	2	0.7
Number of children		
1	120	44.8
2 - 3	122	45.5
4 - 5	24	9
More than 5	2	0.7

4.1.2 Socio-economic characteristics of the study participants

4.1.2.1 Occupation

The findings showed that majority of the study participants, 174 (65.4%) were unemployed followed by 65 (24.4%) who had formal employment. 27 (10.1%) of the participants worked in the agricultural and retail sector (Figure 4.5; Table 4.2).

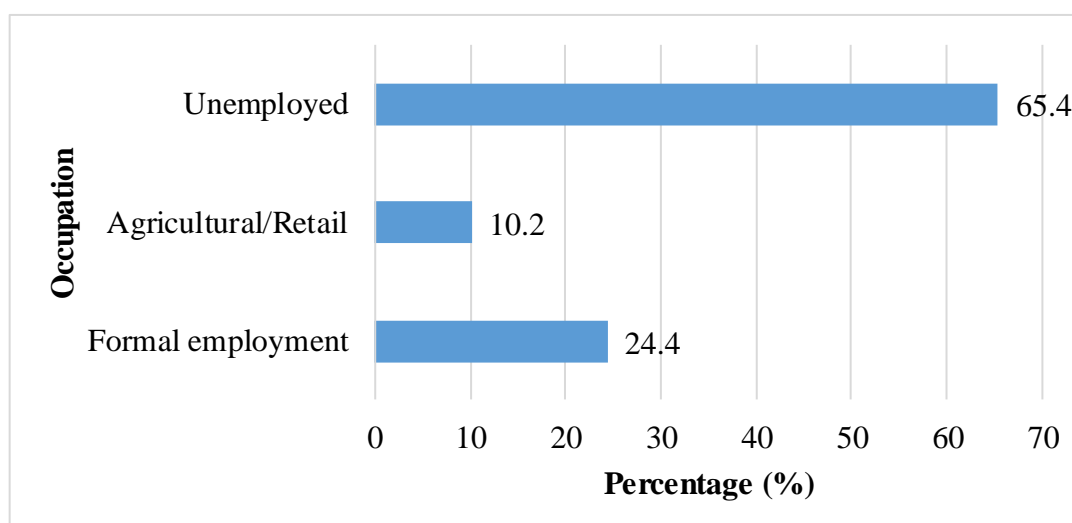


Figure 4.5: Occupation of the study participants

4.1.2.2 Place of residence

The study findings showed that majority of the study participants 115(43.2%) resided in the semi-urban areas while some 90 (33.9%) reside in the rural areas, Whereas, 61 (22.9%) participants resided in the urban areas (Figure 4.6; Table 4.2).

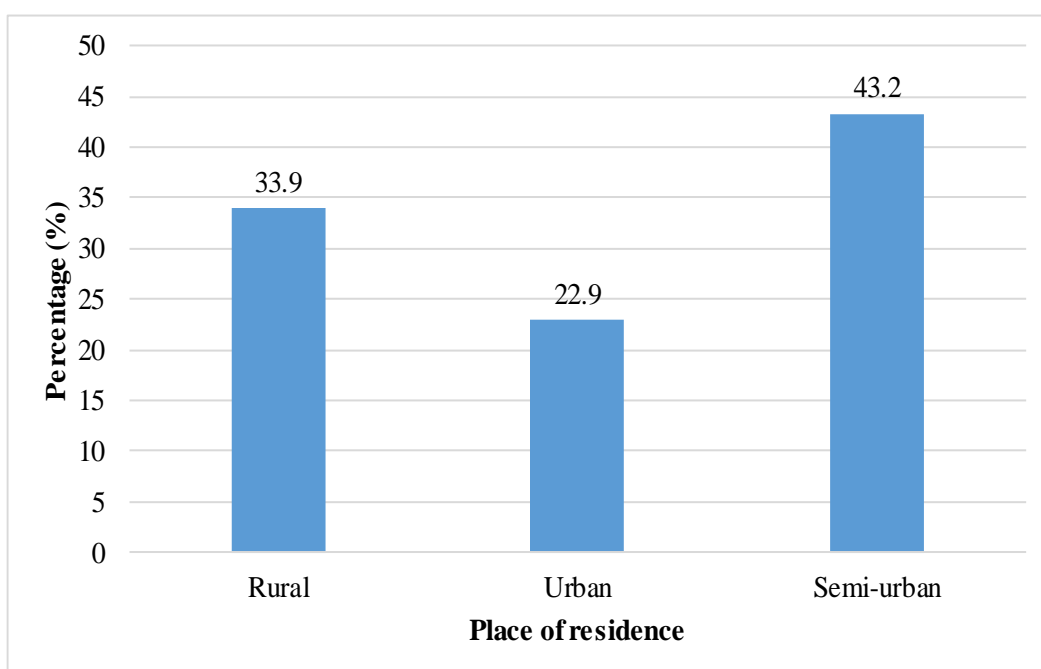


Figure 4.6: Place of residence of the study participants

4.1.2.3 Accessibility to the health facility

The study findings established that less than a half of the participants 90 (34%) resided in areas that were between 0 – 5 kilometers to the health facility while 85 (32%) resided in areas that were between 6 – 10 kilometers to the health facility. Followed by 58 (21.9%) resided in areas that were between 11 – 15 kilometers to the health facility. 32 (12.1%) resided in areas that were more than 15 kilometers to the health facility (Figure 4.8; Table 4.2).

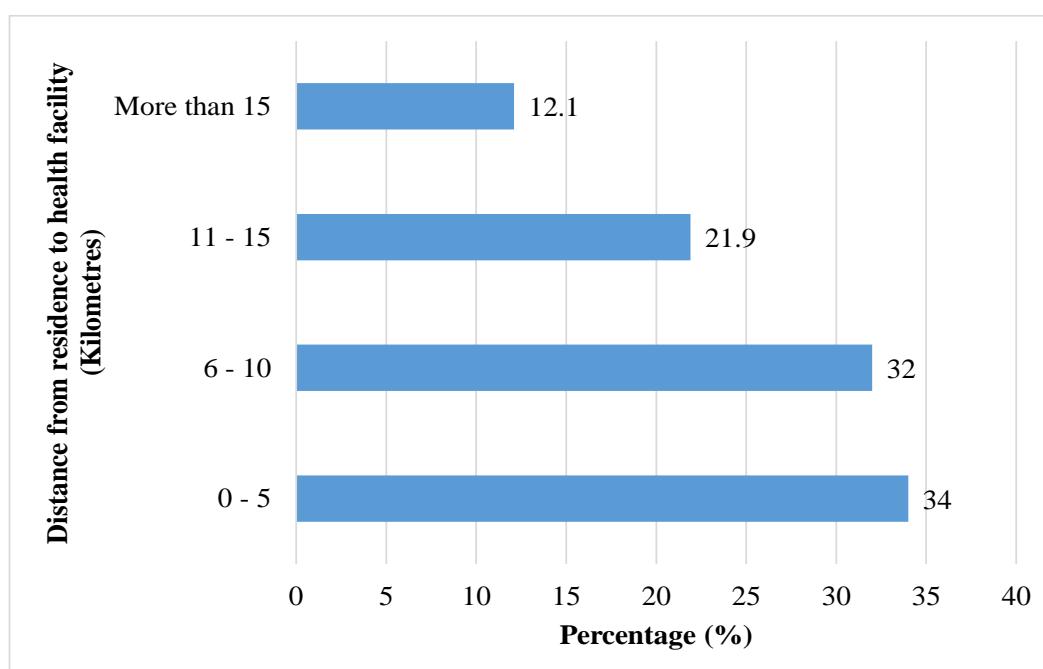


Figure 4.7: Distance from place of residence to the health facility

Table 4.2: Socio-economic factors of the study population

Socio-economic characteristics	Frequency (N)	Percentage (%)
Occupation		
Formal employment	65	24.4
Agricultural/Retail	27	10.2
Unemployed	174	65.4
Place of residence		
Rural	90	33.9
Urban	61	22.9
Semi-urban	115	43.2
Residence distance from the health facility (Kilometers)		
0 - 5	90	34
6 - 10	85	32
11 - 15	58	21.9
More than 15	32	12.1

4.2 Utilization of postnatal care services

4.2.1 Proportion of participants who utilized PNC

Figure 4.8 shows the women who utilized postnatal services. Majority, 172 (64.2%) did not utilize postnatal services while 96 (35.8%) of the participants were found to have utilized the postnatal services (Figure 4.8, Table 4.3).

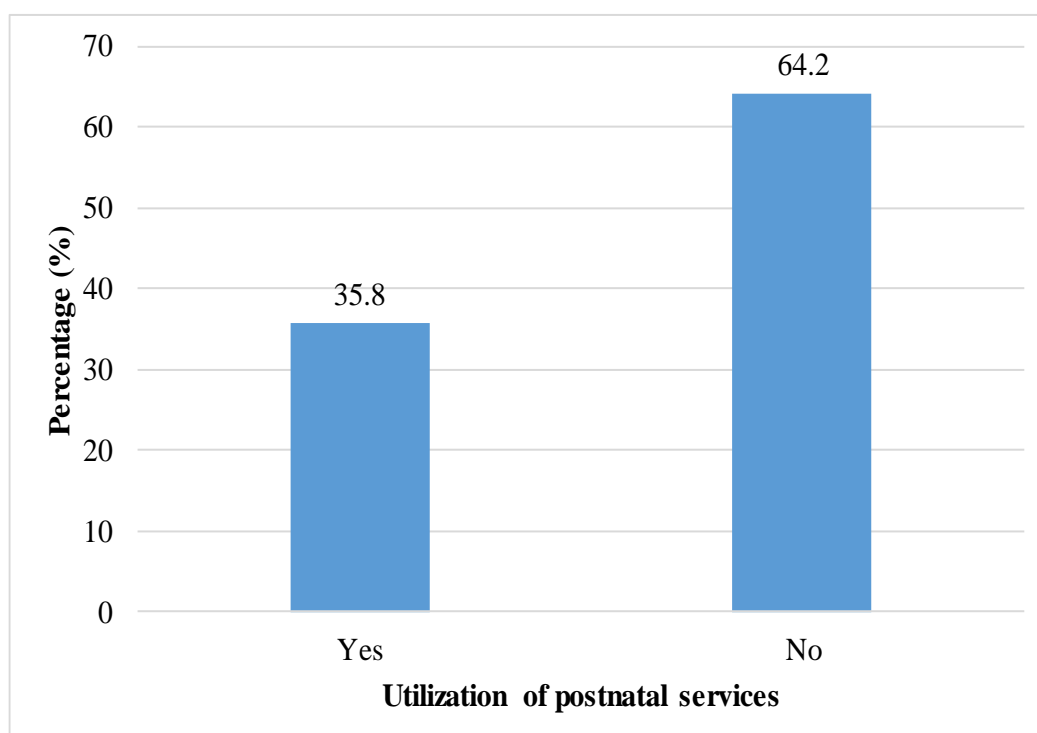


Figure 4.8: Proportion utilizing postnatal services

4.2.2 Place of delivery

Over half of the participants 166 (61.9%) delivered their last baby in the health facilities, while 102 (38.1%) delivered their babies at home. There was a significant relationship between the place of delivery and the utilization of the postnatal care services. ($\chi^2 = 48.213$; $df = 1$; $P < 0.001$) (Figure 4.9, Table 4.3).

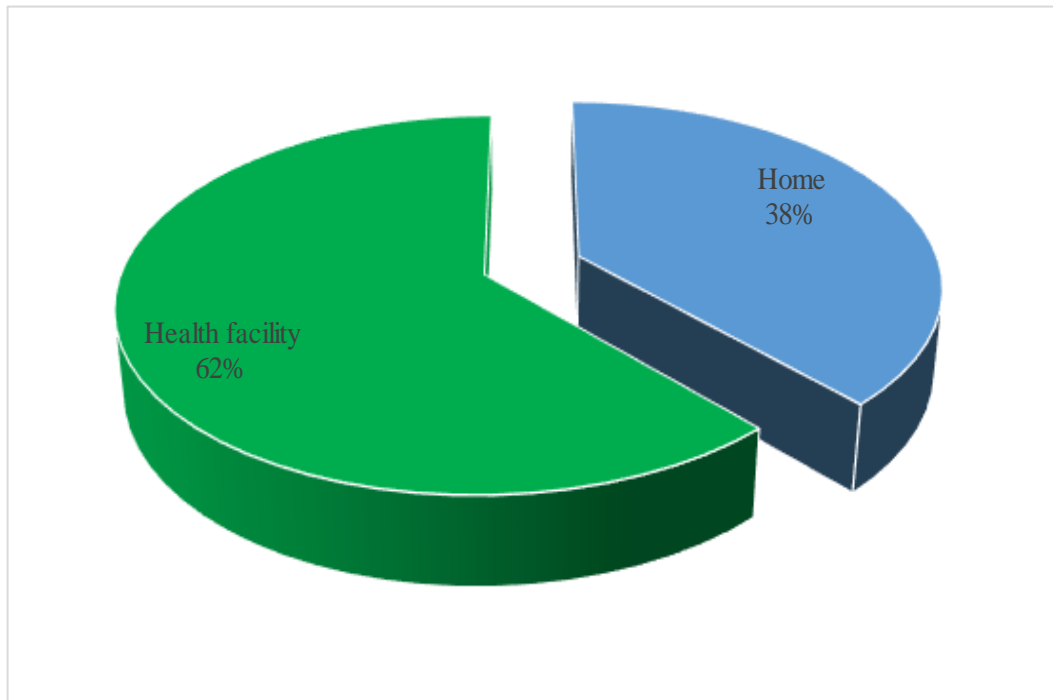


Figure 4.9: Place of delivery

4.2.3 Medical assessment after delivery

Nearly half of the participants 142 (53%) had their first medical assessment (health of mother and baby) after delivery, while 126 (47%) did not have their first medical assessment. There was a significant relationship between medical assessment after delivery and the utilization of the postnatal care services ($\chi^2 = 18.533$; $df = 1$; $P < 0.001$) (Figure 4.10, Table 4.3).

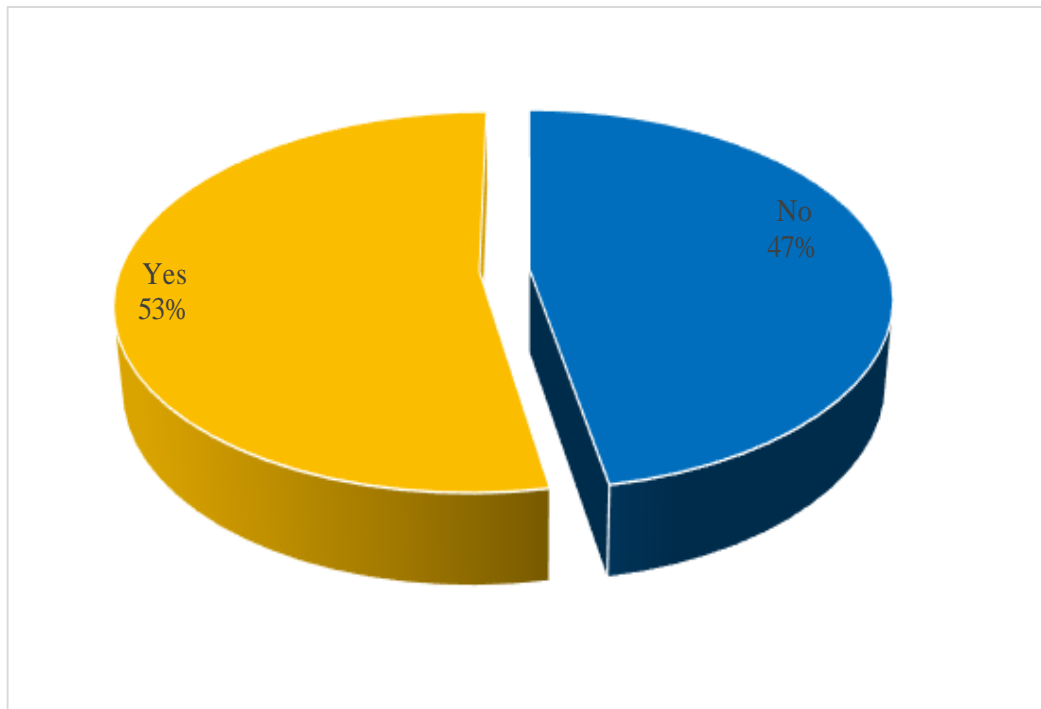


Figure 4.10: First medical assessment after delivery

4.2.4 Attendance of the first medical assessment

Less than half of the participants 95 (35.4%) had their first medical assessment after delivery conducted within hours. Approximately seventeen percent (17.2%) of the participants had their first medical assessment after delivery conducted within days, while 16 (11.3%) of the participants had their first medical assessment after delivery conducted within weeks. Few of the participants 10 (7%) did not know whether they had their medical assessment conducted after delivery. There was a significant relationship between attendance of first medical assessment after delivery and the utilization of the postnatal care services. ($\chi^2 = 9.089$; $df = 3$; $P = 0.028$) (Figure 4.11, Table 4.3).

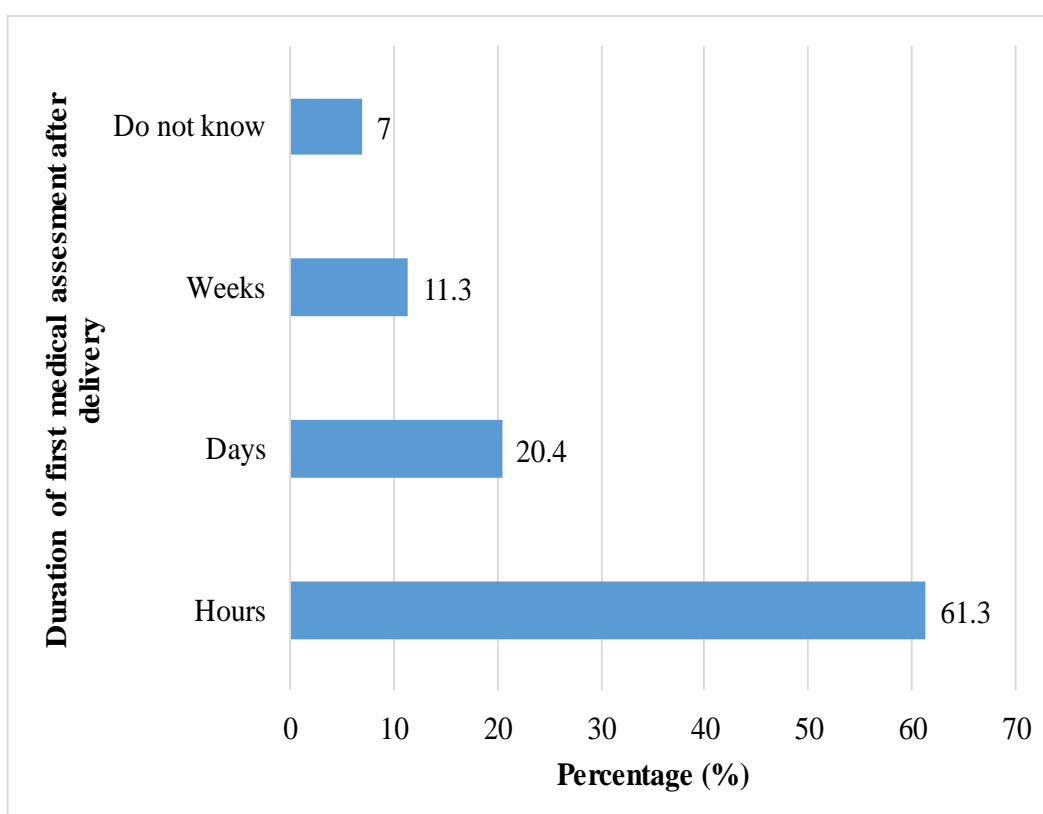


Figure 4.11: Attendance of the first medical assessment

4.2.5 Knowledge on visits of postnatal care service within the first six weeks after delivery

A total of 172 (62.4%) participants gave their suggestions on the number of visits for their postnatal care service within the first 6 weeks after delivery, Majority of the participants 95 (35.4%) suggested one visit for their postnatal care service within the first 6 weeks after delivery while 46 (17.2%) suggested two visits of attendance for their postnatal care service within the first 6 weeks after delivery. The participants who suggested three and four visits respectively were 23 (8.6%) and 8 (3%). 96 (35.8%) did not give suggestions on when they had attended postnatal care service within the first 6 weeks after delivery. There was a significant relationship between knowledge on visit of postnatal care within the first 6 weeks after delivery and the utilization of the postnatal care services. ($\chi^2 = 8.676$; $df = 4$; $P < 0.001$) (Figure 4.12, Table 4.3).

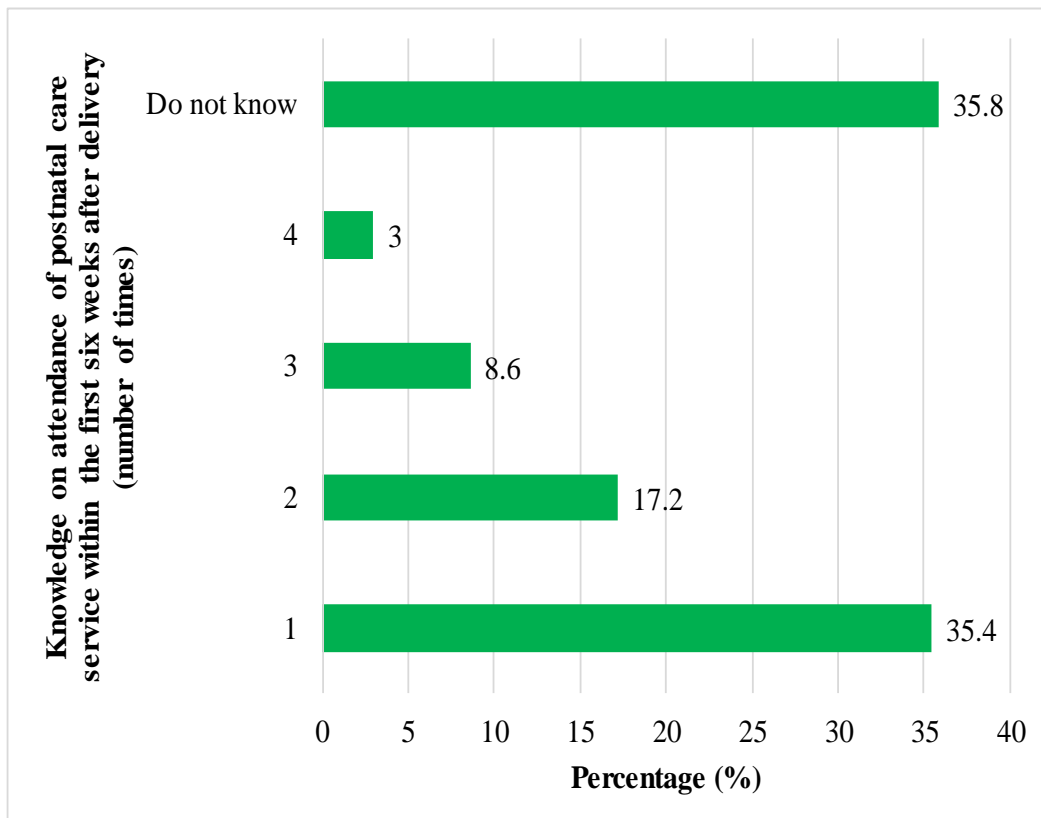


Figure 4.12: Knowledge on attendance of postnatal care service within the first six weeks after delivery

4.2.6 Two weeks postnatal care services utilization

Majority of the participants 155 (57.8%) did not attend their 2 weeks postnatal care services. Those participants who attended their 2 weeks postnatal care services were 113 (42.2%). There was a significant relationship between the attendance of two weeks postnatal services and the utilization of the postnatal care services. ($\chi^2 = 4.783$; $df = 1$; $P = 0.029$) (Figure 4.13, Table 4.3).

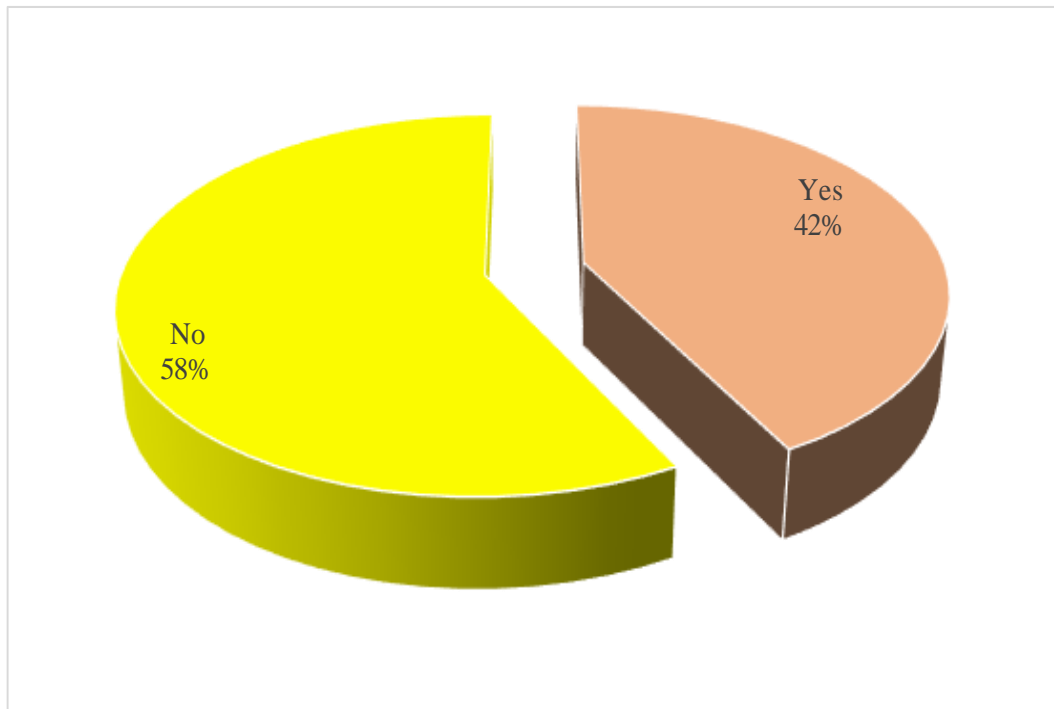


Figure 4.13: Two weeks postnatal care services utilization

4.2.7 Postnatal services received by respondents

For those participants who utilized postnatal care services, 83(31%) acknowledged receiving immunization services during their postnatal care visit. 22 (8.2%) participants acknowledged receiving postnatal checkup for both the mother and the baby during their postnatal care visit. Few women 9 (3.4%) and 5 (1.9%) acknowledged receiving treatment and family planning services during their postnatal care visit. There was no significant relationship between the postnatal care services received and the utilization of the postnatal care services. ($\chi^2 = 3.046$; $df = 3$; $P = 0.385$) (Figure 4.14, Table 4.3).

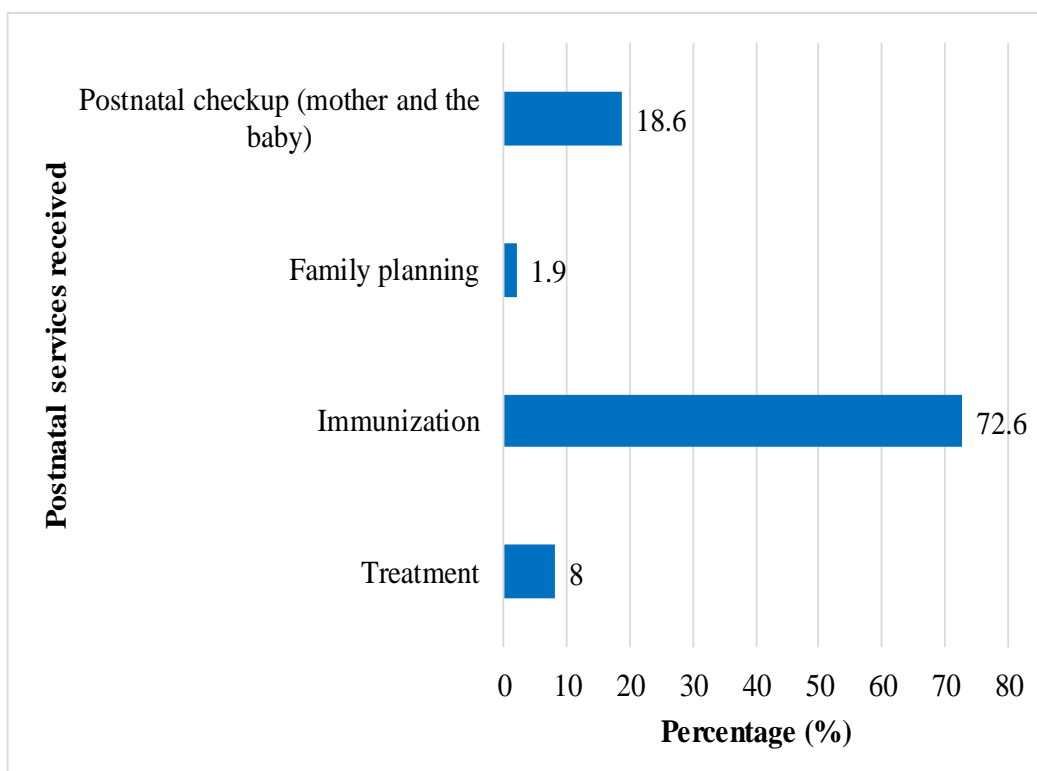


Figure 4.14: Postnatal services received by respondents

4.2.8 Awareness of postnatal care services

The study findings showed that majority of the study participants 150 (56%) agreed that postnatal services were important. 118 (44%) were not in agreement on the importance of postnatal services. There was a significant relationship between the awareness of postnatal care services and the utilization of the postnatal care services. ($\chi^2 = 19.64$; $df = 1$; $P < 0.001$) (Figure 4.15, Table 4.3).

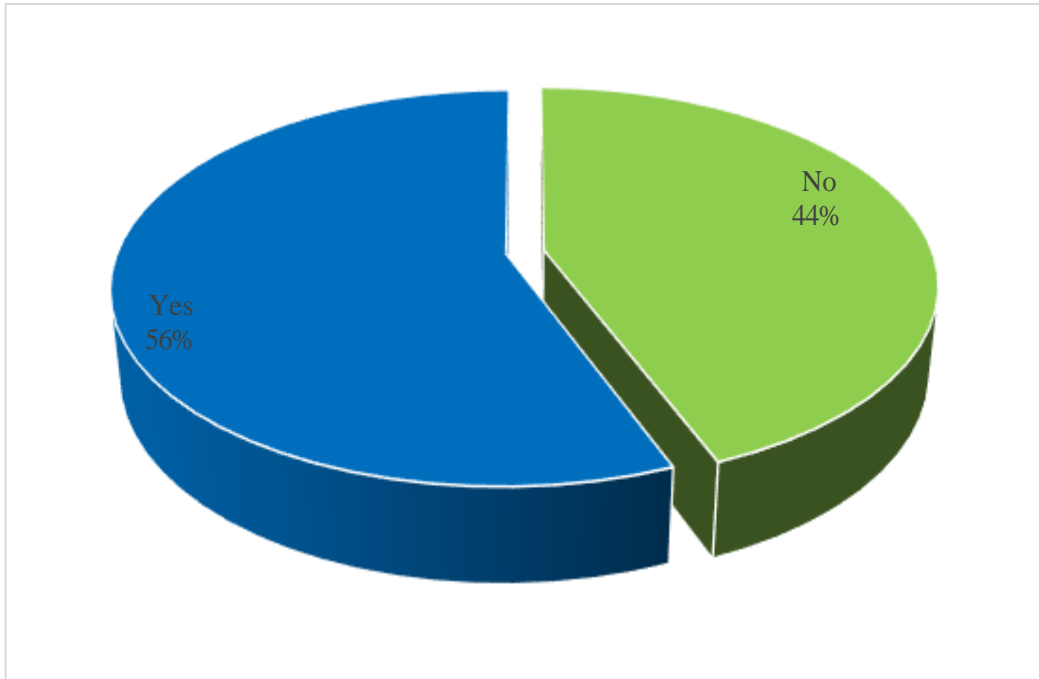


Figure 4.15: Awareness of postnatal care services

4.2.9 Source of information on postnatal care services

Majority of the participants 102 (75%) said that they received information on postnatal care services from the health workers. 25 (18.4%) said that they received information on postnatal care services from the media, while few of the participants 7 (5.1%) and 2 (1.5%) cited friends and other sources as their sources of information on postnatal care services. There was no significant relationship between the postnatal care services received and the utilization of the postnatal care services. ($\chi^2 = 8.08$; $df = 3$; $P = 0.848$) (Figure 4.16, Table 4.3).

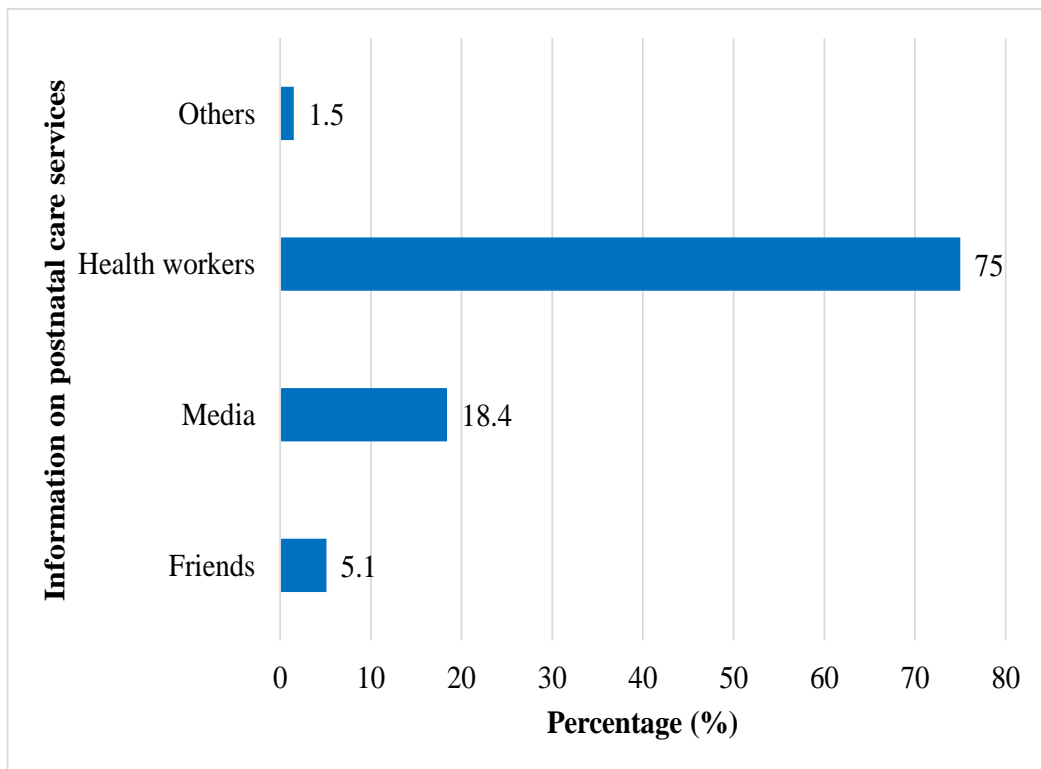


Figure 4.16: Information on postnatal care services

Table 4.3: Utilization of postnatal care services

Variable	Unit	Frequency (N)	Percentage (%)	X^2	df	P
Place of delivery	Home	102	38.1	48.213	1	<0.001
	Health facility	166	61.9			
First medical assesment after delivery	No	126	47	18.533	1	<0.001
	Yes	142	53			
Duration of first medical assesment after delivery	Hours	87	61.3	9.089	3	0.028
	Days	29	20.4			
	Weeks	16	11.3			
	Do not know	10	7			
Knowledge on attendance of postnatal care service within the first six weeks after delivery (number of times)	1	95	35.4	8.676	4	<0.001
	2	46	17.2			
	3	23	8.6			
	4	8	3			
	Do not know	96	35.8			
Two weeks postnatal care services	Yes	113	42.2	4.783	1	0.029
	No	155	57.8			
Postnatal services received	Treatment	9	8	3.046	3	0.385
	Immunization	82	72.6			
	Family planning	5	1.9			
	Postnatal checkup (mother and the baby)	21	18.6			
Awareness of postnatal care services	No	118	44	19.64	1	<0.001
	Yes	150	56			
Information on postnatal care services	Friends	7	5.1	0.808	3	0.848
	Media	25	18.4			
	Health workers	102	75			
	Other	2	1.5			

SD - Standard deviation; N - Number; (%) - Percentage; X^2 - Chi square test; df - degree of freedom; P - P value (level of significance <0.05)

4.2.10 Socio-demographic and socio-economic factors in relation to proportion of women utilizing postnatal care services

In terms of age, majority, 99 (52.9%) of the participants who had utilized post-natal care services were aged 21 – 30 years. As for the highest level of education, majority 83 (52.5%) of the participants who had utilized post-natal care services had secondary education. In terms of marital status of the study participants, 132 (55.9%) who had utilized post-natal care services were married. As for the number of children, 76 (62.3%) of the participants who had utilized post-natal care services had 2 – 3 children. In terms of occupation of the study participants, majority, 103 (59.2%) of the participants who did not utilized post-natal care services were unemployed. As for the residence of the study participants, majority, 85 (73.9%) of

the participants who did not utilize post-natal care services resided in the semi-urban areas. In terms of distance to the health facility, 62 (68.9%) who did not utilize post-natal care services resided in areas which were 0 – 5 kilometers from the health facility. (Table 4.4).

Table 4.4: Proportion of women utilizing postnatal care services in relation to sociodemographic and socioeconomics characteristics

Socio-demographic characteristics	N (%)	Utilization of Postnatal care services	
		No, N (%)	Yes, N (%)
Age			
15 - 20	32 (11.9)	20 (62.5)	12 (37.5)
21 - 30	187 (69.8)	88 (47.1)	99 (52.9)
31 - 40	46 (17.2)	14 (30.4)	32 (69.6)
41 - 50	3 (1.1)	2 (66.7)	1 (33.3)
Highest level of education			
No formal education	3 (1.1)	2 (66.7)	1 (33.3)
Primary school	72 (26.9)	36 (50.0)	36 (50.0)
Secondary school	158 (59.0)	75 (47.5)	83 (52.5)
Post-secondary	35 (13.1)	11 (31.4)	24 (68.6)
Marital status			
Married	236 (88.1)	104 (44.1)	132 (55.9)
Single	30 (11.2)	19 (63.3)	11 (36.7)
Separated/divorced	2 (0.7)	1 (50.0)	1 (50.0)
Number of children			
1	120 (44.8)	69 (57.5)	51 (42.5)
2 - 3	122 (45.5)	46 (37.7)	76 (62.3)
4 - 5	24 (9.0)	7 (29.2)	17 (70.8)
More than 5	2 (0.7)	2 (100)	0
Socio-economic characteristics			
Occupation			
Formal employment	65 (24.4)	49 (75.4)	16 (24.6)
Agricultural/Retail	27 (10.2)	18 (66.7)	9 (33.3)
Unemployed	174 (65.4)	103 (59.2)	71 (40.8)
Place of residence			
Rural	90 (33.9)	43 (47.8)	43 (47.8)
Urban	61 (22.9)	43 (70.5)	18 (29.5)
Semi-urban	115 (43.2)	85 (73.9)	30 (26.1)
Accessibility (Kilometers)			
0 - 5	90 (34)	62 (68.9)	28 (31.1)
6 - 10	85 (32)	46 (54.1)	39 (45.9)
11 - 15	58 (21.9)	36 (62.1)	22 (37.9)
More than 15	32 (12.1)	26 (81.3)	6 (18.3)

N - Number; (%) - Percentage

4.3 Health provider and health facility factors

4.3.1 Reception at the health facility

When collecting data on the reception at the health facility, Likert scale was used to categorize the responses. Majority of the participants 174 (65.7%) stated that the reception at the health facility was friendly, with 36 (13.6%) mentioning that they experienced a very friendly reception. However, 27 (5.2%) stated that their reception was slow while 23 (8.7%) participants said that their reception was done in a hurried manner. Few of the participants 5 (1.9%) mentioned that they had received a rude reception at the health facility (Figure 4.17, Table 4.5).

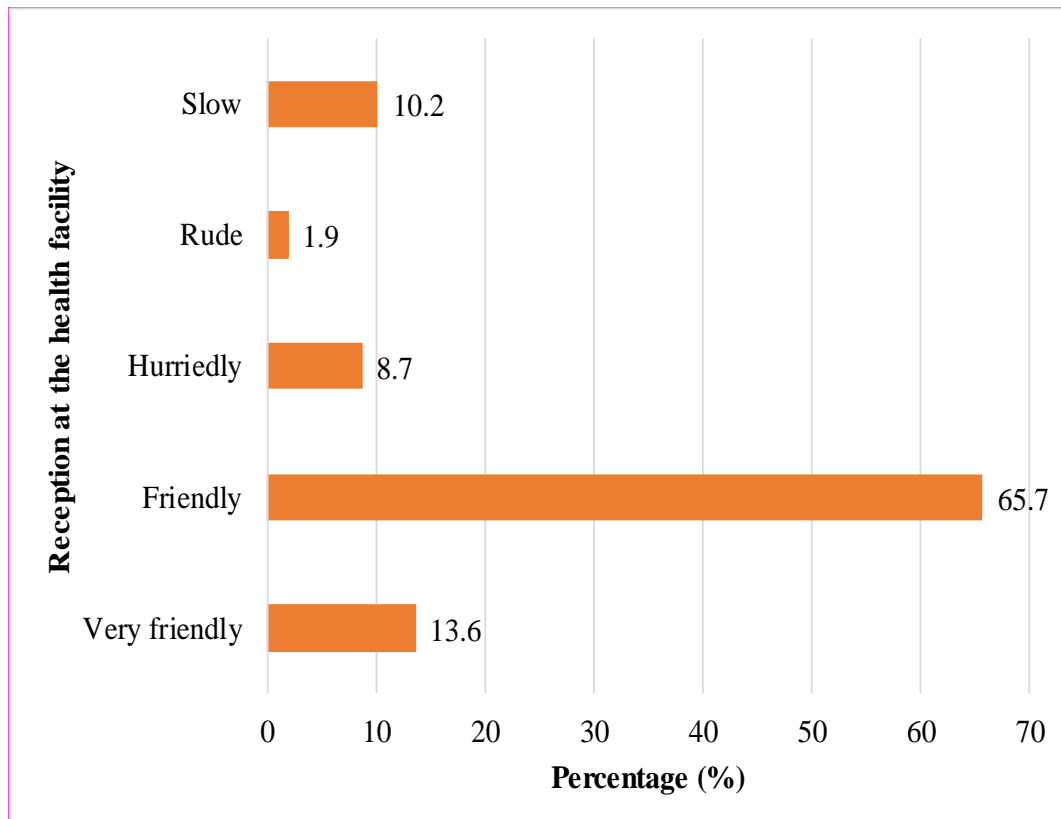


Figure 4.17: Reception at the health facility

4.3.2 Teaching about postnatal care during ANC visits

Slightly more than a half of the participants 139 (52.3%) were not taught about postnatal care during their antenatal visits. However, 127 (47.7%) were taught about postnatal care during their antenatal visits. (Figure 4.18, Table 4.5).

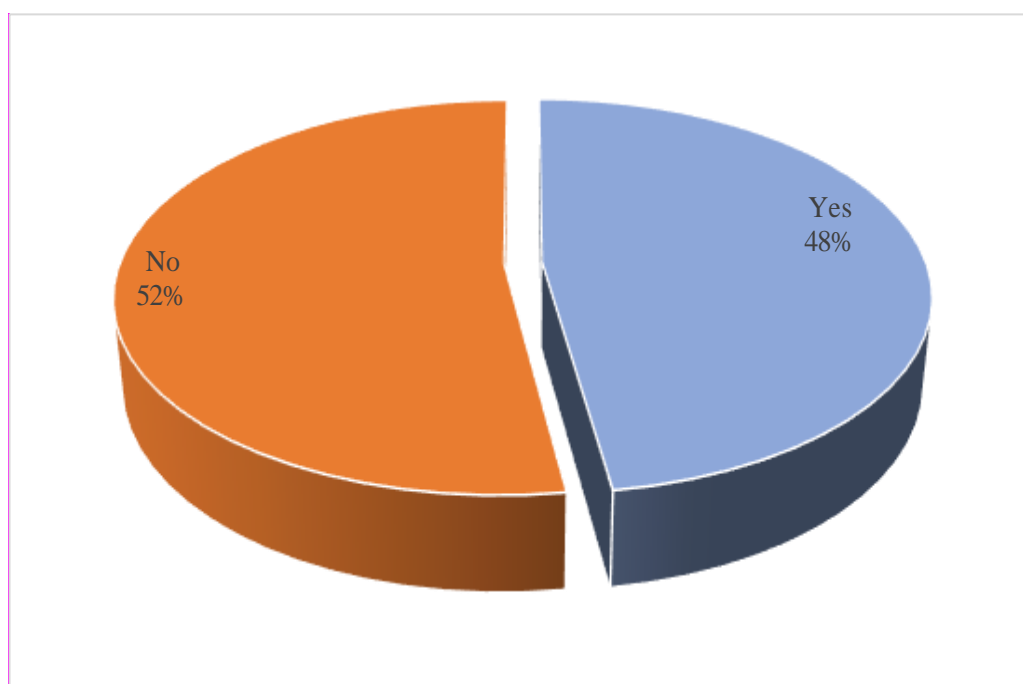


Figure 4.18: Teaching about postnatal care during ANC visits

4.3.3 The level of information received

Majority of the participants 73 (56.2%) acknowledged that the level of information they received at the health facility was good, with 28 (21.5%) acknowledging that the level of information they received at the health facility as being excellent.

However, 26 (20%) stated that the level of information they received at the health facility was fair. Few of the participants 3 (2.3%) said that the level of information they received at the health facility was poor. (Figure 4.19, Table 4.5).

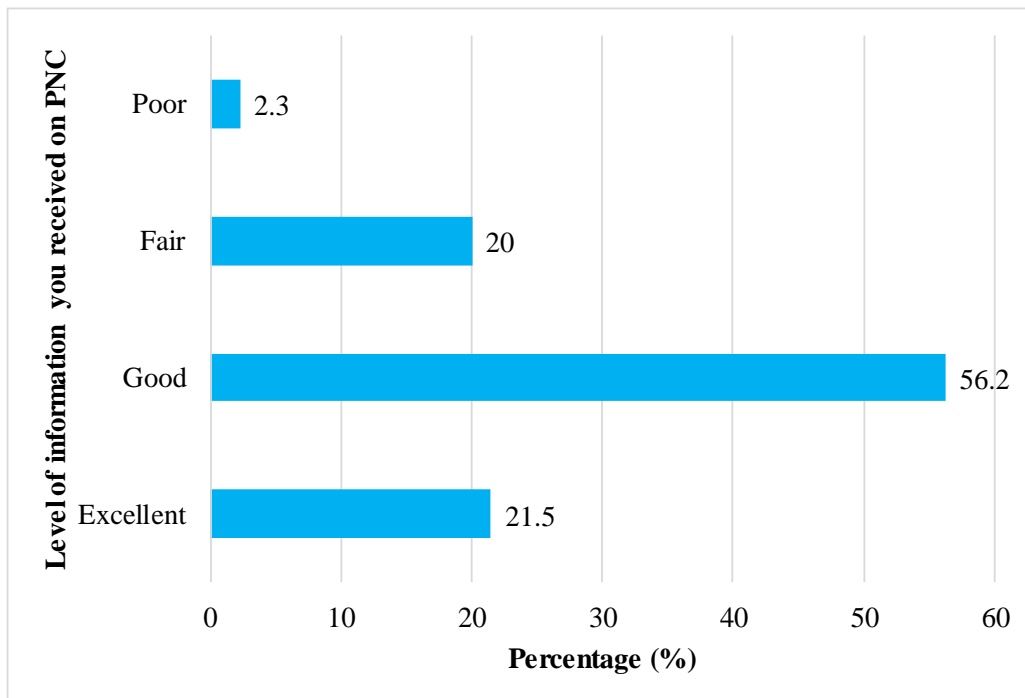


Figure 4.19: The level of information received on PNC

4.3.4 Challenges incurred when receiving postnatal care services

Majority of the participants 235 (89.7%) said that they did not experience any problem receiving postnatal care services. However, 27 (10.3%) said that they experienced problems receiving postnatal care services during their clinic visits. (Figure 4.20, Table 4.5).

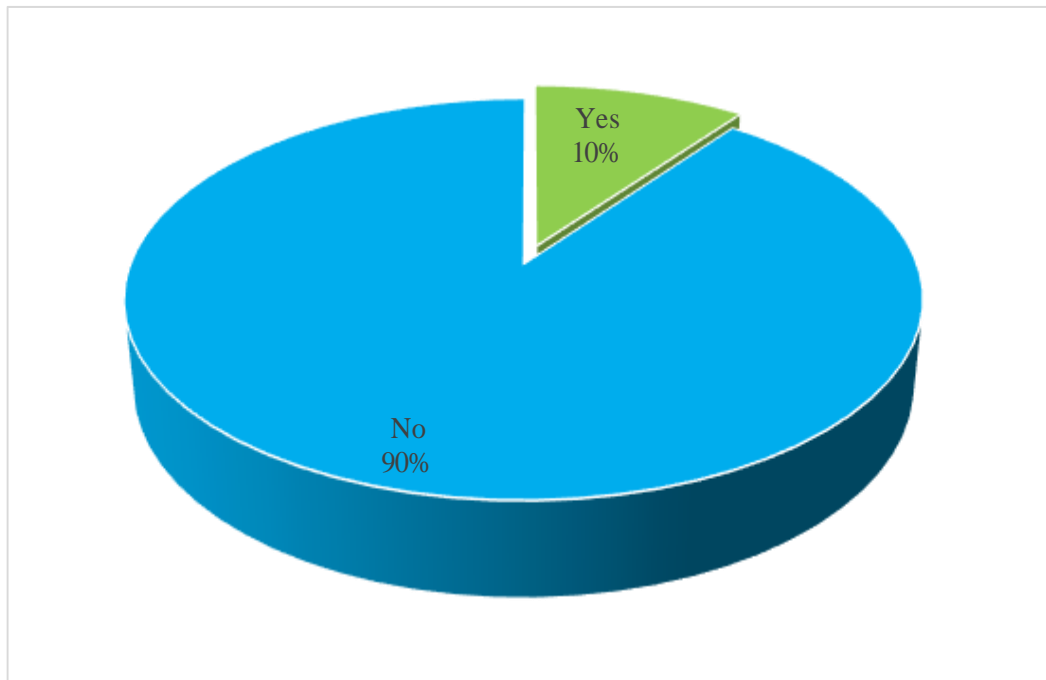


Figure 4.20: Challenges incurred when receiving postnatal care services

For the participants who experienced problems that prevented them receiving postnatal care services were, the following reasons were given: *“The baby was in neonatal unit”, “Distance”, “pain from episiotomy”, “Health workers were on strike”, “I am a student”, “I had a perennial tear”, “I was unable to walk”, “I had no fare to Kisii Teaching and Referral hospital”, “I had no money”, “I was doing exams”, “I was held up tightly with work”, “I was sick”, “It was raining too much”, “Poor weather condition”, “The baby was in the incubator”, “The baby was sick”.*

4.3.5 Provision of postnatal care services

Majority of the participants 234 (90%) said that they were happy with the provision of the postnatal care services. However, 26 (10%) said that they were not happy with the provision of the postnatal care services. (Figure 4.21, Table 4.5).

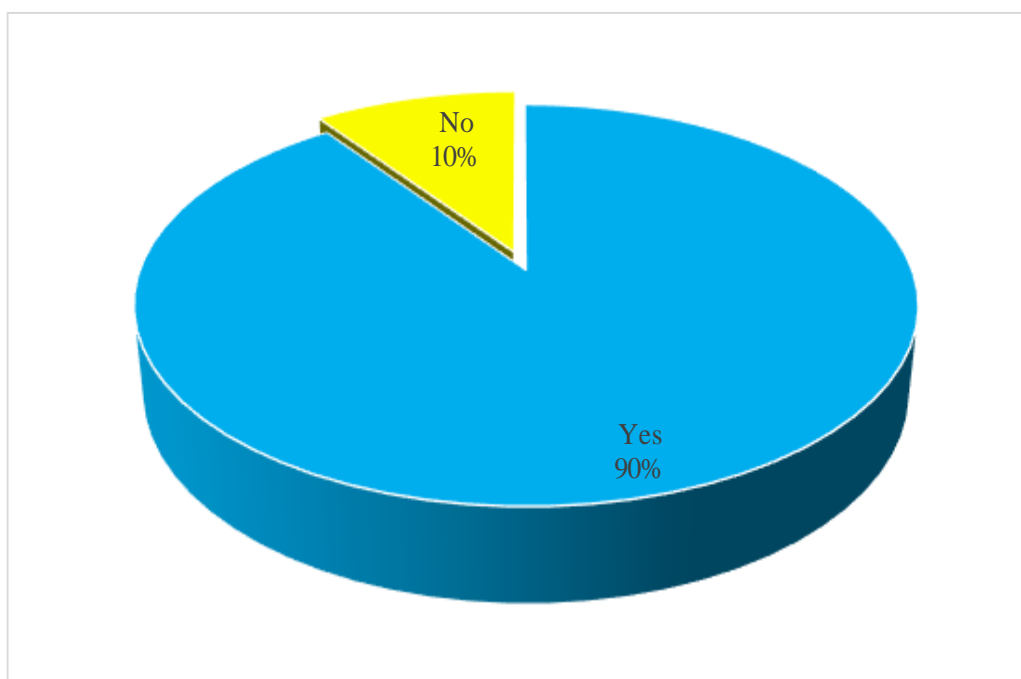


Figure 4.21: Provision of postnatal care services

Table 4.5: Health provider and health facility factors

Variable	Unit	Frequency (N)	Percentage (%)
Reception at the health facility	Very friendly	36	13.6
	Friendly	174	65.7
	Hurriedly	23	8.7
	Rude	5	1.9
	Slow	27	10.2
Teaching about postnatal care during ANC	Yes	127	47.7
	No	139	52.3
Level of information you received	Excellent	28	21.5
	Good	73	56.2
	Fair	26	20
	Poor	3	2.3
Challenges preventing receiving of post natal care services	Yes	27	10.3
	No	235	89.7
Happy with provision of post natal care services	Yes	234	90
	No	26	10

4.4 Socio-economic factors influencing utilization of postnatal care services

Table 4.6 shows socio-economic factors influencing utilization of postnatal care services. In bivariate analysis, participants who were employed were 2.1 times more likely to utilize postnatal care services (OR 2.1, 95% CI 1.1 to 4.0, P=0.022).

Table 4.6: Socio-economic factors influencing utilization of postnatal care services

Socio-economic characteristics	N (%)	Utilization of Postnatal care services		P	OR (95% CI)
		No, N (%)	Yes, N (%)		
Occupation					
Formal employment	65 (24.4)	49 (75.4)	16 (24.6)	0.022	2.111 (1.113 - 4.004)
Agricultural/Retail	27 (10.2)	18 (66.7)	9 (33.3)	0.462	1.379 (0.586 - 3.243)
Unemployed	174 (65.4)	103 (59.2)	71 (40.8)		Ref
Place of residence					
Rural	90 (33.9)	43 (47.8)	43 (47.8)	0.226	0.701 (0.395 - 1.245)
Urban	61 (22.9)	43 (70.5)	18 (29.5)	0.653	1.175 (0.583 - 2.372)
Semi-urban	115 (43.2)	85 (73.9)	30 (26.1)		Ref
Residence distance from the health facility (Kilometers)					
0 - 5	90 (34)	62 (68.9)	28 (31.1)		Ref
6 - 10	85 (32)	46 (54.1)	39 (45.9)	0.392	1.353 (0.677 - 2.706)
11 - 15	58 (21.9)	36 (62.1)	22 (37.9)	0.346	0.721 (0.365 - 1.424)
More than 15	32 (12.1)	26 (81.3)	6 (18.3)	0.065	2.648 (0.942 - 7.448)

N - Number; (%) - Percentage; P - P value (level of significance <0.05); OR - Odds Ratio; CI - Confidence interval

4.5 Health provider and health facility factors influencing utilization of postnatal care

Table 4.7 shows Health provider and health facility factors influencing utilization of postnatal care. In bivariate analysis, participants who had a very friendly and friendly reception were more likely to utilize postnatal care services (OR 8.5, 95% CI 2.4 to 11.5, P=0.006). Participants who were taught about postnatal care services during the antenatal clinic were more likely to utilize postnatal care services (OR 2.3, 95% CI 1.2 to 4.4, P=0.008).

As for the level of information received and challenges incurred when receiving postnatal care and being happy with provision postnatal care, none of these factors were found to be associated with Health provider and health facility factors influencing utilization of postnatal care.

Table 4.7: Health provider and health facility factors influencing utilization of postnatal care

Health provider and health facility factors	Unit	N (%)	Utilization of Postnatal care services		P	OR (95% CI)
			No, N (%)	Yes, N (%)		
Reception at the health facility	Very friendly	36 (13.6)	35 (97.2)	1 (2.8)	0.006	8.588 (2.433 - 11.242)
	Friendly	174 (67.7)	138 (79.9)	35 (20.1)	0.054	2.336 (0.984 - 5.546)
	Hurriedly	23 (8.7)	19 (82.6)	4 (17.4)	0.13	0.794 (0.738 - 10.580)
	Rude	5 (1.9)	2 (40)	3 (60)	0.347	0.392 (0.056 - 2.763)
	Slow	27 (10.2)	17 (63)	10 (37)		Ref
Teaching about postnatal care during ANC	Yes	127 (47.7)	110 (86.6)	17 (13.4)	0.008	2.347 (1.245 - 4.426)
	No	139 (52.3)	102 (73.4)	37 (26.6)		Ref
Level of information you received	Excellent	28 (21.5)	26 (92.9)	2 (7.1)	0.19	6.5 (0.396 - 6.712)
	Good	73 (56.2)	65 (89.0)	8 (11)	0.274	4.062 (0.330 - 5.002)
	Fair	26 (20)	20 (76.9)	6 (23.1)	0.697	0.667 (0.128 - 1.732)
	Poor	3 (2.3)	2 (66.7)	1 (33.3)		Ref
Challenges incurred when receiving postnatal care services	Yes	27 (10.3)	18 (66.7)	9 (33.3)	0.079	0.461(0.194 - 1.094 0
	No	235 (89.7)	191 (81.3)	44 (18.7)		Ref
Happy with provision of post natal care services	Yes	234 (90)	192 (82.1)	42 (17.9)		Ref
	No	26 (10)	16 (61.5)	10 (38.5)	0.016	0.350 (0.148 - 0.825)

N - Number; (%) - Percentage; P - P value (level of significance <0.05); OR - Odds Ratio; CI - Confidence interval

4.6 Suggestions on how postnatal care services can be improved

Below are the suggestions given by the participants on how to improve post-natal care services?

Table 4.8: Suggestions on postnatal care services

Suggestions	Frequency (N)	Percent (%)
Employ more nurses	18	33.3
Buy more weighing machines	1	1.9
Bring services closer to the people	3	5.6
Create awareness	13	24.1
Improve services	19	35.2
Total	54	100

CHAPTER FIVE

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Discussion

5.1.1 Low utilization of postnatal care services

This study documented a low utilization of postnatal care services at Kisii Teaching and Referral Hospital as only 35.8% of the respondents utilized postnatal care services which is a far cry from the recommended universal access of maternal services as advocated by the WHO (2013) and GoK (2016). These findings were lower than the findings of the National average, Kenya Demographic Health Survey 2014/2015 (KDHS, 2014) with 57%. A study conducted by Akunga et al. (2014) recorded 47% and in Kiambaa area of Kiambu county only 45.1% utilized postnatal care (Njoka, 2015). The difference might happen due to the fact that the study was a hospital set up with a small study population. In contrast, this findings is higher than the study findings in Nyeri Provincial Hospital which recorded about 14.2% utilized postnatal care, (Kinuthia, 2014). This may be attributed to the time differences that there could be improvement in accessing and utilizing postnatal care through time. Although the study was in line with a study conducted in Loma district of Ethiopia whereby 36% utilized postnatal care services (Ergat, 2018).

A number of studies in third world countries have shown that demographic factors such as age, education, and distance are associated with the use of postnatal care services (Sharma *et al.*, 2007).

5.1.2 Demographic and socio-economic characteristics

In this study, it was established that the majority about 70% of the respondents were aged between 21 to 30 years. This is in line that young mothers have grown up with more knowledge around ANC, delivery in a health facility and PNC and therefore most likely to take advantage of these services in a medical health care system. Similar studies (Dhakal *et al.*, 2007; Workinet *et al.*, 2014) showed that older age was associated with less PNC utilization. The hypothesis that women above 35 years

have grown up with a mentality that pregnancy is not a disease and thus does not require to seek care at a health facility during and after pregnancy (Fakadu *et al.*, 2014). The findings of this study is in agreement with a study done in Nyeri Provincial Hospital on Factors Affecting Utilization of Postnatal Care Services in Kenya, (Kinuthia, 2014) which showed that majority of the respondents were between 21-30 years of age utilized postnatal care services. It is well recognized that age plays an important role in women's utilization of maternal health services. Since older and young women have different experience; and influence, their behavior on seeking PNC also vary, younger women might have enhanced their knowledge on modern medicine and are more likely to utilize modern health facilities than older women. A study done in Nepal (Sharma *et al.*, 2007) gave results that women over 35 years are less likely to utilize PNC services. In this study the pattern was similar, 11.9% were of those women below 20 years, 69.8% were of those women between 21-30 years, 17.2% were of those women between 31-40 years and 1% above 41 years utilized the services.

It is well known that a mother's education has a positive influence on PNC services utilization. The findings of this study revealed that 59% attained secondary education and 26.9% acquired post-secondary education showed that the higher the education level the better utilization of PNC as compared to mothers of primary education with 13.1% and those with no education at 1.1%.

This result were inconsistent with a study done in Kenya on determinant of postnatal use in Kenya, (Akunga *et al.*, 2014) which suggested that women with education beyond primary school, women living in urban areas, women attending ANC at least 4 visits and women delivering in health facilities are more likely to use PNC services compared to other women. Also it is similar with findings from studies conducted in Ethiopia, Indonesia, Uganda and India (Mekonnen, Yared & Asnaketch, 2002; Araya *et al.*, 2012; Worker *et al.*, 2014). This could be explained by the fact education has positive input in enhancing female autonomy and help women develop greater confidence and capable to make decisions concerning their health. Thus, literate women seek out higher quality health services and have greater ability to use health

care inputs that offer better health outcomes (Titaley *et al.*, 2009; Annet, 2004; Sahoo, 2012).

Although marriage is important and is the tradition in a society like that of Omogusii, up to 88% of the births in the present study occurred among women who were married. Marital status is an important socio-demographic characteristic of an individual that affects the underlying tendency to seek health in Africa (Khan *et al.*, 2006).

Number of children is another obstetric factor found to be significantly affecting the use of PNC. With respect to birth order, this study showed that with each additional birth, utilization levels decreases. This finding is in agreement with evidence from a study conducted among mothers in rural Nepal (Sulochana, 2007). The chances of utilizing PNC decreased in mothers who get pregnant for fourth and above than those with below three children. As the number of pregnancy increases the probability of giving birth in health institution decreases, this implies that mothers seek modern obstetric care for their first pregnancy than for the subsequent pregnancies because they believe that they are now experienced and exposure in matters concerning obstetrics.

The decline in PNC services among higher birth had also been shown in a study done at Mbeere District (Mwaniki, 2002) which agrees with the results of this study as women with higher birth more than fourth rarely attend PNC.

Interestingly, majority of the study participants 65.4% were unemployed in this study, whereby employment is synonymous with empowerment, which may affect family's wealth status that in turn motivates good health service utilization. This was contrary with a previous study by employment status which was a determinant of use of services and those in self-employment were 65% less likely to use the services than those in formal engagement. Agriculture is a very significant contributor to Kisii economy, primarily substance agriculture (KDHS, 2014) it is reasonable to assume that households who depend on agriculture/retail business may be unable to attend PNC due to time away from work affecting their food production and income, this results are in line with a study done in Nepal (Vishnu *et al.*, 2011).

In regard with place of residence, often rural – urban differences in utilization of maternal health services reflect the existing differences in access to health services and opportunities (Ruataremwa, 2012). The reason for rural urban disparity in utilization of health services is not new phenomenon, and can be explained by variations in access to maternal health resources, where urban and semi urban locations often tend to be more privileged relatively to rural areas (Gabrych & Campell, 2009). Our findings showed that majority of the study participants resided in semi-urban, 43.2%, urban 22.9% and rural dwellers with 33%. This could be attributed to in semi-urban areas mothers may have good awareness about the advantage of postnatal care services and had a better educational status than the rural residents. In addition, mothers in towns may get easy access to health institutions and health care providers when compared with rural residents but this was contrary in this study. Other studies have, however, highlighted poor maternal health outcomes associated with urban poverty (Izugbara & Ngilangwa, 2010), especially in the poor slum settlements associated with major urban centers.

Distance from health facility remains a major problem as shown in the previous literature; utilization of health services is strongly associated with access to the health facility (Titaley *et al.*, 2010; Rahman, 2010; Warren, 2010), in this study, those who travel a distance below 5Km where more likely to utilize PNC than those from a distance above 15 Km. This may be inferred to the cost of travel in terms of money and energy. From this study, distance to the health facility was found to influence utilization of PNC because majority 34% resided in areas that were < 5 kilometers away from the health facility. This was in agreement with other studies that documented distance to the health facility to be a barrier to uptake of services (Mwanika *et al.*, 2002; Kamau, 2014).

5.1.3 Utilization of postnatal care services

In this study a mother and her newborn is deemed to have utilized PNC services if attended by a health care worker at least three times in the postnatal care period (within 42 days). In this study, less than half of the women 35.8% attended PNC at least three times as recommended by WHO (2014), GOK (2011) during the first 42

days post-delivery. This is far below the national figure of 57% who received a postnatal checkup in their last live birth (KDHS, 2014). Although this was in line with other studies conducted locally; in Nyeri general hospital 14.2% (Peter Kinuthia, 2014), in Kiambaa area of Kiambu County 45.1% (Njoka, 2015) and one conducted in Kenya 47% (Akunga *et al.*, 2014). This is a confirmation that PNC services are poorly utilized and the weakest in maternal neonatal continuum of care compared to ANC attendance of 98% and delivery with skilled attendance of 70% (KDHS, 2014). Honestly this is a far cry from the recommended universal access of maternal services as advocated by (WHO, 2013) and (GOK, 2010). Poor rates of PNC attendance have been previously reported in other settings within sub-Saharan states, Lawn and Kerbe, (2006).

Ethiopian DHS reports that the attendance of PNC within six weeks after childbirth was only 19% among the surveyed postnatal mothers (Mekonnen *et al.*, 2002)

Results from a study conducted in Congo showed that only 34.6% of postnatal women had attended PNC within 42 days following childbirth (Dramax *et al.*, 2012). The poor uptake of postnatal care services imply that for many mothers and their infants the continuum of care is disrupted during this critical period when lack of appropriate care could result in significant poor health and even death. Timing of PNC visit is very important and in this study only 42.2% attended postnatal clinic within two weeks, this is in line to a study done in Uganda reported 15.4% had postnatal care within a week (Izudi *et al.*, 2015).

Place of delivery was a major factor predicting PNC utilization in our study, mothers who delivered their last baby in a health institution utilized PNC more when compared with those who delivered at home. This finding is nearly in agreement with evidence from India (Jat *et al.*, 2012). Demographic health survey results in developing countries (USAID ICF Macro., 2011) and in Nepal (Dhakal *et al.*, 2007). The association of PNC services utilization with place of delivery can be attributed to the fact that women who gave their last births in health facility have greater opportunity to get exposed to health education associates to PNC services at the time of delivery and hence get access to learn about the types, benefits and availabilities

of PNC services during their stay in a health facility. This exposure increases health care seeking behaviors to prevent maternal and infant complications compared to those mothers who gave birth at home. Furthermore, those women who gave birth at home belong to more traditional cohort and hence become less likely to use PNC services (Tesfahum, 2014).our study findings were contrary with a study conducted in Uganda (Rutaremwaa *et al.*, 2015) which indicated that, majority of the women opted for home births, and about a quarter of them delivered at a health facility (Kwagala, 2013).

Although majority of women 56% acknowledged the importance of PNC services in broader sense but they did not know when should seek those services in practice the visits were meant for immunization and monitoring progress of their young ones and less so for women's health and this occurred after six weeks. Similar studies conducted in Ethiopia found that those women who had got information about PNC from health care workers and nurses were more likely to attend postnatal care services compared to those women who got information from other sources (Gabrysch *et al.*, 2009). Many women reported that PNC services were for the infants to receive vaccination when due. Women sometimes do ignore negative health outcomes that can occur during puerperium which jeopardize their health; therefore WHO, (2013) recommends PNC for all women and the young ones, including those assessments of both physical and mental well- being. These findings may lead to a conclusion that the PNC service uptake is highly influenced by the knowledge of women on postnatal care benefits. There was perception that only women and neonates with health problems need to receive postnatal care.

5.1.4 Health provider and health facility factor

Perceived quality of services was found to be predictive of PNC utilization with a bias of good services. Respondents who rated reception at the health facility as friendly were 65.7%. Those taught about PNC during ANC visit were 47.7% and those who acknowledge the level of information received as good were 56.2% more likely to utilize PNC as compared to those rated the services as poor. This is in agreement with other studies (Onah *et al.*, 2006; Mrisho *et al.*, 2009; Kamau, 2014)

which highlighted that promptness of care, competence of health workers, desire for privacy, perceived availability of equipment, friendliness of staff were all determinants of utilization of health care services.

It was observed that where people have the choice between several facilities, they sometimes travel further if they target a facility which is perceived to offer superior quality care (Gabrysch & Campell, 2009). They further reported that even where facilities were conveniently located, they were under used if their quality were considered to be bad. From this study, it is evident that the mother experienced some form of disrespectful care; thus consistent with other studies in Kenya that reported undignified care (Centre for Reproductive Rights and Federation Women Lawyers, 2007). Disrespectful care also has been documented as a key barrier to the uptake of services as noted by Bowser *et al.* (2010). 52.3% of the women were not taught or informed about PNC during their antenatal visits, meaning many HCWs did not inform the mothers about PNC services. Similar findings have been documented elsewhere by Titaley *et al.*, (2009), who reported that they did not receive appointments for the services on discharge and therefore were not aware of them. Besides, respondents reported were relational practices of health providers, a situation often attributed to poor working conditions among health professionals (Kruk *et al.*, 2010). Previous studies have established that poor relationship between women and health attendants' affects women's health seeking practices (Kiwauka *et al.*, 2008; Yakong *et al.*, 2010). This indicates that factors which influence maternal health service utilization may not only be attributed to specific background characteristics of users but also those associated with the attitude of health attendants and the health systems in general. In a study of health system factors influencing maternal health services in four countries (Parkhurst *et al.*, 2005) found that systems issues notably those related to human resources influenced the access to and utilization of services, quality of care provided and ultimately maternal health outcomes. Opening hours of health facilities (usually operate between 9:00am-01:00pm) only weekdays, may also hinder women from seeking postnatal care. This conflicting time schedule may provide an explanation for the decreased likelihood of PNC attendance amongst mothers. This suggests that greater attention to the users' and health providers' perspective needs to be considered for service improvement.

5.2 Conclusion

This study assessed factors influenced Postnatal Care utilization among women of reproductive age at Kisii teaching and referral hospital – Kenya.

1. Morbidity and Mortality occasioned by majority (64%) who were found not to have utilized PNC services will continue to pose serious challenges in effort towards addressing maternal and child care. Place of delivery, awareness of postnatal care and attendance at two weeks postnatal care were key parameters that were associated with utilization of PNC services.
2. Socio-economic factors which were found to be associated with utilization of PNC services was largely depended upon individual factors such as; occupation, place of residence and accessibility to health facility. Expectations of the family from women are high in stabilizing its members regardless of their health status, among other socio-economic factors.
3. Health provider factors relating to behavior and general practices such as, attitude, reception at the facility, teaching about PNC during ANC visit and level of information received among others are key issues that directly or indirectly influence women to the uptake of PNC services. However, there are also health facility factors that were responsible for enhancing utilization of PNC services, they include the number of healthcare workers, commodity related issues, general quality of care given and the waiting time contribute to a greater extent towards utilization of PNC services.

5.3 Recommendations

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

1. County MOH and facility managers need to continue sensitize the communities more so women on the importance of PNC through provision of easy to understand self-help IEC materials.
2. Community linkages through community health extension workers and community health workers should be strengthened and possibility of facility

outreaches for key populations (women) should look into a system that would continue to promote good PNC practices and professional supervision.

3. There is need to improve PNC related infrastructure. This includes increasing the number of nurses in CWC, continuous capacity building of health care workers on reproductive health with emphasizes on PNC services and client relation should be enhanced, provision of tools and equipment and creating a lunch hour shift these may help improve utilization of postnatal care services

4. Further research to compare postnatal care services given to women who delivered in health facilities and those who had home deliveries in terms of services provided, strategies and their outcomes.

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APPENDICES

Appendix I: Introduction Letter

MAYIEKA NICHOLAS ONGERA

P. O BOX 20895-00200

NAIROBI

TEL: 0721676933/0737509340

THRO,

THE MEDICAL SUPERINTENDENT

KISII TEACHING AND REFERRAL HOSPITAL

P. O BOX 52

KISII

Dear Sir/Madam,

REF: PERMISSION TO CARRY OUT ACADEMIC RESEARCH IN YOUR INSTITUTION

I am a student of Jomo Kenyatta University of Agriculture and Technology pursuing a Master Degree in Public Health. I am conducting an academic research on the factors influencing utilization of postnatal care services. The purpose of this letter is to request to be allowed to conduct this research in your institution.

I wish to state that I will strictly adhere to the code of conduct required with total respect to confidentiality. All records and information obtained will be handled discreetly and professionally, will remain confidential unless otherwise through your content and of any other person involved.

Looking forward to your kind and favorable consideration.

Yours faithfully,

MAYIEKA NICHOLAS ONGERA

Appendix II (A): Informed Consent Form

Project Title: - Factors Influencing Utilization of Postnatal Care Services among Women of Reproductive Age (15-49 years) attending Child Welfare Clinic at Kisii Teaching and Referral Hospital-Kenya

- List of investigators**
1. Mayieka Nicholas Ongera – Principal Investigator
 2. Prof. Gideon Kikuvi – Co-investigator
 3. Dr. Daniel Mokaya – Co-investigator

Introduction: My name is MAYIEKA NICHOLAS ONGERA, an MSc student in public health at Jomo Kenyatta University of Agriculture and Technology (JKUAT). You are kindly required to participate in this study because you meet the basic inclusion criteria for the study. I would like to collect information on factors influencing the utilization of post postnatal care services among women of reproductive age (15-49 years) attending a child welfare clinic.

Purpose of the study: the main aim of the study is to determine the factors influencing utilization of postnatal care services among women of reproductive age attending CWC at Kisii Teaching and Referral Hospital.

Procedure: If you volunteer to participate in this study both verbally and by signing the section at the end of the form, you will be interviewed by trained personnel who will fill the collected information into a questionnaire.

Potential risks and discomfort: Some of the questions might be uncomfortable and you don't have to answer them if they are causing any form of discomfort.

Benefits of the study: there will be no monetary benefits associated with participating in this study but only the information gathered will improve the services clients receive in this facility.

Confidentiality of the records: any records relating to the clients will be treated with the utmost confidentiality. Your names will not appear in any of the reports from this study. Personal identifiers will not be included in the written questionnaires.

Basics of participation:

- You are being requested to participate in this study.
- Participation is entirely voluntary
- You are free to withdraw the consent to participate in this study at any time.

- You are free to ask any questions pertaining the study which may not be clear to you after the consent has been explained to you.

Who to Contact

You are encouraged to ask any question to clarify any issues at any time during your participation in the study. If you need more information of the study, you will contact the following persons

Name	Contact	Institution	Email address
Nicholas Mayieka	0721676933	JKUAT	nicklaonge@yahoo.com
Prof. Gideon Kikuvi	0725363151	JKUAT	kikuvi@itromid.jkuat.ac.ke
Dr. Daniel Mokaya	0733704573	JKUAT	mokayadm@gmail.com

You can also contact KNH-UON Ethics and Research Committee using the landline number 020726300-9 or through the email address Uonknh-erc@Uonbi.ac.ke

Consent

I the undersigned have understood the above information which has been read and explained to me by the researcher and I voluntarily consent to participate. I have had the opportunity to ask questions and all my questions have been answered satisfactorily.

Respondent's name _____

Respondent's signature_____

Date___/___/2018

Researcher's name_____

Researcher's signature_____

Apendix II (B): Kiambatisho Cha Pili: Fomu Ya Ridhaa

Mada ya Mradi: Vishawishi kwenye utafutaji wa huduma za afya za baada ya kujifungua kwa wanawake walio kwenye umri wa uzazi (15-49) wanaotafuta huduma za kliniki kwa watoto wao katika hospitali kuu ya rufaa ya Kisii (KTRH).

Waliohusika Kwenye Utafiti:

- 1. Mayieka Nicholas Ongera- Mtafiti Mkuu**
- 2. Prof. Gideon – Mtafiti Mwenza**
- 3. Dr. Daniel Mokaya- Mtafiti Mwenza**

Utangulizi: Kwa majina naitwa MAYIEKA NICHOLAS ONGERA, mwanafunzi wa Shahada ya Uzamili ya sayansi (MSc) katika somo la afya ya umma katika Chuo Kikuu cha Ukulima na Teknolojia cha Jomo Kenyatta (JKUAT). Unaombwa kushiriki kwenye utafiti huu kwa sababu umetimiza vigezo vya kushirikishwa. Ningependa kupata maoni yako kuhusu vishawishi kwenye utafutaji wa huduma za afya za baada ya kujifungua kwa wanawake walio kwenye umri wa uzazi (15-49) wanaotafuta huduma za kliniki kwa watoto wao katika hospitali kuu ya rufaa ya Kisii (KTRH).

Kusudi la Utafiti: Sababu kuu ya kufanya utafiti huu ni kujua vishawishi vilivyoko kwenye utafutaji wa huduma za afya za baada ya kujifungua kwa wanawake walio kwenye umri wa uzazi (15-49) wanaotafuta huduma za kliniki kwa watoto wao katika hospitali kuu ya rufaa ya Kisii.

Utaratibu: Ikiwa utakubali kushiriki kwenye utafiti huu, kwa mazungumzo na pia kwa kutia sahihi sehemu ya mwisho ya fomu hii, utahojiwa na wataalamu ambao watajaza majibu yako kwenye orodha ya maswali ya uchunguzi.

Uwezekano wa hatari na Usumbufu: Baadhi ya maswali yanaweza kuudhi. Hatalazimishwa kuyajibu ikiwa yatakuudhi ama kuleta usumbufu wa aina yoyote.

Faida za Utafiti: Hatalipwa fedha kwa kushiriki utafiti huu ila maoni yako yatasaidia kuboresha huduma wanazopata wateja wa hospitali hii.

Usiri wa Kumbukumbu/Rekodi: Taarifa zote zinazowahusu wateja zitawekwa kwa siri kubwa. Majina yako hayatachapishwa kwenye ripoti yoyote ya utafiti huu. Vitambulisho vya ubinafsi havitajumuishwa kwenye maswali ya uchunguzi.

Misingi ya Ushiriki:

- Unaombwa kwa hiari yako kushiriki kwenye utafiti huu
- Kushiriki ni kwa hiari tu
- Una ruhusa ya kujitoa kwenye utafiti huu wakati wowote
- Una ruhusa ya kuuliza maswali yoyote kuhusu utafiti huu, ikiwa kuna jambo lolote hujalielewa

Utakao wasiliana nao

- Unaruhusiwa kuuliza maswali kuhusu jambo lolote wakati unahojiwa. Ukihitaji maelezo zaidi, wasiliana na wafuatao:

	Jina	Nambari ya Simu	Taasisi	Barua Pepe
1.	Nicholas Mayieka	0721676433	JKUAT	
	nicklaonge@yahoo.com			
2.	Prof. Gideon Kikuvi	0725363151	JKUAT	
	kikuvi@itromid.jkuat.ac.ke			
3.	Dr. Daniel Mokaya	0733704573	JKUAT	
	mokayadm@gmail.com			

- Aidha, unaweza kuwasiliana na KNH-UON, kamati ya Maadili na Utafti ukitumia nambari ya simu: 020726300-9 ama kupitia barua pepe: uonknh@uonbi.ac.ke

Saini

Mimi, msahihi nimeelezwa habari ambayo imesomwa na kuelezwa na mtafiti kwangu, nina ridhaa kushiriki kwa hiari. Nimekuwa na nafsi ya kuuliza maswali na maswali yangu yote yamejibiwa kwa kuridhisha

Jina la mhojiwa _____ Tarehe ____/____/ 2017

Sahihi ya Mhojiwa _____

Jina la mtafiti _____ Tarehe ____/____/ 2017

Sahihi ya mtafiti _____

Apendix II (C): Ensemo Ya Kabere: Efomu Yogwancherana

Eng'ana Emwamu: Amang'ana akobanyora abasubati bemiaka yoroiboro (15-49) abwo bakorigia obokoreri bwobogwenia magega yokoibora, ekero bakoira abana babo ekiriniki ase enyagitari enene y'erufaa ya Kisii (KTRH).

Abaunenki:

4. Mayieka Nicholas Ongera- Omounenki Omonene
5. Prof. Gideon – Omokonyi bw'omounenki
6. Dr. Daniel Mokaya- Omokonyi bw'omounenki

Omochakano: Ase amarieta nigo inkorokwa MAYIEKA NICHOLAS ONG'ERA, omworokigwa ogosomera edigirii ya igoro ya 'Masters' ase esayansi (MSc) yobochenu ase eyunibasiti yoboremi n'etekinolojia ya Jomo Kenyatta (JKUAT). Nigo inkogosaba osange ase obotuki obo ase engencho yoboikeranu bwao. Nigo inganeti ebirengererio biao igoro ya amang'ana akobanyora abasubati bemiaka yoroiboro (15-49) abwo bakorigia obokoreri bwobogwenia magega yokoibora, ekero bakoira abana babo ekiriniki ase enyagitari enene y'erufaa ya Kisii (KTRH).

Ekerenga kiobotuki: Ekerenga ekenene kiogokora obotuki obwo, nokogani komanya amang'ana akobanyora abasubati bemiaka yoroiboro (15-49) abwo bakorigia obokoreri bwobogwenia magega yokoibora, ekero bakoira abana babo ekiriniki ase enyagitari enene y'erufaa ya Kisii (KTRH).

Omochocho: Onye kogochia gwancha gosanga ase obotuki obo, goetera chinkwana naboigo ase okobeka esei ensemu yomoerio yefomu eye, nigo ogochia kounenkigwa na abaobisa babwate obamanyi obonene na magega yaye baichorie amachibu ao ase risakara ria amabori.

Obokong'u n'okogechigwa: Amabori ande nabo arabaise gokogechia. Korende tokobetererigwa koyairaneria.

Eng'eria yobotuki: Torigoakanwa ase ogosanga ase obotuki obo korende ebirengereruo biao nigo birakonye gokinia obokoreri bokoenanwa ase enyagitari eye gochia ase abananchi.

Obobisi bwe chirekodi: Amangana onsi igoro ya abatecha nigo agochia kobiswa kegima. Amarieta ao boigo tarigochia goakwa ehaba ase eriboti ende yonsi yobotuki obo. Boigo amabori yogokomanyekania taiyo ase obotuki obo.

Oboroso bwogosanga:

- Nigo ogosabwa obwaterane ase obotuki obo ase ogwancha kwao.
- Torikobetererigwa gosanga ase obotuki obo.
- Nobwate obosibore bwokwerusia ase obotuki obo ngaki ende yonsi.
- Nobwate obosibore bwokoboria amabori ande onsi igoro ya aria otaraigwa buya
- Nobwate obosibore bwokoboria amabori chingaki ogendererete kounenkigwa.

Baria moraborie

Koragani amaereso ande gochia ime, nabo ogokwana na'bakobwatia:

Erieta	Enamba yesimi	Eyunibasiti	Email
4. Nicholas Mayieka	0721676433	JKUAT	nicklaonge@yahoo.com
5. Prof. Gideon Kikuvi	0725363151	JKUAT	kikuvi@itromid.jkuat.ac.ke
6. Dr. Daniel Mokaya	0733704573	JKUAT	mokayadm@gmail.com

- Boigo, nabo ogokwana nekomiti ye chimbwa nobotuki ya KNH-UON ase enamba yesimi: 020726300-9 gose goetera email: uonknh@uonbi.ac.ke

Inee, kwang'ancheire ingenderere gokounenkia ase obotuki obo?

_____ Chitariki _____ / _____ / 2017

Esei y'oria Okounenkigwa

_____ Chitariki _____ / _____ / 2017

Esei y'oria Okounenkia

Rika chisa obotuki bwachagete _____

Appendix III (A): Questionnaire on Factors Influencing Utilization of Postnatal Care

SECTION A.

Name of interviewer.....

Client code number.....

Date.....

Please put a tick [√] or a number in the box next against your response and where applicable write the required response in the box or space provided.

SECTION B: DEMOGRAPHIC DATA

1. Please indicate your age in the appropriate box in complete years:

15 — 20 years

21 — 30 years

31 — 40 years

41 — 50 years

Above 50 years

2. What level of education did you attain?

None

Primary school

Secondary school

Post-secondary

3. What is your marital status?

Married

Single

Separated/divorced

4. How many children do you have?

1

2 — 3

4 — 5

More than 5

SECTION C: SOCIO-ECONOMIC CHARACTERISTICS

5. What activities are you involved, in order to earn a living?

Employment

Agricultural

Others

6. Where do you stay/live?

Rural

Urban

Semi-urban

7. How far is your residence from the health facility in complete kilometers?

0 — 5 km

6 — 10 km

11 — 15 km

More than 15 km

SECTION D: PROPORTION OF WOMEN UTILIZING POSTNATAL CARE

8. Where did you give birth to your last child?

Home

Health facility

9. After you gave birth to (child's name) did anyone check on your health?

Yes

No

10. How long after delivery did the first checkup take place?

Hours

Days

Weeks

Do not know

11. This facility provides postnatal care services. Did you know the postnatal services you are supposed to receive after delivery?

Yes

No

12. If yes to question 11, name the services.....

13. Within the first six weeks after delivery how many times are you supposed to attend postnatal care service?

1

2

3

4

Do not know

14. Did you attend the two weeks postnatal care services?

Yes

No

15. If yes to question 14 above, what postnatal services did you receive?

Treatment

Immunization

Family planning

Postnatal checkup for both the mother and the baby

Other specifies.....

16. If you did not go for postnatal services, tick possible reason why you did not use these services

Not aware these services are offered

Had no problem

Others, specify.....

17. Have you ever heard about postnatal care services?

Yes

No

18. If yes to question 17 above, from where did you get the information about postnatal services?

Friends

Media

Health workers

Other, specify.....

SECTION E: HEALTH PROVIDER AND HEALTH FACILITY FACTORS

19. How were you received at the health facility?

Very friendly

Friendly

Hurriedly

Rude

Slow

20. During your antenatal visit were you taught about postnatal care?

Yes

No

21. If yes to question 20 above, could you rate the level of information you received?

Excellent

Good

Fair

Poor

22. Since you delivered, were there problems that you faced which prevented you from going to receive postnatal care services?

Yes

No

23. If yes to question 22 above, please name them.....

.....

24. If you had used the postnatal care services, were you happy with the way the services were offered?

Yes

No

25. If yes to question 24 above, list the good things which made you happy.....

.....

26. If no to question 24 above, what weaknesses did you see in the way postnatal care services were offered

27. Give suggestions how postnatal care services can be improved

i.

ii.

iii.

iv.

Thank you for your co-operation

Appendix III (B): Kiambatanisho Cha Tatu: Dodoso Kuhusu Mambo Yanayoshawishi Utumizi Wa Huduma Za Baada Ya Kujifungua.

KIFUNGU CHA A:

Jina la mhoji

Nambari ya mteja.....

Tarehe.....

Tafadhali kuweka alama ya vema [\surd] au nambari katika sanduku ijayo dhidi ya majibu yako na ambapo husika andika majibu ya ziada katika nafasi iliyotolewa.

KIFUNGU CHA B: TAKWIMU ZA MHOJIWA

1. Tafadhali onyesha umri wako katika sanduku muafaka:

Chini ya miaka 20

Miaka 21 — 30

Miaka 31 — 40

Miaka 41 — 50

Zaidi ya miaka 50

2. Umefikia kiwango gani cha elimu?

Hakuna

Shule ya Msingi

Shule ya upili

Baada ya sekondari

3. Hali yako ya ndoa ni gani?

Umeolewa

Bado kuolewa

Kutengana/Talaka

4. Je, una watoto wagapi?

1

2 — 3

4 — 5

Zaidi ya 5

KIFUNGU CHA C: SIFA ZA KIUCHUMI ZA KIJAMII

5. Unajihushisha na shughuli ipi kujikimu kimaisha?

Ajira

Kilimo

zingine

6. Unaishi/unakaa wapi?

Kijijini

Mjini

Kwingine

7. Ni ubali gani kutoka kwa makazi yako na kituo cha afya ?

Kilomita 0 — 5

Kilomita 6 — 10

Kilomita 11 — 15

zaidi ya kilomita 15

**KIFUNGU CHA D: IDADI YA WANAWAKE KUTUMIA HUDUMA ZA
UTUNZAJI BAADA YA KUJIFUNGUA**

8. Ulijifungua mtoto wako wa mwisho wapi?

Nyumbani

Kituo cha Afya

9. Baada ya kujifungua (jina la mtoto) je kuna yeyote alichunguza hali yako ya kiafya

Ndio

La

10. Je, ilichukua muda gani baada ya kujifungua kupata huduma?

Masaa

Siku

Wiki

Hamna

11. Kituo hiki kinatoa huduma za baada ya kujifungua. Je, ulijua huduma utakazohitaji kupokea baada ya kujifungua?

Ndio

La

12. Kama ndio kwa swali nambari 11 hapo juu, taja huduma hizo

.....

13. Ndani ya wiki sita baada ya kujifungua ni mara ngapi wanatakiwa kupata huduma?

1

2

3

4

14. Je, ulihudhuria wiki mbili kwa huduma baada ya kujifungua?

Ndio

La

15. Kama ndio kwa swali nambari 14 hapo juu, ni huhuma gani ulizozipata?

Matibabu

Chanjo

Upangaji uzazi

Uchunguzi kwa mama na mtoto

Taja iwapo kuna huduma zingine.....

16. Iwapo Haukupata huduma, taja ni kwanini haukupata hizi huduma za baada ya kujifungua.

Kutojua huduma zinatolewa

Sikua na shida yoyote

Iwapo kuna zingine zitaje hapa.....

17. Je, umewahi kusikia kuhusu huduma za baada ya kujifungua

Ndio

La

18. Kama ndio kwa swali nambari 17 hapo juu, ulipata wapi habari kuhusu huduma za baada ya kujifungua?

Marafiki

Vyombo vya habari

wahudumu wa afya

Kwingine

KIFUNGU CHA E: MTOA HUDUMA YA AFYA NA MAMBO YA KITUO CHA AFYA

19. Ulipokewa vipi kwa kituo cha afya?

Kirafiki sana

Kirafiki

Haraka

Kijeuri

Vibaya

20. Wakati wa ziara yako ya wajawazito kwa kituo cha afya, je ulifundishwa kuhusu huduma baada ya kujifungua?

Ndio

La

21. Kama ndio kwa swali nambari 20 hapo juu, ulipokea kiwango gani cha habari?

Mufti

Zuri

Wastani

Duni

22. Tangu ujifungue, kulikua na shida zilizo kuzuia kwenda kupokea huduma za baada ya kujifungua?

Ndio

La

23. Kama ndio kwa swali nambari 22 hapo juu, tafadhali zitaje.....
.....

24. Kama wewe ulitumia huduma za baada ya kujifungua, je, ulifurahia huduma ulizozipata?

Ndio

La

25. Kama ndio kwa swali nambari 24 hapo juu, orodhesha mambo mema ambayo uliyafurahia.....
.....

26. Kama la kwa swali nambari 24 hapo juu, uliona udhaifu gani kwa huduma za baada ya kujifungua ulizopewa
.....

27. Toa mapendekezo jinsi huduma baada ya kujifungua zinaweza kuboreshwa

- i.
- ii.
- iii.
- iv.

Asante kwa kushiriki.

**Appendix III (C): Ogokoorera Iii: Amairanerio Ase Aria Agochangera Okorigia
Oborendi Nyuma Y’ okoibora**

ENSEEMO YA (A)

Erieta riao.....

Enamba yomoborigwa.....

Chitariki.....

Koranche charokia [$\sqrt{\quad}$] gose enamba ime y’ebogisi ase okoiraneria gose oriike ase ekonyarekana agwo ase ribaga erio oeire korwa motwe.

ENSEEMO YA (B): OKOBEKERANIA AMANG’ANA

1. Koranche ichoria emiaka yao ime ye ebogisi:

Inse y’emiaka 20

Emiaka 21 — 30

Emiaka 31 — 40

Emiaka 41 — 50

Goetania emiaka 50

2. Ekerengo giechiseemi chiao inkereki?

Tinsometi

Esukuru y’oboroso

Esekendari

Goetania Esekendari

3. Kwanyorire enka?

Nimbwate enyomba

Tindi na nyomba

Titomenyaini/Totigainete

4. Abana obwate mbarenga?

1

2 — 3

4 — 5

Goetania 5

ENSEMO YA (C): OBORENDI BW'OMOIBORI (OBORENDI ASE OMOKUNGU OIBOIRE ERE AMO N'EKENGW'ERERE GOIKA EMIKA ETAN'OMO)

5. Ng'ai kwaiborerete omwana oo bw'omoerio?

Inka

Nyagitari

6. Nyuma yokibora omwana(Erieta riaye) onde nakoringoretie agwo nyagitari?

Ee

Yaaya

7. Mbwango ki kwairere koringorigwa nyuma yokoibora?

Insa 'nkeigo

K'amatuko aetire

Ase emekubio

Tinkoinyora

8. Enyagitari eye nkorwa ere oborendi ase abakungu bakoibora. Kwana komanyigwa buna enyagitari nkorwa ere oborendi ase omokungu oiiboire?

Ee

Yaaya

9. Onye kere boigo ase riborio namba 8 agwo igoro, atora aria gwakoreretwe

.....

10. Ase emetienyi emetang'ani yokoibora, aye nara karenga ogwenerete kogenda ekiriniki kioborendi nyuma yokoiboira?

1

2

3

4

11. Nkwarengo ase amorererio y'oroiboro ase emekubio ebere ?

Ee

Yaaya

12. Onye kwarengo, ninki gwakoreretwe?

Okogwenigwa

Esindani y'ogotanga

Ogotanga oroiboro

Okoringorigwa kw'oroiboro ase omwana na ng'ina

Teeba ayande

13. Teeba egekogera otakorete aria aganeirie

Tinamanyetigwe kende

Tinyoreti mochando onde

Teeba ayande.....

**OMOBARO BWABAIBORI BAGOKORERA OROIBORO RWA
NYAGITARI**

14. Ng'ai omenyete?

Risabu

Etaoni

Agachiiro

15. Ngento ki ogokora ase okwenyorera chinchera okoragera?

Nindikire

Oboremi

Ayande

16. Kwana koigwa igoro yomoroberio bwokorendwa nyuma yokoibora?

Ee

Yaaya

17. Ng'ai aye kwainyorete amang'ana ayio?

Abasaani

Amarario

Abanyagitari

Teeba enchera ende

18. Mboare ki omenyete korwa ase enyagitari?

0 — 5 km

6 — 10 km

11 — 15 km

Goetania 15 km

ARIA ABWATEKAINA NOMONYAGITARI ASE ENYAGITARI

19. Inaki kwaariganetigwe ase enyagitari?

Oboseera kegima

Oboseera

Omoayarero

Ogotogonyerwa

Okwerindoria

20. Nkwaorokereretigwe igoro yoborendi nyuma yokoibora ekero ore morito?

Ee

Yaaya

21. Teeba ekerengo kiobomanyi obwate ase amang'ana ayio

Buya goetania

Buya

Buya akeigo

Tingokiri

22. Korwa oibora, mbokong'u ki kwanyorete obwo bwagotangete tikwagenda

konyora obokonyi nyuma y'okoibora?

Ee

Yaaya

23. Koranche yaatore.....

24. Nogokirie na aria gwakoreretwe ase oborendi nyuma yokoibora?

Ee

Yaaya

25. Atora aria akogogetie

26. Onye teri boigo, mboremerwa ki kwaroche ase chinchera chiobokonyi nyuma yokoibora.....

27. Karwe ebirengererio birakonye chinchera chioborendi obuya

v.




vi.

vii.

viii.

Mbuya mono ase amairanerio

Appendix IV: Ethical Clearance from Knh-Uon Erc



UNIVERSITY OF NAIROBI
COLLEGE OF HEALTH SCIENCES
P O BOX 19678 Code 00202
Telegrams: varsity
Tel: (254-020) 2726300 Ext 44355

KNH-UON ERC
Email: uonknh_erc@uonbi.ac.ke
Website: <http://www.erc.uonbi.ac.ke>
Facebook: <https://www.facebook.com/uonknh.erc>
Twitter: @UONKNH_ERC https://twitter.com/UONKNH_ERC

KENYATTA NATIONAL HOSPITAL
P O BOX 20723 Code 00202
Tel: 726300-9
Fax: 725272
Telegrams: MEDSUP, Nairobi

Ref: KNH-ERC/A/99

23rd March 2017

Nicholas Ongera Mayieka
Reg. No. TM310-4619/2015
School of Public Health
College of Health Sciences
J.K.U.A.T

Dear Nicholas

Revised research proposal: Factors influencing utilization of postnatal care services among women of reproductive age (15-49 years) attending Child Welfare Clinic at Kisii Teaching and Referral Hospital-Kenya (P697/10/2016)

This is to inform you that the KNH- UoN Ethics & Research Committee (KNH- UoN ERC) has reviewed and **approved** your above revised proposal. The approval period is from 23rd March 2017 – 22nd March 2018.

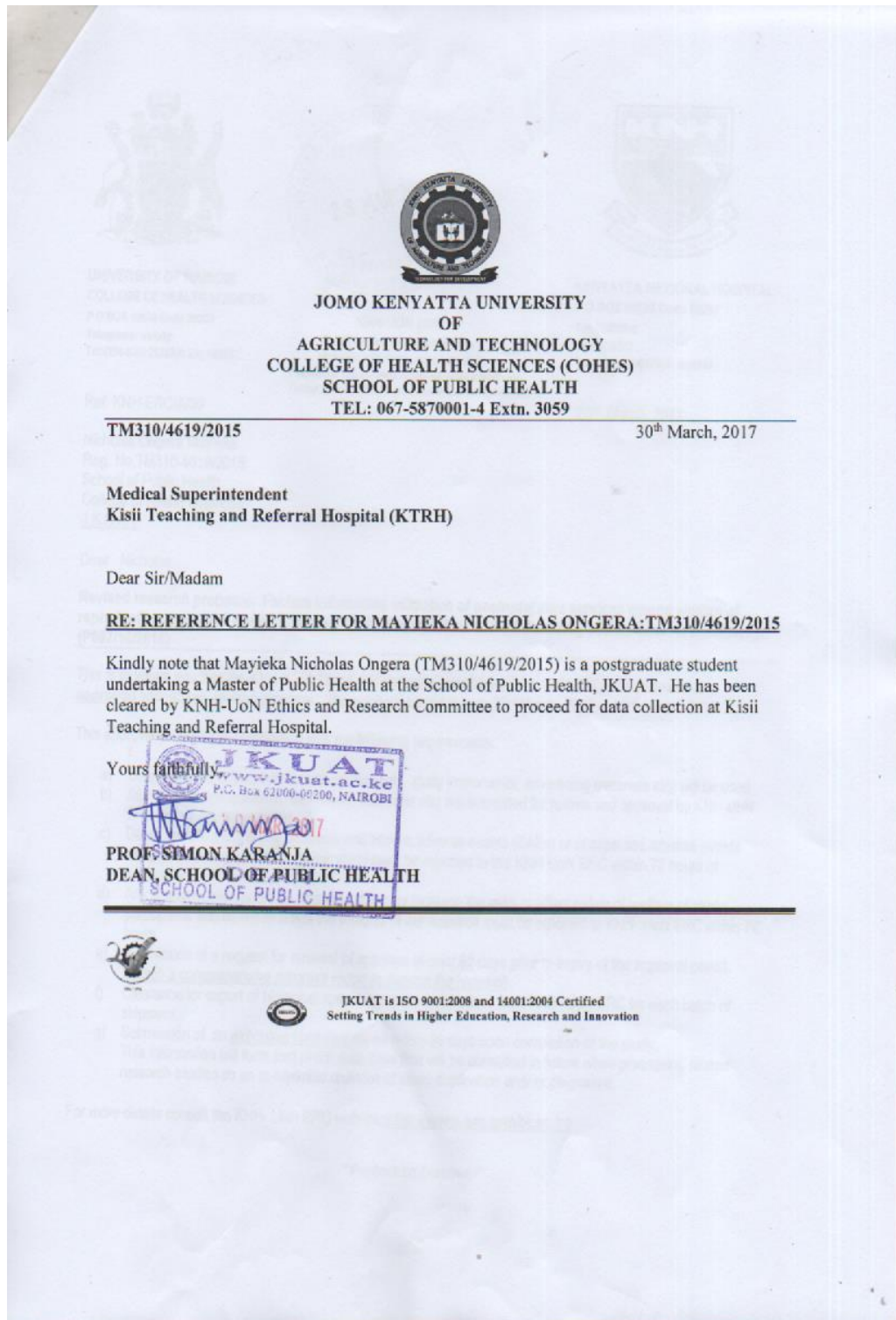
This approval is subject to compliance with the following requirements:

- Only approved documents (informed consents, study instruments, advertising materials etc) will be used.
- All changes (amendments, deviations, violations etc) are submitted for review and approval by KNH-UoN ERC before implementation.
- Death and life threatening problems and serious adverse events (SAEs) or unexpected adverse events whether related or unrelated to the study must be reported to the KNH-UoN ERC within 72 hours of notification.
- Any changes, anticipated or otherwise that may increase the risks or affect safety or welfare of study participants and others or affect the integrity of the research must be reported to KNH- UoN ERC within 72 hours.
- 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*).
- Clearance for export of biological specimens must be obtained from KNH- UoN ERC for each batch of shipment.
- Submission of an *executive summary* report within 90 days upon completion of the study. This information will form part of the data base that will be consulted in future when processing related research studies so as to minimize chances of study duplication and/ or plagiarism.

For more details consult the KNH- UoN ERC website <http://www.erc.uonbi.ac.ke>


"Protect to Discover"

Appendix V: Clearance Letter for Conducting Research



Appendix VI: Authorization to Collect Data from KTRH

MINISTRY OF HEALTH



Telegramme "medical" Kisii
Telephone: (058) 31310 Kisii
Email: kisiihospital@gmail.com
Web: www.kisiihospital.org.ke

DEPARTMENT OF RESEARCH
THE KISII TEACHING & REFERRAL HOSPITAL
P.O. BOX 92
KISII

REF. NO. _____ DATE: 7TH APRIL, 2017

MAYIEKA NICHOLAS ONGERA


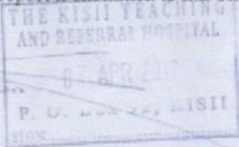
RE: DATA COLLECTION

This is to inform you that the research department of Kisii Teaching and Referral Hospital has reviewed your proposal titled

"Factors influencing utilization of postnatal care services among women of reproductive age (15-49 years) attending child welfare clinic at Kisii Teaching & Referral Hospital."

The following are our comments.

- 1) You have been authorized to proceed with data collection upon payment of two thousand shillings (Ksh 2,000/=).
- 2) Ensure confidentiality for your study subjects.
- 3) Ensure data collected is used for academic purposes only.
- 4) Ensure a copy of the final report is submitted to this office for retention and use.

DR. E.B. MASANTA -MBCHB (UoN), MPH (Epidem) (JCOUST),
PGDPM (KIM) Applied Epidem & Bio (UoN).

FOR: CHIEF EXECUTIVE OFFICER
KISII TEACHING AND REFERRAL HOSPITAL

Appendix VII: Authorization Letter - Postgraduate School



**JOMO KENYATTA UNIVERSITY
OF
AGRICULTURE AND TECHNOLOGY
DIRECTOR, BOARD OF POSTGRADUATE STUDIES**

P.O. BOX 62000
NAIROBI - 00200
KENYA
email: director@bpa.jkuat.ac.ke

TEL: 254-067-52711/52181-4
FAX: 254-067-52154/52030

REF: JKU/2/11/TM310-4619-2015

4TH APRIL, 2017

MAYIEKA NICHOLAS ONGERA
C/o SPH
JKUAT


Dear Mr. Ongera,

RE: APPROVAL OF RESEARCH PROPOSAL AND OF SUPERVISORS

Kindly note that your MSc. research proposal entitled: "FACTORS INFLUENCING UTILIZATION OF POSTNATAL CARE SERVICES AMONG WOMEN OF REPRODUCTIVE AGE (15-49 YEARS) ATTENDING CHILD WELFARE CLINIC AT KISII TEACHING AND REFERRAL HOSPITAL." has been approved. The following are your approved supervisors:-

1. Prof. Gideon Kikuvi
2. Dr. Daniel Mokaya

Yours sincerely


PROF. MATHEW KINYANJUI
DIRECTOR, BOARD OF POSTGRADUATE STUDIES

Copy to: Dean, SPH

/cm



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Setting trends in Higher Education, Research and Innovation