FACTORS DETERMINING ACCCESS TO MATERNAL HEALTH SERVICES: A CASE OF PREGNANT WOMEN VISITING KARATINA LEVEL FIVE HOSPITAL IN MATHIRA SUB-COUNTY, NYERI COUNTY

BY

SIMON NJII MWANGI

REG NO: C50/77417/2015

RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR AWARD OF THE DEGREE OF MASTER OF ARTS IN SOCIOLOGY (MEDICAL SOCIOLOGY) IN THE UNIVERSITY OF NAIROBI

DECLARATION

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

SIMON NJII MWANGI

REG NO: C50/77417/2015

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

This research project has been submitted for examination with my approval as university supervisor.

DR. JAMES KARIUKI

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

DEDICATION

This research project is dedicated to my dear wife Mary Wamuyu and family who instilled in me the strong moral of self-belief, hard work and the need for pursuit of excellence.

ACKNOWLEDGEMENTS

I extend much gratitude to my supervisor, Dr.James Kariuki for his tireless efforts, unreserved support and guidance and more importantly to the almighty God for the good health. I also acknowledge the support of all the lecturers of the department of sociology and social work and my classmates for the support and encouragement accorded to me throughout the course. May God bless you all.

ACRONYMS/ABBREVIATIONS

NGO:	Non-Governmental Organization
SPSS:	Statistical Package for Social Sciences
UNICEF:	United Nations Children's Fund
WHO:	World Health Organization

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ABSTRACT

This study set out to examine the aspects that underlie access to maternal health services among pregnant mothers in Nyeri County. Its specific objectives were to: To find out the level of access to maternal health care services among expectant women; to examine the influence of mother-related factors in accessing maternal health care services among expectant women; to establish the role of socio-economic factors in access to maternal health care services; to investigate the influence of facility-based factors on access to maternal health care services among expectant women in Nyeri County. The premise employed in this research entails the health utilization proposition and the rational choice view. This research used a cross-sectional survey design to arrive at the statistics from a sample of 153 pregnant mothers as main respondents and 11 medical personnel as key informants. Quantitative data were gathered using a questionnaire from the targeted pregnant women while qualitative data was obtained through usage of key informant guide on targeted medical personnel. Quantitative information analysed using (SPSS) software. Descriptive statistics (means, frequencies, percentages) were used while Pearson's correlation coefficient was used to calculate the correlation between the study variables. Open-ended questions were analyzed for content. The findings obtained were presented in tables and charts for ease of presentation and interpretation. The findings obtained show that all the factors under investigation in this study influenced access to maternal health care services among expectant women in Nyeri County. In this regard, it was apparent that there was high access to these services especially among women who lived closer to the facilities and who had high socioeconomic statuses. Awareness of women about the services available also contributed to the level of access with those who were more aware tending to seek more services than those who had less knowledge. Religious and cultural factors also interfered with their tendency of accessing maternal healthcare services. Facility-based factors also influenced access to maternal health care services among expectant women. The more facilities and equipment a health facility had, the more its services were sought by women. The study recommends more equipment, physical infrastructure as well as drugs be provided. There was also need to increase and diversify per capita finance flows to the health sector as to ensure that maternal healthcare was available for all. Civic education was thus recommended so as to encourage response to the existent maternal healthcare services at grassroots levels. It was also important to enhance acceptance of NHIF cards as well as those from other insurance schemes in various hospitals. Accountability should also be strengthened so as to check wastage of the resources committed to enhance access to free maternal healthcare. Lastly, there was need to encourage medical personnel to have the right attitudes when providing services to pregnant women.

CHAPTER ONE: INTRODUCTION

1.0 Background of the Study

Access to familial care is one of the major challenges related to health sector in the under-developed states. This alludes to care process of mothers in the period of their gestation, for this period of delivery as well as taking care of the young baby. It is part of the areas relating to health issues encompassing birth control, protection offered from the conception to birth (WHO & UNICEF, 2010).

Poor doorway to familial amenities could threaten many lives of our mother as well as of the child (Mungai, 2015). Globally, 289 000 women lost their lives due to antenatal and postnatal complications in 1994. At the same time, global statistics showed that less than 5 year old children totaling 6.6 million died due to complications related to birth and childhood diseases. This occurs albeit the fact that most of these diseases are preventable in healthcare facilities if their mothers access the requisite maternal health care services (World Health Organization, 2014).

In the industrial nations like the European nations and America, Stanton, Blanc, Croft, and Choi (2007) points out that there is strong usage of prenatal care services. This is enhanced by advances in health care infrastructure. In most cases, the level to which a healthcare facility is well equipped and able to deliver quality of care prompts women to pursue antenatal services in such facilities (Matsuoka, Aiga, Rasmeye, Rathavy, &Okitsuh, 2010). Conversely, poor service delivery in facilities would discourage women from choosing certain health facilities.

In Burma quality or total absence of maternal health services prompted most women (80%) to opt to deliver at home (Mullany, Becker, &Hindin, 2007). This is contrary to international best practices and is tantamount to human rights violation. A study by Yanagisawa, Oum, and Wakai (2006) in the Philippines shows that distance from health care facilities was strongly correlated to postnatal care utilization. In this regard, women from remote locations are unable to access health facilities due to distances. A related study in Ethiopia shows that mother related factors such as level education and technical knowhow about extant health care services altering gain to familial amenities (Aregay, Alemayehu, Assefa, &Terefe, 2014). In Nigeria and Uganda respectively, studies by Kalule-Sabiti, Amoateng, and Ngake (2014) and Babalola and Fatusi (2009) also affirm that the knowledge of the mother is also another important factor influencing reach to maternal amenities.

An investigation undertaken around Malawi by Machira (2017), confirmed access to familial care was pegged to antenatal care, individual characteristics and the environment within which one lives. Most importantly, it was established that individual characteristics and community diversity also act as a major antecedent of usage of familial health amenities. A country like Kenya, about half of mothers can't gain lifesaving familial care (Gacheri, 2016). This current study assesses the challenges that are hindering gaining services of familial care in Karatina Level Five Hospital, Nyeri County. This is particularly so since no documented study has focused on hospital. In this regard, it is vital to find out the level to which mother-related aspects as well as facility based factors interfere with the familial care among women of Nyeri County. Without studies such as this current one, the lives of thousands of women in the county could remain at stake.

1.1 Problem Statement

A report by WHO (2013) shows that 99% of maternal deaths because of gestation and its problems happen in under-developed states such as Kenya. These include but not limited to neonatal deaths plus stillbirths which are accounted for every year in these countries. This is often due to the fact that many mothers do not access specialized and affordable maternal healthcare (Gacheri, 2016).Evidence shows that 40%-50% of mothers in Kenya are not in a position to access the lifesaving familial health amenities including family planning services to control unplanned gestation (Gacheri, 2016). Regrettably though, the aspects which underlie the delivery of familial health for most Kenyan counties are taken for granted. In most cases, the barriers attributed to dismal provision of maternal healthcare services in parts of Kenya such as Karatina Level Five Hospital in Nyeri County have not been systematically studied.

Most of the existing knowledge materials focused on other parts of the country. For studies undertaken in Kenya, none has had specific focus on Nyeri County. The study by Godiand Kusuma (2008) established that mothers from poor backgrounds were more likely not to access maternal health care services than those from wealthier families was focused on India. A study by Olumuyiwa, Ewan, Francois and Vincent (2008) that found out that educational level determined doorway to familial health and child care services scope had been focused on Nigeria. Henry (2011), who determined which place for residence was the main reason to access familial health care amenities with mothers living in towns consistently having higher usage rates to familial care than their rural counterparts. The study by Rainey et al., (2011) that found out that attitudes and behaviors of health workers are often cited as discouraging mothers from visiting health

facilities was focused on low and middle income countries with not specific focus on Kenya. The report by WHO (2014) that shows that there is a scarcity of workforce in the health sector where only 5 out of 49 low income countries were able to meet minimum requirements set by WHO were 23 doctor, nurses and midwives per 1000 as adequate for service delivery in maternal and child health services does not narrow down to Kenya.

In Kenya, childbirth has been reported as a risk activity for younger women. Evidence shows that maternal death rates for younger women are higher than that of older women. Women aged less than 35 years, especially first-time mothers, are at risk of dying of maternal causes NCPD (2013). This situation was aggravated by limited knowledge on maternal risks, low chance to obtain familial health solutions as well as bad service provision in these health facilities. However, the existent aspects that underlie the provision of familial health amenities amid younger mothers in Nyeri County are yet to be studied.

It is thus evident that although the studies highlighted above show that various barriers could inhibit delivery of familial health care issues, no documented study has attempted to investigate the aspects affecting access to these services in Nyeri County. Many existing research works concentrate on other parts of the world. When focused on Kenya, none of the studies reviewed had any specific focus on the county. As such, it main remain a tall order to take stock of the factors that underlie access to maternal health among women in that age bracket in the study area. This creates a knowledge lacuna. In this context, many pregnant mothers may continue to live in risk of birth related factors. This could lead to deaths, often with debilitating effects on their country

and the local economy. This leads to the questions, what are the aspects that underlie access to maternal health care services in Nyeri County? This underlines the vitality of this research work.

1.2 Research Questions

i. What is the level of access to maternal health care services among expectant women in Nyeri County?

ii. What is the influence of mother-related factors on access to maternal health care services among expectant women in Nyeri County?

iii. What is the role of socio-economic factors in access to maternal health care services among expectant women in Nyeri County?

iv. What is the influence of facility-based factors on access to maternal health care services among expectant women in Nyeri County?

1.3 Objectives of the Study

1.3.1 Main Objective

The main objective of this study was to assess the factors that underlie uptake of maternal health services among pregnant women in Nyeri County.

1.3.2 Specific Objectives

The specific objectives that guided this study were:

i. To find out the level of access to maternal health care services among expectant women in Nyeri County

ii. To examine the influence of mother-related factors on access to maternal health care services among expectant women in Nyeri County

iii. To establish the role of socio-economic factors in access to maternal health care services among expectant women in Nyeri County

iv. To investigate the influence of facility-based factors on access to maternal health care services among expectant women in Nyeri County

1.4 Justification of the Study

The government primary role is to provide essential health services to all the population. It is in this view that maternal services should be readily available to all women in the county. However, this has not been always the case. In this context, it is pertinent to carry out studies such as this so as to unearth the factors that underlie delivery of maternal health services amid pregnant mothers in Nyeri County. This particularly government, ministry of health and others stakeholders was able to obtain information on the best way to the provision of familial care can be enhanced in the county.

Researchers shall also get valuable literature that could inform other studies on the situation of familial care in Kenya. Hospitals shall also obtain valuable information on how to enhance access to maternal healthcare services. Following this, various strategies for enhancing access to these services were recommended.

1.5 Scope and Limitations of the Study

1.5.1 Scope of the Study

This research work carried out at Karatina Level 5 hospital in Nyeri County. Data was obtained from pregnant women visiting the hospitals, health personnel and, hospital administrators. Only 18-40 years old women, who are at least 6 months pregnancy

visiting antenatal clinics in the hospital,was included. Medical personnel working at the hospital were also targeted. The study was limited to socio-economic factors, mother-related factors and facility-based factors affecting access to access to maternal health care services among pregnant women in Nyeri County.

1.5.2 Limitations of the Study

The researcher may not have control over the attitude of the women and other respondents as they fill the questionnaires. To address this limitation, the respondents was assured that the data collected was treated confidentially and applied for academic purposes only. Due to financial and time constraints, the researcher was limited to Karatina Level Five Hospital. The researcher mitigated this limitation by collecting data within a specified period of time on a sample of the expectant women seeking maternal healthcare services at the hospital. Lastly, it is not known yet the extent to which the findings from this study can be generalized to other parts of Kenya.

CHAPTER TWO: LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

The chapter reviews the past contents on the research subject. It is carried out on the basis of research aims which were to: find out the measure of access to maternal health care services among expectant women in Nyeri County; establish the role of social and economic issues in gaining to familial care services among expectant women in Nyeri County; examine the effect of women-related aspects on obtaining familial issues among expectant mothers in Nyeri County and; investigate the influence of facility-based factors on access to familial health provision amid expectant mothers in Nyeri County. The gap to be bridged by this study is presented. Lastly, the study summary is provided.

2.2 Level of Access to Maternal Health Care Services among Expectant Women

Acharya, Aryal, Dulal, and Sharma (2018) reported usage of familial care issues had been increasing over the years. In 2001, the number of mothers who advocated for antenatal care visits was 14% as a contrast to 69% in 2016. The study observed that this percentage differed depending on the place of residence with the number of women in urban areas been slightly high at 76% as contrasted to 62% in the villages. In 2016 the Nepal Demographic and Health Survey report that the number of births in the hospitals was 57% for 5 years leading to the research. The percentage of women who were able to access government facilities stood at 43% while those accessing the private hospitals were at 10%. Numerical births observed by professionals stood at 58%. In terms of the postnatal care 57% of the women had a check in the first two day after delivery with the first checkup happening within the 4 hours after giving birth. The number of women

seeking postnatal care improved by 12% from 2011 when the number of postnatal checks stood at 45% within the 2 days after delivery.

Hanson et al. (2018) while comparing two surveys on maternal health care, one carried out in 2007 and the other in 2013 that was conducted in the Southern part of Tanzania found that there was a relative rise in the level of access for familial health care. In 2007, the numerical births that occurred in hospitals was 29% as compared to the 43 % in 2013. They excluded the data for areas where a hospital was the nearest facility in order to determine the number of deliveries that was happening in primary facilities. It was found that the number had risen from a mere 14% to 41 % which is a remarkable increase. Overall the number of mothers delivering in the hospitals primary facility, rise up to 79% in 2013. The largest absolute increase on the level access was seen in the rural areas where the proportions of birth occurring in primary facilities increased.

Wayua (2017) in her research findings on the study carried out in Machakos County found that 66 percent of the mothers she interviewed were mindful of the amenities that were given in familial facilities but 34 percent were hardly aware of the same. In terms of accessing familal health services about 37% went to the hospitals, 21% went to traditional midwives, 17% went to private hospitals, 16% went to NGOs and 7 % went to health centers. In terms of the complications that occur as a result of failure to seek familial health services 72% of the women said they were of the complications while 23% were not aware of these complications. According to 61% of the interviewees village health promoters create awareness on familial health care within their locale, while 38 percent assumed that such campaigns were not conducted. In terms of how regular the campaigns were carried out 47 % commented that these campaigns were

sometime done, 44% observed that they were routinely done while 9% commented that the coordinated activities were hardly done.

2.3 Roles of Socio-economic Factors in Access to Maternal Health Care Services among Expectant Women

Research carried out in southern Sahara indicated that health systems are in the hands of settled communities thus rarely accessed by pastoralists due to their economic, political and cultural challenges (Sheik-Mohammed, 1999). This means that the economic situations have positive influence on access to healthcare. Though the former study was not focused on familial healthcare, the findings obtained can be extrapolated to pregnant mothers.

According to Akohene (2019) in their research findings of a study they had carried out on the gaining and usage of familial amenities in a village set up in Ghana found out that there was suboptimal gaining and usage of familial care. The access and utilization is influence by the social and economic features of the pregnant women. Pregnant mothers from wealth families were bracketed to have increasing opportunities of having postnatal care and they made up about 33%. About 68% of the women had more than 3 antenatal care visits, 83% utilized skilled delivery services. However there was the realization that the mother's knowledge of pregnancies and new born danger signs was very low. In their conclusion they advocated for tailored intervention that would aid in the improvement of maternal health care utilization.

Davidson (2015) established aspects which affect women in accessing health services. These factors included the financial obligations that needed to be fulfilled during the pregnancy and after the pregnancy, such as, cost of transportation to and from the health facilities. The medical expenses that were occurred including the charges that were paid to the health workers and the health facilities as well as the supply expenses that needed to be covered. Lack of money made it difficult for families with low income to foot the bills required by the skilled familial doctors.

2.4 Influence of Mother-Related Factors on Access to Maternal Health Care Services among Expectant Women

Tsaweet al. (2015) found out that there are many aspects which affect usage of familial health amenities and toddler immunizations. There is a contrast indicator that familiarity with sources of information like media by women especially on information that involve maternal health services increases the rate at which the services are used. The findings also clearly illustrates that women's age determine whether they access antenatal and delivery services with those above the age of forty accessing them less than those below the age of forty. There exists connection between equality and usage of familial health amenities. For example, there is high utilization of familial health amenities amid mothers with less than six babies. Furthermore, the connection exist between mothers educational level and the usage of antenatal and delivery services, with nine out of ten mothers with post primary education make good use of these amenities.

Umaret al. (2017) conducted a research relating to the influence of the level of education on Knowledge plus Access to Delivery Care Services by Women among Edu Local Government Area, Nigeria. He used an experimental design. During the study a significant breakthrough in the measure of know-how of birth services was taken care of. This progress was as a result of the health intervention programmes that these women had access to. The results however showed that there was not a lot of willingness towards utilization of the delivery care services in both the experimental group as well as the control group before and after the programme. Even if the programme led to more women gaining knowledge on delivery care services, the relationship with access of delivery care services in the region was not statistically significant

According to Mungai (2015) the antecedents of familial care in Kenya include age of the mother, the education level, birth order, finances/wealth and accessing information. Educational level, age, residence, wealth indexes and access to information determine whether an expectant woman give birth at the hospital. Postnatal care is highly influenced by the primary and secondary education the mother has. Education does influence whether an expectant woman has gained antenatal care. This research established that getting public education influences usage of familial amenities. At the same time the birth order reduced the use of antenatal and hospital delivery.

2.5 Influence of Facility-Based Factors on Access to Maternal Health Care Services among Expectant Women

Gitobu (2018) findings medical fees a major hindrance to giving birth in the hospitals in Kenya. With the coming of free familial care as a way to promote the usage of health facility birth care, there was a rise in the numerical hospital births although both maternal and neonatal mortality seemed to remain the same.

According to Wang, Temsah, andMallick, (2016) accessibility to health care depends on the geographical access which is determined by the place of facilities and the period it takes to get a person in need to the facility. These two factors are affected by the number of facilities that are available to the communities and the transport system that is available in the area. In Kenya, many women have to travel long distances in order to get to the health facilities that offer maternal health care, in addition, there are still other obstacles that hinder access to quality care such as expert delivery services (Gacheri, 2016).

Essendi et al. (2015) in their research of the hardware challenges to familial facilities in rural Kenya found that poor infrastructural facilities hindered many mothers to access health amenities. The transport system that was in place in most areas was very poor making the journey from their homes to the health facilities very difficult and long for expectant mothers.

Ali and Abdalla (2016) on their cross-sectional healing facility based research carried out among expectant mothers who went to the Omdurman maternity clinic in Sudan for antenatal and outpatients services observed the aspects that influenced the access of

prenatal observations. The study observed that the access of these services was related to the time it took for these women to travel from their homes to the health facility. The distance travelled determined the possibility and the recurrences of the said visits. Women who travelled less distance visited the clinic more often than women who had to travel longer distances.

2.6 Gaps in the Literature Review

From the past studies it is clearly indicated that there are knowledge gaps concerning the factors that underlie delivery of familial care to expectant mother in Kenya and more so in Karatina Level Five Hospital, Nyeri County. Most of the research works concentrated on other parts of the world. When focused on Kenya, none of the studies reviewed had any specific focus on the county or on expectant mothers aged 18-40 years. As such, it remains a tall order to take stock of the factors that underlie access to maternal care among mothers in that age bracket in the study area. This underlines the importance of this study.

2.7 Theoretical Framework

The research is based on two premises namely; the health utilization premise and the rational choice theory.

2.7.1 Healthcare Utilization Theory

The study was based on Anderson (1968) theory of healthcare utilization. The theory postulates that various aspects influencing the usage of hospitals. Some of these aspects would household related, access to hospital cover and, society amid others. In this regard, the socio-economic and demographic factors of the patients determine whether they will make use of the health facilities that are available to them. The theory looks

at the individual characteristics of the patients as the main variables that influence their use of the medical services. Residents of town areas are more likely to utilize health services as compared to residents of village areas due to their proximity to hospital amenities.

The social status of an individual also influences the propensity of that individual in the utilization of the healthcare facilities. Persons who have higher social status tend to have easier access and utilize these medical services more than individuals with low social status. The social status of an individual depends on their income, education and other population aspects. The usages of hospital care such as immunization are also influenced by the belief system of an individual.

The purchasing power in the community and individual families do affect the way in which that community or the families in that community utilize the health services and the immunization programmes. According to Anderson (1970) the type of service required and its' purpose influence how the healthcare services are consumed and thus seeking for healthcare depends on the type of service required by an individual and the value it has to that individual. The health utilization theory was used in a study to identify the barriers that face expectant mothers in Nyeri County. The study will seek to relate the factors that affect maternal health care with the usage of the familial care that are available in the target research area.

2.8.2 Rational Choice theory in Health Care

The study will also be based on the choice making model as posited by Young (1981). The theory proposes four indicators that influence an individual's preference when it

comes to choosing the health service that they would use. The first indicator is seriousness in which the individual regards his/her medical condition thus affecting the kind of health provision they would choose. In most cases when an individual regards their medical condition as grave they quickly seek out medical attention. On the other hand if an individual does not believe that their medical condition is urgent they don't seek medical attention and usually wait to see it the situation will resolve itself. In the case of the study, the inclination to seek antenatal and postnatal care depends on the expectant mothers' perception of the vitality of the familial care to her plus her baby.

The availability of home remedies for the condition is the second indicator in the choice making model as argued by Wolinsky (1988). This factor greatly affects the way a person will seek medical attention. In most cases, before an individual seeks expert medical care they usually try to find home remedies. For example, in most Kenyan households, when someone has a flu, it is first treated using home remedies and when only when it persists do that person seek medical help. However, in the case of a pregnant mother it is highly advisable for the mother to seek maternal healthcare as it might prevent complications that usually arise with home deliveries and any underlying issues that might affect the baby can be deduced and treated early. This helps to save both the mother and the baby's lives.

According to Wolinsky (1988), the third indicator is faith in the remedy/treatment given to the patient. A persons' belief on the treatments' ability to be of help is an important factor in getting them to accept it. Maternal health care is very important for an expectant mother and her baby. If an expectant mother is able to believe that utilizing the familial services would benefit her and the baby, most women will definitely ensure

that they are at the receiving end of such services. Thus there is the need to carry out campaigns on familial health to influence the beliefs of the women on the benefits of receiving them. The study can be of great help in identifying the myths associated with these services that hinder mothers from looking for these services plus demystifying them. This study should also be able to identify any customs in the target area that might influence the expectant mother choice when identifying the medical provisions that they will use.

The cost of health care and its availability was the fourth indicator as identified by Young and Young-Garro (1982) points out that there is the need look at the economic cost that the patient incurs when seeking medical attention and the ease of access to healthcare. There is the need to consider issues such as the distance and the time that the expectant mother is expected to move and spent in order to reach the familial amenities. There are also the expenses that will be incurred during and after the pregnancy. These are all predisposing factors that greatly influence an expectants mother utilization of dispensaries. There is also the need for the study to determine whether knowledge on familial health and the education of the mother affect how these mothers utilize the services. The study should also whether the introduction of free familial care in the country has affected or influenced the way that women make use of the maternal health services availability. The study should also identify the number of professionals that are available to aid this women and the quality of care received as it might determine the choices of these women while seeking healthcare services.

2.9 Conceptual Framework

This study conceptualizes that access to maternal healthcare services is challenged by a number of factors. These include: socioeconomic, mother related and facility based factors.

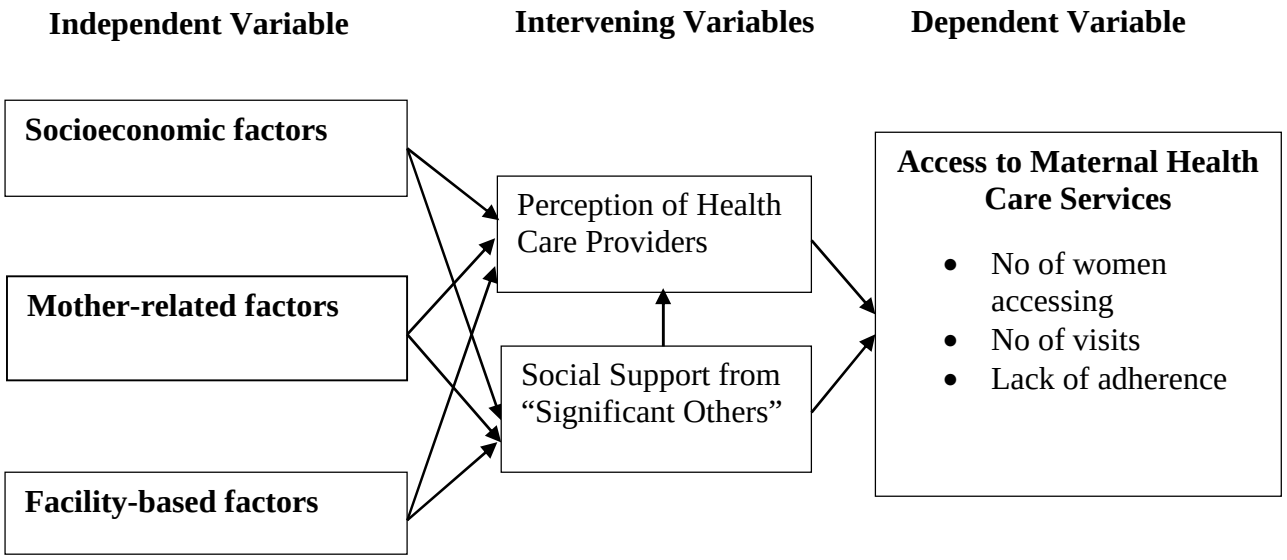

Figure 2.1 Conceptual Framework

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The chapter entailed the processes the researcher used for the collection and data analysis. It illustrates designs and methodology that guided the study.

3.2 Research Design

The research employed the cross-sectional design to get information from the sampled universe. Cross-sectional survey tries to establish aspects related to “some happenings, results, situations or types of features and people’s attitudes”(Mugenda & Mugenda, 2013). The design is one of the scientific research methods of inquiry in which data is gathered and scrutinized in order to relate, the present situations and interconnections which have to do with an issue (Mugenda & Mugenda, 2013). The study was carried out for a give time frame of 60 days that is September 2019 to October 2019 at Karatina Level Five Hospital in Nyeri County.

3.3 Study Site

The research was carried out at the Karatina Level Five Hospital in Nyeri County. The hospital is located in Kiharo Sub-Location, Konyu Location, Mathira Sub-County of Nyeri County. The hospital has often been reported to have low ratio of nurses to the population. The Constitution Implementation Report (2015) showed that the ratio of nurse to the population was 1:654. It has also been found to have few nurses serving the maternity wards with only one nurse serving the pediatrician ward despite the fact that the hospital had 112 nurses at the time. Other challenges recorded in the hospital were shortage of beds, with the maternity ward lacking mosquito nets which posed a risk of malaria to the patients. Although this could be the situation in other hospitals in

the county, the fact that the county is quite extensive and very populated, makes it untenable to undertake an intensive research if studied as a whole. The main purpose for choosing Karatina Level-5 hospital was that it is one of the biggest hospitals in the county. As such, it is a good representative sample of all hospitals in the county.

3.3 Target Population

There are six wards in Mathira Sub-County. Expectant mothers come from each of these wards among other parts ofNyeri County. The study targeted 300 expectant mothers aged 18-40 years from each of these wards during a period of two months (September 2019 to October 2019). This translated to a target population of 1,800 women. In an attempt to capture the diverse geographical and socio-economic features of the MathiraSub-County, a deliberate effort was made using purposive sampling to ensure the sample was drawn from all the 6 wards in Mathira Sub-County. The study also targeted medical personnel which included nurses and doctors. There were 112 nurses as well as 4 doctors working in the maternity ward; which totals to 116 medical personnel (Constitution Implementation Report, 2015).

3.4 Sample Size Determination and Sampling Procedure

Due to limitation in time and financial resources, combined with the fact that the total population of pregnant women in Mathira Sub-County was not available, the study used a combination of cluster and purposive sampling to draw its sample. We anticipated to get 30 pregnant women as respondents from each of the six wards in Mathira Sub-County making a total of 180 respondents. On arrival at the Hospital, all the potential respondents were clustered by their ward, and then purposively chosen – on the basis of being pregnant and willingness to participate. These were the major inclusion criteria

in this study. In this regard, an equal number of women from each of the six wards were sampled. The recruitment of the respondents targeted 30 pregnant women from each of the 6 wards in Mathira Sub-County. However, only 153 out of the targeted 180 were realized by the end of the study representing 85% response rate. Table 3.1 shows the distribution of these respondents by wards.

The key informants were purposively sampled professional health personnel who had skills and experience of over 5 years in handling pregnant women in the hospital. These included 2 doctors, 2 administrators and 7 nurses. The data elicited from these KIs was mainly professional opinions and it was used to supplement the quantitative data obtained from the primary sample.

Table 3.1 Primary Sample Size

Women per Ward	**Sample (n)**
Ruguru	29
Magutu	23
Iriani	21
Konyu	26
Kirimukuyu	24
Karatina Town	30
Total	**153**

3.5 Data Collection

The study relied on primary data basing on the fact that few of related studies in Nyeri County on the study subject. The data collected was quantitative in nature and was collected using questionnaires and interviews.

The questionnaire had closed-ended to elicit responses on a 5 point Likert type scale in which 5 depicted low appreciation and 1 depicted high appreciation of the given variable. It was divided into five main parts. Part A collected general information about the respondents. Part B, C, D and E collected information that was used to inform

discussion of the objectives of the study. To facilitate data collection, the study employed research assistants. The researcher then collected the questionnaires once they were filled. Data was also collected using interviews from 12 medical personnel. This included 11 nurses and 1 medical doctor working at the Karatina Level Five Hospital in Nyeri County. The interviews were conducted using interview guides formulated in line with the study objectives.

3.6 Pre-Testing Study

Pre-testing was done to get the thinking behind the answers so that the researcher accurately assessed whether the questionnaire was filled out properly, whether the questions are actually understood by respondents, and whether the questions ask what the researcher wants. Pre-testing also helped to assess whether respondents wereable and willing to provide the needed information. This was done among selected expectant women in the hospital. Such women were not included in the final study.

3.6.1 Validity

Kothar (2005) defines validity as the degree to which the measurement tools for research contrast with the study. That is the contents of the research tools have to relate with the topic under investigation. On the other hand content validity is employed to gain the picture of how truthful the tools are. It is the extent to which the sampled universe represents the variable to be tested by the tools, hence linkage between tool and the research hypothesis (Schumacher, 2010). Assuring validity of the tools, conversation between the fact finder and experts' was held. The opinion of the university supervisor' was also sought.

3.6.2 Reliability

Reliability aimed to ensure consistency, dependability and stability of research instruments. Reliability in the study was censured by pretesting and administering the questionnaires to selected expectant women at the hospital prior to the study.

3.7 Ethical Considerations

Consent to carry out research was solicited from the National Council of Science and Technology, Ministry of Health in Nyeri County as well as the Karatina Level 5 hospital where the study was carried out. Informed consent was sought from each the study participant. Privacy was kept throughout the process. Interviewees were not influenced in any way to take part in the study or coerced to respond to the questions. It was out of voluntary and willingness to participate.

3.8 Data Analysis

Information from the area was systematically checked by the investigator to ensure credibility. Quantitative information were cleaned and coded then fed into SPSS Version 27.0 statistical package for analysis. Coding; entailed putting information on the basis of variables under investigation using tables. Descriptive statistics (means, frequencies, percentages) was used to analyze closed-ended questions. Pearson's correlation coefficient was calculated to identify the correlation between the study variables. Information generated was then presented in the form of tables, bar graphs and pie charts. For open-ended questions, content analysis was used. To this end, the findings obtained were described in prose with the emergent meanings being highlighted. The findings obtained were presented in tables and charts for ease of presentation and interpretation.

CHAPTER FOUR: DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.0 Introduction

This chapter presents the findings obtained from the data analysis. The findings are organized into the following sections: response rate, background information, and findings in line with the objectives of the study. Lastly, sections on limitations of the study as well as chapter summary are included.

4.1 Presentation of Research Findings

4.1.1 Response Rate

An aggregate of 192 interviewees were targeted by the investigation. The number of participants who responded to the study was 164. These included the primary sample of 153 pregnant women and 11 key informants (7 nurses, 2 doctors and 2 administrators doctor). This made an overall response rate of 85.4% that was considered enough for analysis.

Table 4.1 Analysis of the Response Rate

Targeted	Response	Response Rate
191	164	85.4%.

4.1.2 Analysis of Demographic Data

The researcher sought to investigate selected demographic characteristics concerning the study respondents.

4.1.2.1 Age of Respondents

The 153 pregnant women who responded to the questionnaires were asked to state their age groups. More than a third of the respondents, 35.9% were aged between 25 and 30 years. These were followed by those aged 36 to 40 years, 22.9%. Those who were aged 18 to 24 years followed at 13.7%. The least were either aged 37 to 45 years (6.5%) or less than 18 years (4.6%). These findings show that the respondents came from diverse age groups. Age bias can be avoided.

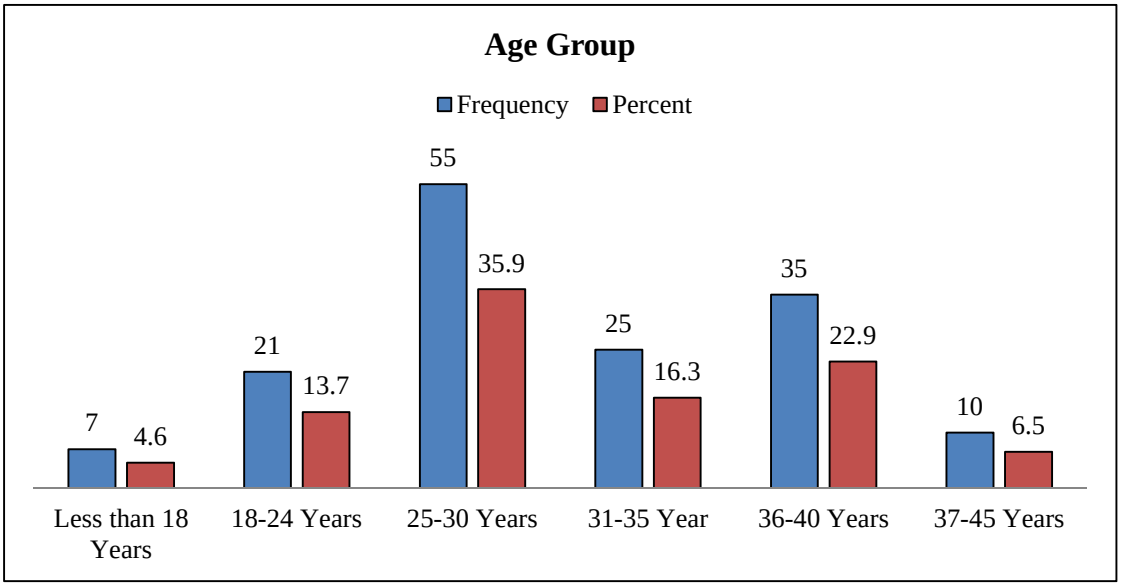

Figure 4.1 Age Groups of Respondents

4.1.2.2 Highest Education Levels of Respondents

Figure 4.3, shows that 58.8% pregnant mothers attained primary level education. These were followed by more than a third who had secondary level education (34.6%). The least had either no formal education or university and college level qualifications at 3.3%. These findings show that the respondents had diverse educational level with most of them having basic education to adequately respond to the study questions.

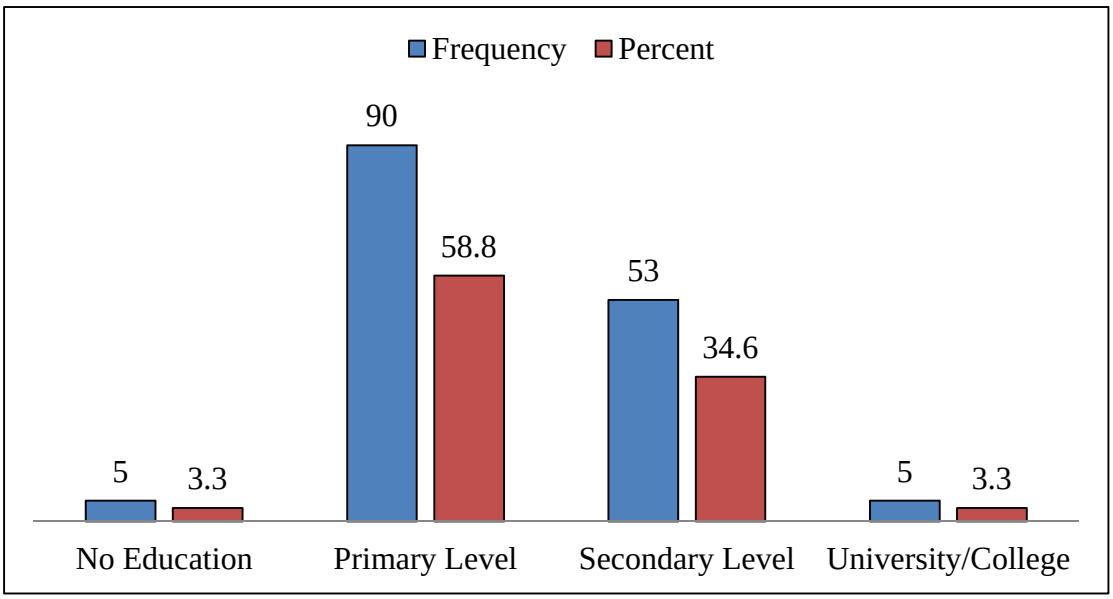

Figure 4.2 Level of Education

4.1.2.3 Residence of Pregnant Women

The women were asked to indicate where they lived. In response, most of them 60.8% pointed out that they lived in villages. The rest 39.2% lived in towns. These findings shows that balanced responses could be obtained on access to familial care services among expectant mothers in the research region irrespective of where they lived.

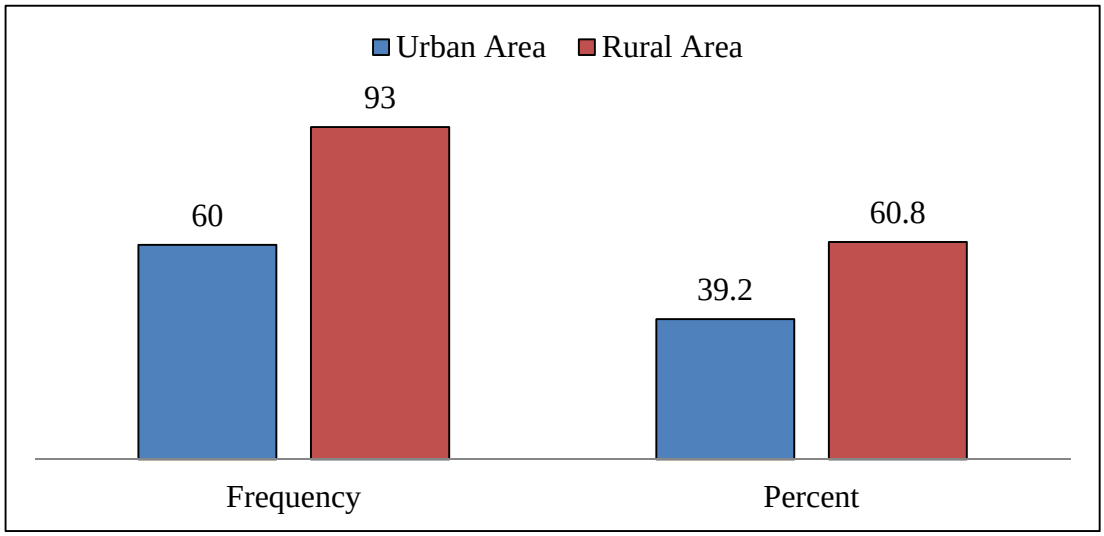

Figure 4.3 Residence of Pregnant Women

4.1.2.4 Number of Children

The interviewees were requested to indicate the number of children they had; which was through an open-ended question. Though not all the women responded to the question, those who did pointed out that most of them had 2 children. These were followed by those with 3, 4 and 5 children. The least had either 6 or 7 children. Since most of the women had more than two children, this was indicative of the fact that there could be enhanced access to maternal healthcare services since the number of children was linked to such access as pointed out by the National Council for Population and Development (2013).

4.2.1 Level of Access to Maternal Health Care Services among Expectant Women in Nyeri County

The first aim of the work was to find out the measure of reaching the familial health care amenities among expectant women in Nyeri County. Data was collected using Likert-scale type statements on a five tier scale of which 5= strongly agree; 4=agree;

3=neither agree/disagree; 2=disagree and 1=strongly disagree. The weighted means were used to indicate the levels of agreement with the statements presented.

Based on the findings obtained, most of the respondents tended to agree with the statements as shown by weighted means of 4 in four out of seven statements. In this regard, about half of the pregnant women (47.1%) agreed that they regularly attended attend check-up at the hospital. This is in agreement with Acharya et al. (2018) who points that women were increasingly seeking medical check-ups in health facilities. Another about half (46.4%) agreed that they delivered all their children in health facilities. These findings agree with those of Acharya, et al. (2018) who reported that the use of maternal health care had been increasing over the years.

Another 47.1%, which constituted the majority of the women pointed out that they were always attended to by skilled professionals whenever they come to this hospital. These findings concur with those of Nuamah et al. (2019) who point out that most women tended to utilize skilled delivery services.

Most of the women (45.8%) also agreed that they were attended to within a short time when they came to the hospital which agrees with Wang et al. (2016) who predicted a link between time taken and access to healthcare services. Another more than half (50.3%) agreed that that they always knew where to seek help in case they faced challenges with their pregnancy. This corroborates the findings of Wolinsky (1988) who posit that knowledge on where to seek help affected access to healthcare services. A third of the women (33.3%) also agreed that the hospital does outreach campaigns to sensitize them about the maternal services available at health centers. These findings

agree with those of Wayua (2017) who said that village health promoters carried out awareness campaigns on maternal health care. However, most of the women (30.7%) of the women disagreed with the statement, "I prefer to be checked by traditional midwives rather than by hospital midwives." This is an indication that most of the mothers preferred being attended to in hospitals. The findings are also in agreement with those of Wayua (2017) in her research carried out in Machakos County found that fewer women went to traditional midwives,

Table 4.2 Level of Access to Maternal Health Care Services

	Strongly Disagree		Disagree		Neither Agree/Disagree		Agree		Strongly Agree		Total		Weighted Mean
Statement	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	
a) I regularly attend check-up at this hospital	11	7.2	20	13.1	0	0	72	47.1	50	32.7	153	100	4
b) I have delivered all my children in health facilities	20	13.1	0	0.0	6	3.9	71	46.4	56	36.6	153	100	4
c) I am always attended to by skilled professionals whenever I come to this hospital	10	6.5	0	0.0	10	6.5	72	47.1	61	39.9	153	100	4
d) Whenever I come to the hospital, I am attended to within a short time	15	9.8	27	17.6	0	0	70	45.8	41	26.8	153	100	4
e) I prefer to be checked by traditional midwives rather than by hospital midwives	40	26.1	47	30.7	21	13.7	35	22.9	10	6.5	153	100	2
f) I always know where to seek help in case I face challenges with my pregnancy	10	6.5	36	23.5	0	0	77	50.3	30	19.6	153	100	3
g) The hospital does outreach campaigns to sensitize us about the maternal services available at health centers	10	6.5	36	23.5	15	9.8	51	33.3	41	26.8	153	100	3

Key: F=Frequency

4.2.1.1 Receptivity of hospital all those who sought maternal health services

The respondents were presented with the question, “in your opinion is this facility open and available to all women who require maternal health care services?” The women faced numerous challenges while seeking medical care. There was also lack of understanding from medical practitioners. In some cases, the doctors asked for money. However, others said that most of the services such as maternity were free. When the nurses and doctors were presented with the same question, they pointed out that the hospital was open to all women since it was a public hospital. As such, there was no discrimination. This shows that there were mixed opinions regarding access to maternal healthcare services at the hospital.

The medical personnel were presented with the question, “has the number of women receiving maternal care reduced or increased in the last five years?” The responses obtained showed that there were increases in the number of women accesses maternal healthcare services. This was attributed to sensitization and awareness creation through campaigns as argued by Wayua (2017) and the internet. In addition, free maternity had made it affordable and had increased access.

4.2.2 Socio-Economic Factors and Access to Maternal Health Care Services among Expectant Women in Nyeri County

The second objective of the study was to establish the role of socio-economic factors in access to familial health care amenities among expectant mothers in Nyeri County. The findings obtained show that most of the pregnant women agreed with three of the statements presented to them. In this regard, most of them agreed that they were often unable to go for maternal healthcare due to lack of money (43.8%). They also agreed

that poor road networks and distances to health facilities kept them away from accessing healthcare services (67.3%). This is in line with the findings of Wang et al. (2016) that posit that accessibility to health care depends on the geographical access which is determined by the place of the hospital and the period it takes to get a person in need to the facility.

In addition, the women agreed that financial obligations that need to be fulfilled during and after the pregnancy made it hard to attend healthcare training (34.0%).Most of the women however disagreed with two of the statements. In this regard, most of them disagreed that they could always afford postnatal care services (50.3%). Most of them (56.9%) also disagreed that they could afford training on pregnancies and new-born danger. These findings agree with those of Davidson (2015) who points out that lack of money made it difficult for families with low income to finance the fees of expert maternal health services. It is evident that the level to which women could afford maternal healthcare services affected their access to such services.

Table 4.3 Socio-Economic Factors and Access to Maternal Health Care Services

	Strongly Disagree		Disagree		Neither Agree/Disagree		Agree		Strongly Agree		Total		Weighted Mean
Statement	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	
a) I am often unable to go for maternal healthcare due to lack of money	20	13.1	15	9.8	10	6.5	67	43.8	41	26.8	153	100	3
b) Poor road networks and distances to health facilities keeps me away from accessing healthcare services	10	6.5	25	16.3	0	0.0	103	67.3	15	9.8	153	100	4
c) I can always afford postnatal care services	10	6.5	77	50.3	5	3.3	46	30.1	15	9.8	153	100	3
d) I can afford training on pregnancies and new born danger	5	3.3	87	56.9	5	3.3	51	33.3	5	3.3	153	100	3
e) Financial obligations that need to be fulfilled during and after the pregnancy makes it hard to attend healthcare training	20	13.1	31	20.3	10	6.5	52	34.0	40	26.1	153	100	3

4.2.2.1 Charges to access maternal healthcare services

The women were presented with the question, “are you charged some money in order to access maternal health care services in this hospital?” The responses obtained show that women were charged when the services exceeded their insurance cover. Every woman was also charged a little feed for admission. In some instances, the women were charged because some of the services were not part of maternity services and were charged separately. These findings corroborate those of Davidson (2015) who posits that medical expenses that were occurred including the charges that were paid to the health workers and the health facilities as well as the supply expenses that needed to be covered made it heavy for families who are impoverished to pay for the services. This thus influenced access to familial healthcare services.

4.2.2.2 Economic Statuses of the Women who came to the Facilities

The medical personnel were presented with the question, “how do you describe the economic status of the women who visit this facility.” The responses obtained show that most of the women were not financially stable. Few of them came from middle level families. In this regard, most were faced with numerous financial challenges. This could thus inhibit reaching these services as pointed out by Davidson (2015).

4.2.3 Mother-Related Factors and Access to Maternal Health Care Services Among Expectant Women in Nyeri County

The third objective of the study was to examine the influence of mother-related factors on gain to health services amid expectant mothers in Nyeri County. In all but one statement, weighted means of 4 were obtained. This shows high level of agreement with the statements presented to the respondents. In this regard, a majority of the interviewees (60.1%) gave in that they had gained a lot of knowledge on where to attend access antenatal and delivery services over the years. This is in line with the findings of Wayua (2017) that found that 66% of the women she interviewed were in cognizance of the amenity that were given in maternal health care facilities.

Another more than half (63.4%) also agreed that they used maternal health services more than they did with their first pregnancy. This buttresses the report of National Council for Population and Development (2013) that elicits that younger women have limited knowledge on maternal risks and, low access to maternal health services.

Another 77.1% agreed that the level of maternal education made them utilize antenatal and delivery care more. 73.2% also agreed that their experiences with past pregnancies

influenced the level to which they used maternal health care services; which further agrees with the report by National Council for Population and Development (2013). However, about half (47.1%) of the respondents disagreed with that they always got exposure to mass media on information that involved maternal health and this influenced their ability to access these services. This disagrees with Tsawe et al. (2015) who found out that there clear indication that exposure to mass media by women, especially on information that involve maternal health services increases the rate at which the services are used. Although some women in this study pointed out there was such influence; it seemed to be not strong.

Table 4.4 Mother-Related Factors and Access to Maternal Health Care Services

	Strongly Disagree		Disagree		Neither Agree/Disagree		Agree		Strongly Agree		Total		Weighted Mean
	F	%	F	%	F	%	F	%	F	%	F	%	
a) I always get exposure to mass media on information that involve maternal health and this influences my ability to access these services	10	6.5	72	47.1	10	6.5	41	26.8	20	13.1	153	100	3
b) I have gained more knowledge on where to attend access antenatal and delivery services over the years	0	0.0	35	22.9	11	7.2	92	60.1	15	9.8	153	100	4
c) I use maternal health services more than I did with my first pregnancy	0	0.0	21	13.7	10	6.5	97	63.4	25	16.3	153	100	4
d) The level of maternal education makes me utilize antenatal and delivery care more	0	0.0	5	3.3	10	6.5	118	77.1	20	13.1	153	100	4
e) My experiences with past pregnancies influence the level to which I use maternal health care services	0	0.0	21	13.7	15	9.8	112	73.2	5	3.3	153	100	4

4.2.3.1 Services received at the Facility

The women were requested to account for the services they received (sought) when they visited the hospital for maternal services. Most of them pointed out that they received an array of services. These included X-rays, Antenatal services, nutritional supplements, weight checkup, vaccination, immunization, scans and diagnosis, child welfare, mid upper arm circumference measurement, and family planning among

others. This shows that the women could receive most of the services sought at the hospital which could enhance access as pointed out by Umar et al. (2017) who found out that the more women knew about the delivery care services the more they sought such services.

4.2.3.2 Satisfaction with Services

The women were presented with the question, “are you satisfied with the services you receive?” Some of them pointed out that they were satisfied because the hospital offered professional, good and friendly services and that the services helped them clear all doubts they had with their pregnancy. However, others said that some of the equipment in the hospital was faulty so they could not get all the services requested. It is thus evident that there were high levels of satisfaction with the maternal healthcare services available which could augment access to such services as posited by Acharya et al. (2018).

4.2.3.3 Mother related factors that affected access to maternal healthcare according to medical personnel

The medical personnel were presented with the question, “does the following (age, education of mother and number of children) have an effect on women seeking health care services?” The mothers said that three factors influenced access. The most important factor identified was education of the mother. Age and number of children were equally said as important in influencing such access. This agrees with the report by National Council for Population and Development (2013) that linked age and access to maternal healthcare services.

4.2.4 Facility-Based Factors on Access to Maternal Health Care Services Among Expectant Women in Nyeri County

The last objective of the study was "to investigate the influence of facility-based factors on access to maternal health care services among expectant women in Nyeri County." Most of the women agreed with all the statements presented to them. In this regard, more than half (70.6%) agreed that free maternity care encouraged them to utilize health facility delivery services. Another 60.1% agreed that they tend to avoid seeking maternal health care services from expensive healthcare facilities. This agrees with Gacheri (2016) who posits that mothers tended to stay away from expensive maternal healthcare services.

The majority, 70.6% agreed that location of health facilities (amount of time it takes to get to the facility) kept them from attending maternal health care services at this facility as argued by Wang et al. (2016). As such, nearness of healthcare facilities influenced access to the healthcare facilities. Another more than two thirds (39.9%), which comprised the majority, also agreed that lack of expert delivery services discouraged them from attending some healthcare facilities. This corroborates the findings of Gacheri (2016) who points out that expert delivery services hindered access to maternal healthcare services.

Lastly, 32.7%, which were also the majority of the women who responded to the statement agreed that poor state of health facilities discourages me from seeking maternal health services. This agrees with the study of Machira (2017) that found that access to maternal health care services was pegged to quality of care among other factors.

Table 4.5 Facility-Based Factors and Access to Maternal Health Care Services

	Strongly Disagree		Disagree		Neither Agree/Disagree		Agree		Strongly Agree		Total		Weighted Mean
Statement	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	
a) Free maternity care encourages me to utilize health facility delivery services	5	3.3	10	6.5	0	0.0	108	70.6	30	19.6	153	100	4
b) I tend to avoid seeking maternal health care services from expensive healthcare facilities	15	9.8	16	10.5	15	9.8	92	60.1	15	9.8	153	100	3
c) Location of health facilities (amount of time it takes to get to the facility) keeps me from attending maternal health care services at this facility	5	3.3	20	13.1	10	6.5	108	70.6	10	6.5	153	100	4
d) Lack of expert delivery services discourages me from attending some healthcare facilities	41	26.8	26	17.0	15	9.8	61	39.9	10	6.5	153	100	3
e) Poor state of health facilities discourages me from seeking maternal health services.	47	30.7	31	20.3	10	6.5	50	32.7	15	9.8	153	100	2

4.2.4.1 Receiving all the maternity care services needed according to pregnant women

The women were asked if theyreceived all the maternity care services you needed. Most of the women answered in the affirmative. In this regard, they said that the facilities provided holistic services and for free. Others said they received such services because the public hospitals were well equipped. However, others said that they did not receive all the services because the **s**ome complications were not handled. This means that there were some challenges related to lack of expertise which could compromise access to

maternal healthcare as argued by Gacheri (2016). In some instances, **t**here were so many people to be served hence no full attention and care was given.

4.2.4.2 Sensitization Campaigns on Maternal Healthcare Services Available According to Medical Personnel

The medical personnel were presented with the question, "do you carry out sensitization campaigns to inform women in this area about maternal health care services that are available in this hospital? Explain How?" In response, the personnel said that the government sponsored such campaigns. This was done through mass media, phones, and internet. Door-to-door campaigns were also undertaken. Information was also shared through women Chamas (merry-go-round self-help groups). The medical personnel pointed out that they also used community mobilisers to reach out to the community. They also conducted registration or mobile follow ups to those who could not access. Adverts on social media as well as word of mouth were used. These findings are in line with those of Wayua (2017) who points out that awareness campaigns enhanced access to healthcare services.

4.2.4.3 Challenges Inhibiting Access to Health Facility According to Medical Personnel

The medical personnel were presented with the question, "are there women who want to access this facility but are not able to?" Most of them pointed out that some women could not access the facility due to poor transport network and living in far areas. Others were faced with financial problems which as pointed out by Davidson (2015) made it difficult for families with low income to bear the costs of expert maternal health services. Some of the pregnant and those who were disabled also had challenges due to

lack of support and mobility. This could go on to affect access as pointed out by Davidson (2015) who says that access to maternal healthcare services is inhibited by cost of transportation to and from the health facilities. There were also instances of lack of information about the services available at the facilities which were also identified as a major challenges inhibiting access to maternal healthcare services by Tsawe et al. (2015).

Furthermore, the women were presented with the question, “what are the challenges that women often face in accessing this facility?” Most of them highlighted challenges such as lack health insurance which made it hard to treat chronic diseases, lack of incubators for babies, presence of hidden costs, insensitivity of healthcare providers and lack of knowledge, distance to hospitals, long document processing, overcrowding in maternity and lack of enough beds. These findings agree with those of Matsuoka et al. (2010) who posit that poor service delivery in facilities would discourage women from choosing certain health facilities.

Other hindrances to women access to maternal health care services were cited as lack of insurance, hidden costs, corruption, and lack of specific health care information on unique maternity care needs of women. Lack of education and cultural beliefs also affected access to healthcare services by some women. These findings agree with those of National Council for Population and Development (2013) that sees education as one of the main antecedent to familial healthcare. It also agrees with the study by Sheik-Mohammed, (1999) that posit that cultural challenges also affect access to maternal healthcare services.

4.2.4.4 Challenges facing access to maternal healthcare according to pregnant women

The women were asked to indicate the challenges that they faced in accessing the hospital. The majority of them pointed out that the challenges they faced were related to cultural and religious practices that discouraged women from going to hospital (Sheik-Mohammed, 1999), distance, lack of skilled health workers, weak leadership to improve healthcare facilities, long queues and lack of drugs. Others pointed out that they faced challenges such as failure by hospitals to accept NHIF card, lack of finances and, poor transport system as elicited by Davidson (2015).

4.2.4.5 Influence of free maternal healthcare on service delivery according to medical personnel

The medical personnel were presented with the question, “how has introduction of free maternal health care services affected service delivery in this hospital?” The responses obtained show that free maternal healthcare had reduced child mortality cases as identified by Gitobu et.al (2018). It also enhanced reach of services to many people and, had reduced the number of deaths and risks of diseases such as HIV/AIDS

4.2.4.6 Suggestions for Improving Maternal Healthcare Services according to Pregnant Women

The women were presented with the question, “in your opinion, what do you suggest this hospital should do to improve maternal health care services?” In response, they pointed out that the women needed to provide more equipment and drugs, reduce charges, provide more beds and increase health practitioners. This is in line with the findings of Matsuoka et al. (2010) who argue that the level to which a healthcare facility

is well equipped and able to deliver quality of care prompts women to pursue antenatal services in such facilities. There was also need to increase and diversity per capita finance flows to the health sector. The hospital also need to encourage community-based culturally acceptance responses to unplanned pregnancies. There was also need to accept all payment plans.

4.2.4.7 Suggestions for Improving Maternal Healthcare Services according to Medical Personnel

The medical personnel were asked to present the recommendations they could make to improve maternal health care services in the hospital. They pointed out that there was need to improve mother's knowledge by educating them on their rights to go to hospital for familial services. These findings corroborate those of Aregay et al. (2014) who posit that factors such as level education and knowledge about extant health care services affects access to maternal health care. It also agrees with those of Kalule-Sabiti, et al. (2014) as well as Babalola and Fatusi (2009) in Nigeria and Uganda respectively that elicit that the knowledge of the mother is an important factor affecting access to maternal healthcare services.

There was also need to improve infrastructure, make maternal healthcare totally free, provide free or subsidized transport services, adopt first track priority service and enhance accountability by sacking all corrupt officers. There was also need to upgrade to modern equipment, employ more staff and increase number of beds which are predictors of enhanced access to maternal healthcare services as pointed out by Matsuoka et al. (2010). It was also suggested that there was need to make post-natal clinic free and improve sanitation.

4.2.5 Correlation Analysis

Pearson correlation illustrates statistical significant association between Socio-Economic factors and level of access of maternal healthcare services ($r=0.621$, $p<0.05$); mother-related factors ($r=0.577$, $p<0.05$) and; facility-based factors ($r=0.617$, $p<0.05$). These findings show that socioeconomic factors had the highest influence on access to maternal healthcare services. This was followed by facility-based factors. The weakest influence came from mother-related factors.

Table 4.6 Correlation Analysis

Correlations		
		Level of Access of Maternal Healthcare services
Socio-Economic Factors	Pearson Correlation	.621*
	Sig. (2-tailed)	.001
	N	153
Mother-Related Factors	Pearson Correlation	.577
	Sig. (2-tailed)	.001
	N	153
	Pearson Correlation	.617
	Sig. (2-tailed)	.004
	N	153
*. Correlation is significant at the 0.05 level (2-tailed).		

CHAPTER FIVE: SUMMARY OF THE FINDINGS, CONCLUSION AND RECOMMEDATIONS

5.1 Introduction

This chapter presents the study summary, conclusions, and recommendations. This is presented in line with the study objectives.

5.2Summary

5.2.1 Level of Access to Maternal Health Care Services among Expectant Women in Nyeri County

The first aim of the investigation was to find out the level of access to maternal health care amenities among expectant women in Nyeri County. The findings obtained show most of the respondents tended to agree with the statements as shown by weighted means of 4 in four out of seven statements. In this regard, about half of the pregnant women (47.1%) agreed that they regularly attended attend check-up at the hospital. Another about half (46.4%) agreed that they delivered all their children in health facilities.

47.1%, which constituted the majority of the women pointed out that they were always attended to by skilled professionals whenever they come to this hospital. Most of the women (45.8%) also agreed that they were attended to within a short time when they came to the hospital. Another more than half (50.3%) agreed that that they always knew where to seek help in case they faced challenges with their pregnancy.

A third of the women (33.3%) also agreed that the hospital does outreach campaigns to sensitize them about the maternal services available at health centers. However, most of the women (30.7%) of the women disagreed with the statement, “I prefer to be

checked by traditional midwives rather than by hospital midwives." This reveals that most of the mothers did prefer being attended to in hospitals.

The respondents were presented with the question, "in your opinion is this facility open and available to all women who require maternal health care services?" The women faced numerous challenges while seeking medical care. There was also lack of understanding from medical practitioners. In some cases, the doctors asked for money. However, others said that most of the services such as maternity were free. When the nurses and doctors were presented with the same question, they pointed out that the hospital was open to all women since it was a public hospital. As such, there was no discrimination. This shows that there were mixed opinions regarding access to maternal healthcare services at the hospital. The medical personnel were presented with the question, "has the number of women receiving maternal care reduced or increased in the last five years?" The responses obtained showed that there were increases in the number of women accesses maternal healthcare services. This was attributed to sensitization and awareness creation through campaigns. In addition, free maternity had made it affordable and had increased access.

5.2.2 Socio-Economic Factors and Access to Maternal Health Care Services among Expectant Women in Nyeri County

The second objective of the study was to establish the role of socio-economic factors in access to familial health in Nyeri County. The findings obtained show that most of the expectant mothers concurred with three of the statements presented to them. In this regard, most of them agreed that they were often unable to go for maternal healthcare

due to lack of money (43.8%). They also agreed that poor road networks and distances to health facilities kept them away from accessing healthcare services (67.3%).

In addition, the women agreed that financial obligations that need to be fulfilled during and after the pregnancy made it hard to attend healthcare training (34.0%).Most of the women however disagreed with two of the statements. In this regard, most of them disagreed that they could always afford postnatal care services (50.3%). Most of them (56.9%) also disagreed that they could afford training on pregnancies and new-born danger. It is evident that the level to which women could afford familial care services affected their usage to these available amenities.

The women were presented with the question, “are you charged some money in order to access maternal health care services in this hospital?” The responses obtained show that women were charged when the services exceeded their insurance cover. Every woman was also charged a little feed for admission. In some instances, the women were charged because some of the services were not part of maternity services and were charged separately.

The medical personnel were asked presented with the question, “how do you describe the economic status of the women who visit this facility.” The responses obtained show that most of the women were not financially stable. Few of them came from middle level families. In this regard, most were faced with numerous financial challenges.

5.2.3 Mother-Related Factors and Access to Maternal Health Care Services Among Expectant Women in Nyeri County

The third objective of the study was to examine the influence of mother-related factors on access to maternal health care services among expectant women in Nyeri County. In all but one statement, weighted means of 4 were obtained. This shows high level of agreement with the statements presented to the respondents. In this regard, about (60.1%) accepted they had gained much knowledge on where to attend access antenatal and delivery services over the years.

Another more than half (63.4%) also agreed that they used maternal health services more than I did with my first pregnancy. Another 77.1% agreed that the level of maternal education made them utilize antenatal and delivery care more. 73.2% also agreed that their experiences with past pregnancies influenced the level to which they used maternal health care services. However, about half (47.1%) of the respondents disagreed with that they always got exposure to mass media on information that involved maternal health and this influenced their ability to access these services. Although some women in this study pointed out there were such influence, it seemed to be not strong.

The women were asked to explain the services they received (sought) when they visited the hospital for maternal services. Most of them pointed out that they received an array of services. These included X-rays, Antenatal services, nutritional supplements, weight checkup, vaccination, immunization, scans and diagnosis, child welfare, mid upper arm circumference measurement, and family planning among others. This shows that

women could receive most of the services sought at the hospital which could enhance access. Women were presented with the question, “are you satisfied with the services you receive?” Some of them pointed out that they were satisfied because the hospital offered professional, good and friendly services and that the services helped them clear all doubts they had with their pregnancy. However, others said that some of the equipment in the hospital was faulty so they could not get all the services requested. It is thus evident that there were high levels of satisfaction with the maternal healthcare services available which could augment access to such services.

The medical personnel were presented with the question, “does the following (age, education of mother and number of children) have an effect on women seeking health care services?” The mothers said that three factors influenced access. The most important factor identified was education of the mother. Age and number of children were equally said as important in influencing such access.

5.2.4 Facility-Based Factors on Access to Maternal Health Care Services Among Expectant Women in Nyeri County

The last objective of the study was “to investigate the influence of facility-based factors on usage of familial care amid expectant mothers in Nyeri County.” Most of the women agreed with all the statements presented to them. In this regard, more than half (70.6%) agreed that free maternity care encouraged them to utilize health facility delivery services. Another 60.1% agreed that they tend to avoid seeking maternal health care services from expensive healthcare facilities.

A majority, 70.6% agreed that site of hospital (period it takes to get to the facility) kept them from seeking for these amenities at this facility Wang (2016). As such, nearness of healthcare facilities influenced access to the healthcare facilities. Another more than two thirds (39.9%), which comprised the majority, also agreed that lack of expert delivery services discouraged them from attending some healthcare facilities.

Lastly, 32.7%, which were also the majority of the women who responded to the statement agreed that poor state of health facilities discourages me from seeking maternal health services.

The women were queried whether they received all the maternity care services you needed. Most of the women answered in the affirmative. In this regard, they said that the facilities provided holistic services and for free. Others said they received such services because the public hospitals were well equipped. However, others said that they did not receive all the services because the **s**ome complications were not handled. This means that there were some challenges related to lack of expertise which could compromise these services. In some instances, there were so many people to be served hence no full attention and care was given.

The medical personnel were presented with the question, “do you carry out sensitization campaigns to inform women in this area about maternal health care services that are available in this hospital? Explain How?” In response, the personnel said that the government sponsored such campaigns. This was done through mass media, phones, and internet. Door-to-door campaigns were also undertaken. Information was also shared through women Chamas (merry-go-round self-help groups). The medical

personnel pointed out that they also used community mobilisers to reach out to the community. They also conducted registration or mobile follow ups to those who could not access. Adverts on social media as well as word of mouth were used.

The medical personnel where presented with the question, “are there women who want to access this facility but are not able to?” Most of them pointed out that some women could not access the facility due to poor transport network and living in far areas. Others were faced with financial problems which made it difficult for families with low income to pay the fees for the expert services. A portion of the pregnant and those who were disabled also had challenges due to lack of support and mobility. There were also instances of lack of information about the services available at the facilities which were also linked to challenges inhibiting access to familial healthcare facilities.

Furthermore, the women were presented with the question, “what are the challenges that women often face in accessing this facility?” Most of them highlighted challenges such as a lack health insurance which made it hard to treat chronic diseases, lack of incubators for babies, presence of hidden costs, insensitivity of healthcare providers and lack of knowledge, distance to hospitals, long document processing, overcrowding in maternity and lack of enough beds.

Other hindrances to women access to maternal health care services were cited as lack of insurance, hidden costs, corruption, and lack of specific health care information on unique maternity care needs of women. Lack of education and cultural beliefs also affected access to healthcare services by some women.

The women were asked to indicate the challenges that they faced in accessing the hospital. The majority of them pointed out that the challenges they faced were related to cultural and religious practices that discouraged women from going to hospital, distance, lack of skilled health workers, weak leadership to improve healthcare facilities, long queues and lack of drugs. Others pointed out that they faced challenges such as failure by hospitals to accept NHIF card, lack of finances and, poor transport system.

The medical personnel were presented with the question, “how has introduction of free familial healthcare system affected service delivery in this hospital?” The responses obtained show that free maternal healthcare had reduced child mortality cases as identified by Gitobu et.al (2018). It also enhanced reach of services to many people and, had reduced the number of deaths and risks of diseases such as HIV/AIDS

5.3Conclusion

It is evident that all the factors under investigation in this study influenced reaching the familial care services amid expectant mothers in Nyeri County. Pearson correlation illustrated the existing association between Socio-Economic factors and measure of access of familial healthcare services ($r=0.621$, $p<0.05$); mother-related factors ($r=0.577$, $p<0.05$) and; facility-based factors ($r=0.617$, $p<0.05$). These findings show that socioeconomic factors had the highest influence on access to maternal healthcare services. This was followed by facility-based factors. The weakest influence came from mother-related factors.

In this regard, it is apparent that there was high access to these services especially among women who lived closer to the facilities and who had high socioeconomic

statuses. Age, educational level plus numerical value of offsprings also affected reaching the familial care. Awareness of women about the services available also contributed to the level of access with those who were more aware tending to seek more services than those who had less knowledge. Religious and cultural factors also devastated the tendency to access maternal healthcare services. Facility-based factors also influence access to familial healthcare utility among expectant women in Nyeri County with hospitals. In this regard, the more facilities and equipment a health facility had, the more its services were sought by women.

5.5Recommendations

Based on the findings of the study, the following six recommendations were made.

(i) The investigation found out that lack of equipment and poor services affected access to familial care services. There is thus need to provide more equipment, physical infrastructure as well as drugs. Hospitals also need to upgrade their equipment to ensure that all hospital had state of the art technologies so as to enhance their ability to provide all services sought by pregnant mothers. This could be done through sufficient financing by both national and county governments as well as non-state actors.

(ii) Affordability of some of the services was also seen as a major challenge facing pregnant women when they sought maternal healthcare services. There was thus need to increase and diversity per capita finance flows to the health sector so to ensure that maternal healthcare was available for all. This could be done through strengthen healthcare access policies and legislation at national and county levels.

(iii) Some women were found to lack knowledge on where to obtain help for some pregnancy related complications. Civic education was thus recommendable so as to encourage response to the existent maternal healthcare services at grassroots levels

(iv) Lack of acceptance of all payment options for maternal healthcare services was also identified as a major challenge facing pregnant women. In this regard, it was important to enhance acceptance of NHIF cards as well as those from other insurance schemes in various hospitals so as to strengthen the capacity of women to access expert maternal healthcare when need be

(v) Hospitals were also found to be faced with corruption issues in some instances. Accountability should thus be strengthened so as to check wastage of the resources committed to enhance access to free maternal healthcare

(vi) Some medical personnel were reported to have poor attitude towards the women who sought maternal healthcare services. In this context, there was need to encourage medical personnel to have the right attitudes when providing services to pregnant women.

REFERENCES

Acharya, S., Sharma, S., Dulal, B., &Aryal, K. (2018). Quality of Care and Client Satisfaction with Maternal Health Services in Nepal: Further Analysis of the 2015 Nepal Health Facility Survey. *DHS Further Analysis Reports*, No.112. Rockville, Maryland, USA: ICF.

Ali, H.S., &Abdalla, A.A. (2016). Understand Factors Influencing Accessibility of Pregnant Women to Antenatal Care Services. *Health Science Journal*

Aregay, A., Alemayehu, M, Assefa, H., & Terefe,W. (2014). Factors Associated With Maternal Health Care Services in Enderta District, Tigray, and Northern Ethiopia: A Cross Sectional Study. *American Journal of Nursing Science*, 3(6), 117-125.

Babalola, S., &Fatusi, A. (2009). Determinants of Use of Maternal Health Services in Nigeria: Looking Beyond Individual and Household Factors. *BMC Pregnancy and Childbirth*, 9(1), 43, 1-13

Chen, W., Landau, S., Sham, P., & Fombonne, E. (2004). No evidence for links between autism, MMR and measles virus.*Psychol Med*, 34(3):543-53.

Davidson, S.I. (2015). *Examining barriers to maternal health care in Kenya using the three-delay framework.* Unpublished Dissertation. McMaster University, Hamilton, Canada)

Dennis, M.L., Abuya, T., Campbell, O.M., et al. (2018). Evaluating the impact of a maternal health voucher programme on service use before and after the introduction of free maternity services in Kenya: a quasi-experimental study. *BMJ Global Health*, 3, e00072

Essendi, H., Johnson, F. A., Madise, N., Matthews, Z., Falkingham, J., Bahaj, A.S., ...& Blunden, L. (2015). Infrastructural challenges to better health in maternity facilities in rural Kenya: community and health worker perceptions. *Reproductive health*, 12(1), pp103-123.

Gacheri, A. (2016). *Tackling high maternal deaths in Kenya. Policy Brief, Parliament of Kenya*. Retrieved from: https://www.afidep.org/download/research-briefs/policy-briefs/Anneceta-Gacheri.pdf

Gitobu, C.M., Gichangi P.B., &Mwanda, W.O. (2018). The effect of Kenya's free maternal health care policy on the utilization of health facility delivery services and maternal and neonatal mortality in public health facilities. *BMC Pregnancy and Childbirth*, 18(1), 77.

Godi, R.,&, Kusuma, Y. (2008). Immunization Coverage in Tribal and Rural Areas of Visakhapatnam District of Andhra Pradesh. *India Journal of Public Health*, 16 (6). pp.389-397.

Hanson, C., Gabrysch, S., Mbaruku, G., Cox, J., Mkumbo, E., Manzi, F.,…Ronsmans, C. (2017). Access to maternal health services: geographical inequalities, United Republic of Tanzania. *Bulletin of the World Health Organization*, *95*(12), 810–820.

Henry, V., Bairagi, R., Findley, S., Helleringer, S., &Dahir, T. (2011). Northern Nigeria Maternal, Newborn and Child Health programme: selected analyses from population-based baseline survey. *The Open Demography Journal*, 4 (11), 21-35.

Kalule-Sabiti, I.K, Amoateng, A.W., &Ngake, M. (2014).The Effect of Socio-demographic factors on the utilization of maternal health care services in Uganda. *African Population Studies*, 28 (1), 515-525.

Kasomo, D. (2006). *Research methods in Humanities and Education: Statistic, Measurement Evaluation and Testing*. Egerton, Kenya: Egerton University Press.

Machira, K. (2017). *Determinants of Maternal Health Care Services Utilization in Malawi*. Master's Thesis. North-West University.

Matsuoka, S., Aiga, H., Rasmeye,L., Rathavy,T., &Okitsuh, A. (2010). Perceived barriers to utilization of maternal health services in rural Cambodia. Health Policy, 95 (2-3), 255-263.

Mullany, B.C., Becker, S., & Hindin, M. (2007). The impact of including husbands in antenatal health education services on maternal health practices in urban Nepal: results from a randomized controlled trial. *Health Education Resources*, 22(2), 166–176.

Mungai, S. (2015). *Determinants of maternal health care services in Kenya.* Unpublished MA Thesis. University of Nairobi, Kenya

National Council for Population and Development. (2013). "Teenage Pregnancy is Harmful to Women's Health in Kenya." Policy Brief No. 31 June 2013. Accessed on July 13, 2019 from http://www.ncpd.go.ke/wp-content/uploads/2016/11/Policy-Brief-31-Teenage-Pregnancy-is-Harmful-to-Womens-Health-in-Kenya.pdf

Nuamah, G.B., Agyei-Baffour, P., Mensah, K.A. *et al.* Access and utilization of maternal healthcare in a rural district in the forest belt of Ghana. *BMC Pregnancy Childbirth* **19,** 6 (2019) doi:10.1186/s12884-018-2159-5

Olumuyiwa, O., Ewan. F., Francois, P., Vincent, I., (2008). Determinants of vaccination in rural Nigeria. *BMC Public Health*, 208 (8).pp 381-397

Phoxay, C., Okumura, J., Nakamura, Y., &Wakai, S. (2001). Influence of women's knowledge on maternal health care utilization in southern Laos. *Asia pacific journal of public health*, 13(1), 13-19.

Rainey, J., Watkins, M., Ryman, T., Sandhu, P., Bo, A., & Banerjee, K. (2011). Reasons related to non-vaccination and under-vaccination of children in low and middle income countries: findings from a systematic review of the published literature, 1999–2009. Elsevier, 29 (46), 8215-8221.

Stanton, C., Blanc, A.K., Croft, T., & Choi, Y. (2007). Skilled care at birth in the developing world: Progress to date and strategies for expanding coverage. *Journal of Biosocial Science*, 39(1), 109-120.

Tsawe, M., Moto, A, Netshivhera, T., Ralesego, L., Nyathi, C.,&Susuman, A.S. (2015). Factors influencing the use of maternal healthcare services and childhood immunization in Swaziland. *Int J Equity Health* [Internet], 14(1), 32. Available from: http://www.equityhealthj.com/content/14/1/32

Umar, N.J., Afolayan, J.L., Emmanuel, E.A., Rejuaro, F.M., Onasoga, O.A., &Ibitoye, M.B. (2017). Impact of Health Education on Knowledge and Access to Delivery Care Services by Women among Edu Local Government Area, Nigeria. *J Community Med Health Educ*, 7 (1).pp510-29.

Wang, W., Temsah, G., & Mallick, L. (2016). The impact of health insurance on maternal health care utilization: evidence from Ghana, Indonesia and Rwanda. *Health policy and planning*, 32(3), 366-375

Wayua, A. (2017). *Factors Affecting Access to Maternal Health Care in Kenya: A Case Study of Machakos County*. Unpublished Research Project Management University of Africa.

WHO (2014). *WHO/UNICEF estimates of national immunization coverage*. Geneva WHO, 2014.

WHO, U. (2014). *Trends in Maternal Mortality: 1990–2013- Estimates by WHO, UNFPA, UNICEF*. The World Bank and the United Nations Population Division Geneva: World Health Organization.

WHO and UNICEF (2010). Countdown to 2015-decade report (2000– 2010): Taking stock of maternal, newborn and child survival. Geneva: WHO and UNICEF.

Yamane, T. (1973). *Statistics: An Introductory Analysis*. 3rd Edition. New York Harper and Row.

Yanagisawa, S., Oum, S., &Wakai, S. (2006). Determinants of skilled birth attendance in rural Cambodia. *Tropical Medicine and International Health*, vol 11. Pp.238-251.

Sheik-Mohamed, A., & Velema, J. P. (1999). Where health care has no access: the nomadic populations of sub-Saharan Africa. Tropical medicine & international health : TM & IH, 4(10), 695–707. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/10583904.

APPENDIX I: QUESTIONNAIRE

SECTION A: INTRODUCTION

My name is Simon Mwangi. I am a student at University of Nairobi pursuing a master's degree in Sociology (medical sociology)I am carrying out a study entitled, "factors that underlie access to maternal health services in Kenya: a case of pregnant women visiting Karatina Level Five Hospital in Mathira." Please participate in this study by filling in the blank spaces. This study is for academic purposes only. In this regard, the responses obtained were handled confidentially. No identifying information was presented in the research findings. Tick where appropriate.

SECTION A: GENERAL INFORMATION

1. Indicate your age group (years)
Less than 18 years [ ] 18-24 [ ] 25-30 [ ] 31-35 [ ] 36-40 [ ] 36-45 [ ] More than 45 years

2. Indicate your level of education
No education [ ] Primary Level [ ] Secondary Level [ ] Degree [ ] Masters and above [ ]

3. Where do you live for most of the time?
Urban Area [ ] Rural Level [ ]

4. Please indicate the number of children you have …….

SECTION B: LEVEL OF ACCESS TO MATERNAL HEALTH CARE SERVICES AMONG EXPECTANT WOMEN

5. This section seeks to establish the level of access to maternal health care services among expectant women. Please rate your level of agreement with the following statements on a scale of 1=Strongly Disagree; 2=Disagree; 3=Neither Agree/Disagree; 4=Agree; 5=Strongly Agree.

Statements		**1**	**2**	**3**	**4**	**5**
a)	I regularly attend check-up at this hospital					
b)	I have delivered all my children in health facilities					
c)	I am always skilled attended to by professionals whenever I come to this hospital					
d)	Whenever I come to the hospital, I am attended to within a short time					
e)	I prefer to be checked by traditional midwives rather than by hospital midwives					

f)	I always know where to seek help in case I face challenges with my pregnancy					
g)	The hospital does outreach campaigns to sensitize us about the maternal services available at health centers					

6. What challenges do you face in accessing this hospital?.....
.....
.....

7. In your opinion is this facility open and available to all women who require maternal health care services?
Explain……
……
……
…….

SECTION C: ROLES OF SOCIO-ECONOMIC FACTORS IN ACCESS TO MATERNAL HEALTH CARE SERVICES AMONG EXPECTANT WOMEN

8. This section seeks to establish the roles of socio-economic factors in access to maternal health care services among expectant women. Please rate your level of agreement with the following statements on a scale of 1=Strongly Disagree; 2=Disagree; 3=Neither Agree/Disagree; 4=Agree; 5=Strongly Agree.

Statements	**1**	**2**	**3**	**4**	**5**
a) I am often unable to go for maternal healthcare due to lack of money					
b) Poor road networks and distances to health facilities keeps me away from accessing healthcare services					
c) I can always afford postnatal care services					
d) I can afford training on pregnancies and new born danger					
e) Financial obligations that need to be fulfilled during and after the pregnancy makes it hard to attend healthcare training					

9. Are you charged some money in order to access maternal health care services in this hospital?
Explain……
……
…….....

SECTION D: INFLUENCE OF MOTHER-RELATED FACTORS ON ACCESS TO MATERNAL HEALTH CARE SERVICES AMONG EXPECTANT WOMEN

10. This section seeks to establish the influence of mother-related factors on access to maternal health care services among expectant women. Please rate your level of agreement with the following statements on a scale of 1=Strongly Disagree; 2=Disagree; 3=Neither Agree/Disagree; 4=Agree; 5=Strongly Agree.

Statements	**1**	**2**	**3**	**4**	**5**
a) I always get exposure to mass media on information that involve maternal health and this influences my ability to access these services					
b) I have gained more knowledge on where to attend access antenatal and delivery services over the years					
c) I use maternal health services more than I did with my first pregnancy					
d) The level of maternal education makes me utilise antenatal and delivery care more					
e) My experiences with past pregnancies influence the level to which I use maternal health care services					

11. When you visit this hospital for maternal services, explain the services you receive……
……

12. Are you satisfied with the services you receive. Yes…… No……
Explain……
……
……

SECTION F: INFLUENCE OF FACILITY-BASED FACTORS ON ACCESS TO MATERNAL HEALTH CARE SERVICES AMONG EXPECTANT WOMEN

13. This section seeks to establish theinfluence of facility-based factors on access to maternal health care services among expectant women. Please rate your level of agreement with the following statements on a scale of 1=Strongly Disagree; 2=Disagree; 3=Neither Agree/Disagree; 4=Agree; 5=Strongly Agree.

Statements	**1**	**2**	**3**	**4**	**5**
a) Free maternity care encourages me to utilize health facility delivery services					
b) I tend to avoid seeking maternal health care services from expensive healthcare facilities					
c) Location of health facilities (amount of time it takes to get to the facility) keeps me from attending maternal health care services at this facility					
d) Lack of expert delivery services discourages me from attending some healthcare facilities					
e) Poor state of health facilities discourages me from seeking maternal health services.					

14. Do you receive all the maternity care services you need?
Yes……..
No……..Explain……
……
…….

15. In your opinion, what do you suggest this hospital should do to improve maternal health care services? Please
Explain……
……
……

Thank you for participating in this interview.

APPENDIX II: INTERVIEW GUIDE FOR KEYINFORMANTS

(MEDICALPERSONEL-NURSES, DOCTORS, ADMINISTRATORS)

My name is Simon Mwangi. I am a student at University of Nairobi pursuing a master's degree in sociology (medical sociology).I am carrying out a study entitled, "factors that underlie access to maternal health services in Kenya: a case of pregnant women visiting Karatina Level Five Hospital in Mathira." Please participate in this study by filling in the blank spaces. This study is for academic purposes only. In this regard, the responses obtained were handled confidentially.

1. Is this hospital available to all women who seek maternal health care services? Explain……
   ……
   ……
   ……
2. Have the number of women receiving maternal care reduced or increased in the last five years? Explain……
   ……
   ……
   ……
3. Do you carry out sensitization campaigns to inform women in this area about maternal health care services that are available in this hospital? Explain How?.....
   .....
   .....
4. Are there women who want to access this facility but are not able to? Explain……
   ……
   ……

5. How do you describe the economic status of the women who visit this facility?.....
   .....
   .....
   .....
6. What are the challenges that women often face in accessing this facility?.....
   .....
   .....
   .....

7. How do you reach out to local community to inform them about maternal health care?.....
.....
.....
.....
8. Does the following have an effect on women seeking health care services
a) Age
b) Education of the mother
c) Number of children
9. How has introduction of free maternal health care services affected service delivery in this hospital?

Explain……
…….....
.....
.....
10. What are the hindrances to women access to maternal health care services?.....
.....
.....
.....
11. What recommendations do you make to improve maternal health care services in this hospital?.....
.....
.....
.....
.....
12. Any other comment on maternal health care services in this hospital?.....
.....
.....
.....
.

I have finished this interview. Thank you very much for participating in this study