INFLUENCE OF SOCIO-ECONOMIC FACTORS ON THE ACCESS TO FREE MATERNAL HEALTHCARE PROGRAM SERVICES IN EMBU EAST SUB-COUNTY, KENYA

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A Research Project Submitted in Partial Fulfillment of the Requirement for the Award of the Degree of Master of Arts in Project Planning and Management of the University of Nairobi

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DECLARATION

This research project is my original work and has not been presented to any other university or institution of higher learning for a degree or any other award.

Signature.....

Date.....18/09/2022

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L50/13605/2018

This research project has been submitted to the University of Nairobi for examination purposes with my approval as the university supervisor.

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DEDICATION

I dedicate this research project to my parents Mr. Raphael Ndwiga and Mrs. Basilia Wariimi, for their prayers, encouragement and support.

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ABBREVIATIONS AND ACRONYMS

According to this study, the following abbreviations will have the below meaning.

ANC:	Antenatal Care
COVID -19:	Corona Virus Diseases of 2019
ECIDP:	Embu County Integrated Development Plan
FMS:	Free Maternal Service
HBR:	Health Behavioral Model
KDHS:	Kenya Demographic Health Survey
KHSSP:	Kenya Health Sector Strategic and Investment Plan
MDG:	Millennium Development Goals
MMR:	Maternal Mortality Rate
MNCH:	Maternal Newborn and Child Heath
MNH:	Maternal and Newborn Health
NHIF:	National Health Insurance Fund
NCPD:	National Council for Population and Development
SDG:	Sustainable Development Goals
SPSS:	Statistical Package for the Social Sciences
UNICEF:	United Nations Children's Fund
UNDP:	United Nations Development Programme
WHO:	World Health Organization

ABSTRACT

Maternal health care services are health services provided to mothers of reproductive ages and their children. Over the past ten years, the interest in maternal health care services has been increasing across the globe. Despite the initiatives and policies created by the government and other stakeholders to provide free maternal health care program services, access to maternal health care remains an issue in most African countries, including Kenya. The objective was to determine the socio-economic factors influencing access to free maternal health care program services in Embu East sub-county, Kenya. The specific objectives focused on how; distance to health facilities, quality of service, household characteristics, and individual attributes influence access to maternal health care program services. A descriptive survey research design was adopted. Quantitative and qualitative data were collected using a standardized questionnaire and an interview schedule, respectively. The study's target population was 17,528 women aged 18-49 years seeking free maternity healthcare services in level 4 hospitals. The sample size formula used in this study was Yamane's formula, which resulted in a sample size of 391 respondents being chosen using stratified random selection techniques. In addition, medical personnel providing maternal health care services in the Runyenjes Level 4 and Kianjokoma Level 4 hospitals were purposively selected during the study and interviewed. The researcher tested the validity and reliability of the research tools in a pilot study with 39 randomly selected respondents. Validity was assessed using content, face, and construct validity, whilst reliability was assessed using Cronbach's alpha coefficient. To evaluate quantitative data, the researcher used descriptive statistics. Frequencies, means, and standard deviations were used in descriptive statistics. Regression analysis was used to estimate the relationship between the variables. Thematic analysis was used to evaluate qualitative data. The study findings showed that the distance to the health facility, the quality of service, the household characteristics and the individual attributes influence access to free maternal healthcare program services. The researcher recommends that the Ministry of health collaborate at the national and county levels to provide more health facilities nearer to the people. The management of the health facilities should ensure that maternal health care seekers are kept for long, considering the sensitivity of the service. In addition, the introduction or strengthening of existing sensitization and economic empowerment programs for women to ensure that they can make informed healthcare decisions are recommended by the researcher.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

An important factor in improving the health and well-being of mothers and their children at the time of pregnancy, childbirth, and the post-delivery period is having access to health services. According to Kemoi Mailu and Kibaara (2020), 24 percent of women worldwide do not have access to maternal healthcare, with Asia and Africa having the largest share. Despite the importance of maternal healthcare services to mothers' and newborns' health, many women are unable to access them.

According to the World Health Organization (WHO), a significant huge proportion of women die of difficulties during pregnancy and childbirth, with most of the cases being curable or preventable. Antenatal care (ANC), competent attendance during birth, adequate nutrition, access to emergency obstetric care, post-partum care, and infant care are some interventions that may be implemented (Grabman, 2017). Migrants and refugees across Europe are afraid of being reported to the authorities, don't know how much health care they are entitled to, and face administrative and legal problems when they try to get it (Keygnaert, Ivanova, Guieu, Van, Parys, Leye & Roelens, 2016).

According to Abor, Abekah-Nkrumah, Sakyi & Adjasi (2017), socioeconomic variables in Asia and Latin America impact access to and usage of health care services. Simpson (2019) found that the physical closeness of healthcare providers, particularly in developing nations, is important for utilizing these services and lowering maternal and neonatal mortality. The utilization of prenatal care services is influenced by socioeconomic status, education level, financial standing, as well as maternal health awareness and staff. In addition, staff attitudes toward patients, the quality of ANC services provided in a health facility, and public awareness are also key influences (Simpson, 2019).

In Sub-Saharan Africa, about 45.1% of women have no access to maternal healthcare, with the highest proportions of women coming from Somalia (93.7%), South Sudan (87%), and Djibouti (74.4%). Ethiopia, Rwanda, Tanzania, and Uganda follow closely with 69.2%, 56.1%, 49.4%, and 39.1%, respectively (Simpson, 2019.

Nomadic health practices and health care services are the key factors of maternal health care utilization, according to a study done in South Sudan by El Shiekh and van der Kwaak (2015). In most African countries, women's decision to use institutional delivery was contingent on their husbands' agreement, according to Dahab and Sakellariou (2020). Husbands sometimes compel their wives give birth at home because they believe it is a natural obligation and they don't want their women to be exposed to male healthcare providers.

According to a study conducted in Mali by Gage (2017), women should not travel to health facilities alone; they must be accompanied by their husbands for their safety, and cultural acceptance, and to bear the financial expenditures associated with their wives' medical visits. However, the survey discovered that most husbands were too engaged with their professions to accompany their spouses to maternity health facilities. Additionally, Muslim women in Mali were prohibited from disobeying their husbands and from using institutional delivery.

Mbugua and Kerry (2018) found that women's education, age, and income were major predictors of access to maternity healthcare services in a countrywide in Kenya. The distance to hospital facilities, travel cost, and the mode of transportation all affected access to free maternal health treatments, according to Owiti, Oyugi, and Essink (2018). A comparable study in Western Kenya found that maternal healthcare access was impacted by age, degree of education, source of money, and family status (Silali & Owino, 2016). The determinants of access to maternal health services in Busia County included the cost of transport, attitudes of healthcare providers, and long waiting hours (Omollo, 2016).

Despite the fact that maternal healthcare services are provided free of charge in Kenya, low utilization underlines the need for a better understanding of the factors that influence their uptake in the country. Though studies have looked at the factors that impact maternal health service access in Kenya, the majority of them have focused on towns and cities (Owiti, Oyugi and Essink (2018). In addition, prior studies concentrated on both general and socio-demographic variables. Thus, the study explored socioeconomic determinants affecting access to maternal healthcare services in Embu county public hospitals.

1.2 Statement of the Problem

Pregnancy and delivery complications are more likely to result in death and disability than any other reproductive health issue. Increased utilization of healthcare services during delivery is needed to lower the health risk to both the mother and the unborn infant. Increasing access to maternal healthcare services and reducing maternal and newborn mortality rates will be a key accelerator in achieving the key performance indicators on health care under the Kenyan vision 2030.

Kenya's Social Foundation Vision 2030 aims to invest in people to enhance the quality of life for all Kenyans by focusing on a variety of human and social welfare initiatives, with health being a top priority. Kenya has launched an ambitious free maternal healthcare services initiative as one of its top priorities for achieving Vision 2030. However, statistics show that only 57.6% of Kenyan women have access to maternal healthcare, with the urban population accounting for the majority (Mbugua & Kerry, 2018). In Embu county, only 46% of Kenyan women have access to maternal healthcare and pregnant mothers begin attending antenatal care (ANC) clinics late in third trimester (Joshua, Caroline & Titus, 2018). This has been attributed to the following key issues: lack of and cost of transport, long distances to health facilities, family norms or traditions that hinder access to maternal health services, the quality of service at the facility, and the mother's attributes.

The distance to health facilities, travel cost, and the mode of transportation are determinants that affect the access to free maternal healthcare services by mothers and newborns, especially in rural Kenya. The quality of service offered to mothers is also a key determinant of access to free maternal healthcare. Household characteristics such as religion, family status, and family norms influence access to maternal healthcare services. Individual traits and features of women, such as age and education level, impact the use of maternity healthcare in Kenya. Although the removal of delivery fees in public health institutions helps alleviate some of the financial hurdles to accessing free maternity healthcare, other social and economic barriers still exist. The study investigated the impact of socio-economic determinants on access to free maternity healthcare in Embu East sub-county, Kenya, to establish effective policies and succeed in improving the welfare of mothers with reduced maternal mortality.

1.3 The study's purpose

The purpose of the study was to examine the influence of socio-economic factors on the access to free maternal healthcare program services in Embu East sub-county, Kenya.

1.4 Objectives of the Study

The objectives of this study were;

1. To establish the extent to which distance to health facilities influences access to free maternal healthcare program services in Embu East sub-county, Kenya
2. To assess the extent to which quality of service influence the access to free maternal healthcare program services in Embu East sub-county, Kenya
3. To determine how household characteristics influence the access to free maternal healthcare program services in Embu East sub-county, Kenya
4. To examine how individual attributes influence the access to free maternal healthcare program services in Embu East sub-county, Kenya

1.5 Research Questions

The subsequent research questions were addressed;

1. To what extent does the distance to health facilities influence the access to free maternal healthcare program services in Embu East sub-county, Kenya?
2. In which ways does quality of service influence the access to free maternal healthcare program services in Embu East sub-county, Kenya?
3. How do household characteristics influence the access to free maternal healthcare program services in Embu East sub-county, Kenya?
4. To what extent do individual attributes influence the access to free maternal healthcare program services in Embu East sub-county, Kenya?

1.6 Significance of the Study

If accepted in the public domain, the study will contribute knowledge to the following areas: The outcomes of this study may give helpful information to maternal healthcare stakeholders in the Embu East sub-County on the socio-economic variables that impact access to maternal health care in public hospitals.

The Government may use the study findings to: sensitize the community on maternal healthcare, strengthen existing infrastructure, support policy formulation and maternal healthcare programming in order to enhance accessibility. Donors may be able to utilize the study's results to help close the gap in maternal healthcare services accessibility. Medical personnel providing healthcare services may use the study's outcome and suggestions as a basis for making adjustments to their approaches and strategies toward maternal healthcare service recipients in public hospitals.

Women who may get feedback and insights on the socio-economic determinants that improve or hinder their access to maternity healthcare services in public hospitals could benefit greatly from the study. The study finding and recommendations could help women from different religions, cultural backgrounds and economic statuses to gain insight into how they can work around the household and individual issues that hinder their access to maternal health care. The research may form a basis for future healthcare program studies by other researchers in other Counties in Kenya and other developing nations.

1.7 Basic Assumptions of the Study

To guarantee accurate data, the study expected respondents to provide honest feedback to the researcher. Distance, individual characteristics, family factors, and the quality of service are thought to impact access to maternity healthcare services, according to the study.

1.8 Limitations of the Study

The study was limited to a wide area of coverage as it was conducted in the Embu East sub-county; targeting women aged 18 to 49 seeking free maternity healthcare services. Thus a sample population was used to represent the entire population of the study. The research study required a lot of time to cover a wide area. However, this limitation was solved by using the sample to generalize the findings for the entire target pollution. The study was limited by time and budget constraints. This was overcome by coming up with and adopting a research budget and time plan.

During the study, few respondents would not be willing to divulge the true information needed for the study, such as their personal characteristics and financial circumstances. This was addressed by discussing the prospective value of this study with the respondents and by ensuring them that their replies would be private and confidential.

Participants in this study remain anonymous if they are uncomfortable providing sensitive information. This encouraged respondents to speak openly without fear of being known.

1.9 Delimitation of the Study

The research was confined to public hospitals that provide maternity treatment at levels 4 in the Embu East sub-county. The study concentrated on the socio-economic determinants that influence access to maternal healthcare program services. The research focused on women between the ages of 18 and 49 who accessed free maternal healthcare program services in the aforementioned public hospitals.

1.10 Definitions of significant terms used in the study

The following terms will have the attached meaning according to the study.

Access to maternal health care services: refers to how easily women may get and use health care services throughout pregnancy and after childbirth.

Household characteristics: Refers to household income, place of residence, religion, social status and the household's norms and values on maternal healthcare

Individual attributes: Refers to the background information about an individual such as employment status, educations levels, age and marital status.

Free maternal healthcare program: The government initiative offering maternal healthcare services to women during pregnancy, childbirth and shortly after childbirth.

Public Level 4 and 5 Hospitals: Refers to public healthcare facilities that provide highly specialized services with resources to provide adequate maternal medical and surgical services

1.11 Organization of the Study

There are five chapters to this study. The first chapter contains an introduction that includes the study's history, purpose, objectives, and research questions. The importance, delimitation, limitation, and operational words utilized in the study were also highlighted in first chapter. The examination of the literature, the study's theoretical framework, the conceptual framework, and the empirical gaps in prior research connected to this issue were covered in the second chapter. The third chapter covered research technique, which comprises the design, population, sampling, data collecting methods, operational variables, and data analysis methods.

The fourth chapter focuses on the data analysis, interpretation and presentation of the findings. The summary, conclusions, findings, recommendations, and suggestions for future researches have all been included in the fifth chapter.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The impact of distance to health facilities and maternity healthcare recipients' attitudes regarding medical staff on their access to maternal healthcare services has been discussed in this chapter. It also contains the theoretical foundation, a conceptual framework, knowledge gaps, a literature review summary, household factors, individual qualities, and access to maternal healthcare services.

2.2 Access to Maternal Health Care Services

Access to maternal healthcare services might be a valuable measure in reducing maternal mortality (Chouhan, 2020). To reduce maternal mortality, many African countries have implemented policies and programs to enhance access to high-quality maternal health care. In 2016, Burundi was among the first African country in the world to provide free care to pregnant women and children below five years. Consequently, even though no official review has been conducted, usage has risen over time. In 2016, Burkina Faso implemented an 80 per cent subsidy program for maternal births (Omollo, 2016). In Kenya, notable progress in this area has been made. In 2013, deliveries in public facilities were announced to be free, although the impact on maternal mortality is yet to be assessed.

A comprehensive prenatal checkup, in-hospital births, and postpartum visits, according to Wu, Zhou, Wang, Cao, Medina & Rozelle (2019), can help reduce maternal and infant mortality as well as postpartum depression. However, in other impoverished countries, maternal health care was delayed or non-existent. According to Kitui (2017), the majority of women who gave birth outside a hospital did so due to transportation issues, with only 17% claiming cost as a key impediment. Only 30% of Nairobi women cited maternity care costs as a factor to consider while considering a pregnancy. Women in rural regions, on the other hand, claimed that they did not give birth in a hospital because it was too far away from their home and that some of them lacked transportation (Kitui, 2017).

An interviewer administered a questionnaire to 3,977 women, and the distance to the nearest health institution was assessed. In an exploratory risk factor study using multiple logistic regressions, the predictors of whether the woman's most recent birth occurred in a health facility were evaluated. The study was based in Nairobi, where the phenomena may be different from those in the study area.

According to the research on inadequate access to antenatal care, Individual socio-demographic variables impacting prenatal care attendance include parity, woman's age, wealth, and education (Otindu, 2019). The study utilized data from the 2014 Kenya Demographic and Health Survey and focused on women between the ages of 15 and 49 who had given birth in the five years prior to the survey. Women who had benefited from the free maternity program reported intimidation in healthcare facilities, long wait times, unfriendly healthcare providers, limited birth options, poor quality of services, and a lack of privacy in healthcare facilities as significant healthcare system impediments to greater and more unbiased access. The findings of Murphy's (2015) study also indicated that hospital staff maltreatment claims are well-known, which may contribute to women avoiding hospitals when it's time to deliver their infants. The revealed issues emanate from the healthcare staff, but this study is more inclined to variables relevant to the mothers.

Banik (2016) discovered that a high majority of women had access to healthcare facilities within walking distance of their homes and that the distance between their residences and the healthcare institutions did not appear to have a substantial effect on access to primary, especially maternity services. The aims of the study were met using both primary and secondary sources of information. Distance, opportunity costs, time, on the other hand, were barriers to rural pregnant mothers receiving maternal healthcare services. For example, mothers from rural backgrounds must travel long distances to reach health centres, wait long periods for treatment, and spend time that could be utilized for other productive purposes (Banik, 2016).

2.3 Distance to a Health Facility and Access to Maternal Health Care Services

Felicia, Mathias & Ndukaku (2020) discovered that distance to a health facility is adversely associated with prenatal care use and that distance affects both the chance and frequency of clinic visits. For data collection, a standardized questionnaire was utilized. Using frequencies and percentages, the data was analyzed.

According to a study in Cambodia (Park, 2019) compared and evaluated data from maternal health service surveys done in Battambang, Cambodia in 2012 and 2015. There was a multiple regression analysis performed. Distance to healthcare centres, trip cost, journey duration, and transportation methods are key variables impacting maternity healthcare accessibility for women living in rural regions. The study looked at how physical access to facilities, a lack of facilities, distances from facilities and poor transportation infrastructure affected maternal health care access. There was the need to establish the local situation on whether distance affects access to health care in the Embu East sub-county.

According to study by Young published in 2018, the CEOs of rural hospitals in 15 geographically different states with major rural areas were purposefully sampled. Utilized were questions. The analysis included descriptive statistics and included comparisons across states, rurality of communities, and hospital size. Approximately half of all rural counties in the United States lack a hospital capable of delivering obstetric services. Women in rural areas can't get prenatal care within 30 minutes of their homes, and more than 10% drive more than 100 miles for the care they need.

Tanou and Kamiya (2019) used data from the 2010 Burkina Faso demographic and health census to study the effects of geographic access to health amenities on maternal healthcare use. The researchers based their findings on DHS data which included 10,364 women aged 15 to 49. DHS data was combined to establish the distance between residential areas and the nearest health facilities. The impact of distance on maternal healthcare usage was studied using multivariate logistic regressions. From this study, the further a woman is from a health center, the less likely she is to receive good maternity care. According to Tanou & Kamiya (2019), increasing the distance from the nearest health amenity by one kilometre lowers the chances of a woman with more than four prenatal visits by 0.05 and the likelihood of her baby being delivered by a trained delivery attendant by 0.267. The study was conducted in Burkina Faso, which could not reflect the situation in Kenya.

In rural Malawi, Quattrochi, Hill, Salomon & Castro (2020) looked at the impact of distance to the nearest health facility on under-5 mortality and health care usage. In Malawi's rural areas, a retrospective examination of 335 maternity or maternity facilities was undertaken.

The researchers estimated relationships between distance to a nearby health facility and under-5 mortality. The study was conducted in Malawi, and thus there was a need to assess the situation in the Kenyan maternal healthcare system.

According to the findings of Quattrochi et al. (2020), the increased distance was associated with greater mortality and lower healthcare use (for every extra kilometre, there was a 1.2 percentage point rise in homebirth, a reduction in at least three prenatal visits, and a reduction in expert help during delivery. According to the study, a shorter distance to the nearest health facility did not affect the chance of dying before reaching the age of five, prenatal visits, delivery location, or receiving professional support during birth. The study also showed that shortening the distance between a woman and her doctor decreases her chances of obtaining a post-delivery check-up.

Fisseha, Berhane, Worku & Terefe (2017) studied the distance to the health facility and mothers' perceptions of quality in connection to professional delivery services in northern Ethiopia. Mothers were chosen from the identified clusters for the study using a multistage sampling approach. A community survey was conducted on houses within a 10-kilometre radius of the health centre.

Face to face interviews at the home level were used to obtain data. Mothers' opinions of the availability of appropriate equipment in their catchment's delivery service, having any problems during labour, and utilising prenatal care were all predictors of skilled delivery service use (Fisseha et al., 2017). The study was limited to only face to face interviews, but the current study sought to combine both questionnaires and interviews. In Nairobi, Kenya, Escamilla et al. (2018) looked at the impact of distance and quality on facility selection for maternal and child health care. The investigation was conducted in the form of a survey. Poor mothers who avoided birth walked 4.5 kilometres more than non-poor mothers. This demonstrates that women in five Kenyan cities prefer public hospitals and are prepared to go longer to acquire them, maybe due to free treatments. The study was conducted in Nairobi, which is densely populated compared to Embu and thus, the need to focus on the Embu sub-county.

Ettarh and Kimani (2016) examined the regional disparities in skilled providers' use during births in Kenya. 544 samples were analyzed using bivariate analysis. The study's findings showed that women who lived five kilometres or less from the nearest health facility were more likely than those who lived further away to get adequate care during delivery. At this distance, however, the trend of choosing a health facility level for birth altered.

As a result, maternity services in counties with rural populations are urgently needed to enhance access to experienced attendants during births. The study focused on skilled providers during births, but the current study focused on access to free maternal healthcare.

2.4 Quality of Service and access to Maternal Healthcare Services

In Nepal, Acharya, Sharma, Dulal & Aryal (2018) evaluated the quality of maternal health care and client satisfaction. The researchers used bivariate and multivariate regression analysis to link maternal health service preparedness, quality measures, and client satisfaction. According to the findings, 38% of antenatal care patients were extremely satisfied with the health facility's services. Client satisfaction with antenatal care services was significantly influenced by factors such as the gender of the service provider, free service and the frequency with which facility management committee meetings were held. Clients were more satisfied if the facility maintained a high level of service readiness and did not require payment for the services obtained during the visit. The study was conducted in a different geographical location; thus, the findings cannot be generalised to suit the Kenyan scenario.

Tsawe (2015) investigated the factors that influence the usage of maternal healthcare services and child immunisation in Swaziland. The study relied on secondary data from the Swaziland Demographic and Health Survey 2006–07. Using pre-selected variables, this exploratory and descriptive study looked at factors that influence the use of maternal and child healthcare services in Swaziland. The study found that a significant percentage of women used prenatal care (97.3%) and delivery care (74.0%), but just a small percentage used postnatal care (20.5 per cent). The country's vaccination coverage for children is also high, with an average of more than 80.0 per cent. Several characteristics, including the woman's parity, media exposure, and service quality, influenced the use of maternity healthcare and childhood immunisation. According to the study, these factors have various effects on the use of maternal and child-health services.

Fatima (2017) focused on the Garissa level five hospital to study the factors influencing the usage of free maternal health care services in Kenya. A descriptive research study was undertaken in Garissa Level 5 hospital in Garissa County, Kenya. The study's target demographic was pregnant women attending Garissa Level 5 hospital's antenatal clinics and those seeking post-natal care.

The study comprised 274 pregnant women and women seeking post-natal treatment. The sample size was determined by averaging the number of women who gave birth and sought post-natal treatment in Garissa level five hospitals during the previous three months, as reported in the hospital's records. Participants who satisfied the study's eligibility criteria were used. According to the report, the mothers were dissatisfied with the length of time it took to be seen, the lack of privacy, and the lack of psych-social care.

The satisfaction with delivery services offered in Kenyan public health institutions under the free maternity healthcare program was studied by Gitobu, Gichangi, and Mwanda (2018). A questionnaire was used to gather data. Women who responded had recently given birth in a medical facility and were awaiting release. More than 2,000 expectant mothers from 77 public health facilities in 14 counties across Kenya were enrolled in the study. They were all in tier 3 or tier 4 health care categories. The total number of people who would be questioned was calculated based on the number of beds in each hospital. According to the survey, 54.5 per cent of women who receive free maternity healthcare in the country are satisfied with their care.

More than half of mothers were satisfied with staff availability in the wards, communication between healthcare workers, drug and supply availability, privacy and cleanliness. Higher education levels and longer stays in healthcare institutions were negatively connected to satisfaction with free delivery services.

2.5 Household Characteristics and Maternal Health Care Services

The maternal health-care services in rural and urban areas are drastically different, according to Kwast (2018). Caste and religion are also significant determinants of maternal healthcare use, suggesting that women from less privileged backgrounds have more power. The study was a probability of housing survey in which 9315 women participated. The study adopted a logistic regression analysis. Kwast's (2018) findings emphasise the importance of women's economic progress. In addition, improvements to infrastructure such as roads and transportation in rural areas, the prohibition of child marriage, and access to health information are also recommended. As a result, boosting maternal health-care utilisation necessitates a well-coordinated strategy.

Zhang (2016) looked at family factors and maternal health care usage in population-based research in Eastern China. Data from Jiangsu Province's fourth National Health Services Survey in Eastern China was used in the study. According to the findings, pregnant women's parents and spouses and the expectant mothers themselves should receive maternal health education (particularly on the necessity of prenatal care) (Zhang, Xue, Wang, Zhang & Liang, 2016). A generalisation of the findings could not fit the study due to geographical diversities.

In Nigeria, Onyejose, Ndep, Oong, Omang, Otu (2019) investigated the influence of family social standing on maternal health outcomes. A review of current and recent literature yielded twenty-two papers, which were reviewed and categorised into three themes: gender and maternal health, socio-cultural factors, and maternal health outcomes. It is incumbent that these factors are investigated further, especially in the different contexts in which proposed interventions are implemented. The study cautioned that it is important to consider the context as a major determinant in some regions that may not be a serious factor in other parts of Nigeria (Onyejose et al., 2019). A generalisation of the findings could not fit the study due to geographical diversities.

Yarney (2019) looked into how maternal health choices are influenced by socio-cultural variables linked to maternal mortality. 233 people from three rural districts in the Greater Accra area participated in a community-based cross-sectional study. Following informed consent, a mixed-method data collecting technique was used. In addition, improvements to infrastructure like roads in rural areas, the prohibition of child marriage and access to health information were recommended. As a result, boosting maternal health-care utilisation necessitates a well-coordinated strategy.

In southeast Nigeria, there are variations in the usage of maternity healthcare services. Antenatal therapy (99.7%) and facility distribution (97.0%) are both common, while postnatal care providers (10.1%) are uncommon (Ezeh, Uche-Nwachi, Abada & Agho, 2019). However, little study has been done on the history and effectiveness of ANC treatment facilities. In comparison, fewer studies looked at the socio-demographic factors that influenced the region's acceptance of maternal health treatment centres. The study investigated the pattern of use of mental health services in Anambra State, Nigeria, as well as the socio-demographic factors that influence it. A generalisation of the findings could not fit the study due to geographical diversities. In addition, the maternal healthcare system in Nigeria may be so different from the local system.

El Shiekh and Kwaak (2015) conducted an investigation of the factors that influence nomads' use of maternal health care services. An examination of previous research and reports was used. Nomadic health behaviours and healthcare services, according to the findings of the study, are the most important factors influencing the use of maternal health care services. Their nomadic lifestyle, limited education and experience, gender conventions, beliefs, values, and attitudes, as well as their geographic location, all, have an effect on nomadic health practices.

Community health workers, traditional birth attendant training and support, the development of maternity or birth waiting for houses, and combined mobile health care for people and animals are all examples of best practices from other countries that could be applied to Sudan's nomadic environment, according to El Shiekh and Kwaak (2015). Because nomads use maternal health care services at a relatively low rate, the study suggests evidence-based methods to increase the demand for treatments or relocate women closer to emergency obstetric facilities (El Shiekh & Kwaak 2015). The study was limited to the nomads, but the current study focused on women from all spheres of life.

2.6 Individual Attributes and Access to Maternal Health Care Services

Barman and Chouhan (2020) investigated the influence of education on maternal health care access and usage. Their research drew on secondary data from India's fourth National Family Health Survey, which surveyed 190,898 women aged 15 to 49 from 2015 to 2016. According to the research, the study indicated that factors influencing maternal health care usage include mother age, age at marriage, birth order, caste, religion, income index, residential location, and media exposure. The study was conducted in 2015 and 2016 and used secondary data, while the current study utilised primary data. Karlsen, Say, Souza, Hogue, Calles, Gülmezoglu & Raine (2018) looked examined the impact of social attributes on maternal mortality among women giving birth in healthcare facilities. According to the study, people over 35 (as opposed to those between 20 and 25 years old), those with more prior births, and those with lower levels of state investment in health care had a considerably higher chance of mortality. There were also other impacts related to the nation of residency that the model could not account for.

Deo, Paudel, Khatri, Bhaskar, Paudel, Mehata & Wagle (2015) investigated the factors that influence access to and utilisation of prenatal care (ANC) services in eastern Nepal. Women who had given birth within the previous year were interviewed using a semi-structured questionnaire. A total of 372 women were randomly selected and interviewed. Four ANC visits were used to identify potential barriers, which were then investigated using bivariate and multivariate logistic regression. The data show that more than two-thirds of women received at least four ANC visits. In the study, women who were exposed to the media were more likely than other women to receive four or more ANC visits. An ANC visit was more likely to be obtained by women from more affluent ethnic groups than it was by women from more impoverished ethnic groups. In the study, women who had a higher level of autonomy were nearly three times more likely than women who had a lower level of autonomy to have at least four prenatal care visits (ANC visits) (Deo et al., 2015). The previous study was carried out in Nepal, but the present study is being carried out in the Embu East sub-county of Kenya.

In a study conducted by Tsawe, Moto, Netshivhera, Ralesego, Nyathi & Susuman, (2015) on variables influencing the use of maternal health services and childhood vaccination in Swaziland, maternal schooling, age, employment and earnings, and women's socioeconomic position all had an impact on maternal health services and produced a gap in their adoption. According to the report, insecurity and a lack of female education have a major influence on maternal health care. Due to financial and social-cultural barriers, women with less education and from low-income households are less likely to have access to reliable maternal health care in this circumstance. The research assessed the use of maternal health services and childhood vaccination; however, the current study sought to assess social-economic factors influencing access to maternal healthcare.

Kwast (2018) looked at the variables that contribute to maternal mortality in Addis Ababa, Ethiopia, and discovered that women who did not receive maternal health care were often hampered by poverty, single status, or a lack of knowledge about maternity care services. Lack of time, parity, and economic position were other issues. Non-attendance was also more common in young moms dealing with their first pregnancy, according to the study. The findings of the Kwast (2018) research also showed that the mothers' age had a significant impact on their confidence and experience, impacting their use of maternity care. The study findings are not comparable to that of the current study’s focus due to diversity in the maternal healthcare systems.

2.7 Theoretical Foundation

This study was anchored on the following theoretical framework;

2.7.1 Theory of gender stratification

This research has employed the theory of gender stratification as expounded by Shen and Williamson (1999). In order to explain maternal fatalities, this theory focuses on gender-related disparities between men and women, as well as their socioeconomic standing in society. Women in low socioeconomic situations are more sensitive to the health hazards associated with childbirth, resulting in a high death rate. This hypothesis goes on to say that civilizations with more status and autonomy for women have lower maternal mortality rates.

The idea considers social-economic position as the most important element in maternity healthcare, arguing that women with low social status may have limited access to maternal care, resulting in death. The hypothesis established the indirect causes of maternal health, which was of relevance to the research (Shen & William 1999).

According to the idea, women who have more authority and advantages are more autonomous and have more say in matters such as early marriage, the number of children they wish to have, and access to healthcare. They are also more likely to have better nutrition since, in civilizations where women and girls have lesser status than males, they are frequently food-discriminated, which means they receive less food than men and boys. Furthermore, in such communities, females are more likely to be married at a young age, preventing them from being physically equipped for motherhood. This might result in problems, including obstructed labour or even death.

Furthermore, because she is confined to the house, this contributes to women's low status and dependency by preventing them from obtaining an education or a career, culminating in a generation-by-generation never-ending cycle of disadvantages. This theory is important because it provides a foundation for the researcher to explore the link between various social-economic factors and maternal health access.

According to the idea, maternal mortality is lower in nations where women have more social position and autonomy. This is founded on the premise that having improved access to education, employment opportunities, family planning, and healthcare will contribute to female empowerment.

As a consequence, women will have fewer pregnancies and births, putting less physical pressure on their bodies and lowering their chances of dying from pregnancy and0childbirth-related causes. As a result of this hypothesis, the researcher is motivated to investigate women's socioeconomic position in connection to access to free maternity healthcare in Embu East Sub County.

2.7.2 Andersen Behavioral Model of Health Services Use

The model was developed by Ronald M. Andersen in 1995. The model states that the patterns of health care utilization can be explained by the collective influence of the environmental and personal factors and the enabling resources. In turn, the model posits that three attributes are known to be a function of individual access and adoption of health care services: predisposing factors, supporting factors, and factors of need (Andersen, 1995).

In turn, the predisposing factors show the socio-cultural influences that occur before the disorder, while the supporting factors are the logistic variable that patients need to satisfy in order to access health care services (Pilar & Woodson, 2020). On the other hand, from the technical and wellbeing issue that causes the demand for health care resources, the use element addresses concerns related to the actual source of health service utilization, in this situation. Not only does the Anderson model provide for medical treatment, but also for the client.

The model is used to learn more about the factors that influence the usage of free maternal health care services. Predisposing variables that influence maternal health usage give insight into the motivators that motivate people to seek medical help. Age, race, and health beliefs are all linked to such issues. Meanwhile, enabling variables like community and family support have an impact on healthcare service utilization.

This model addresses a key component of the study's goals, which include determining the impact of maternal health care on women's socio-demographic profiles, as well as the impact of cultural attitudes and group understanding on the implementation of maternity services (Tesfaye & Loxton, 2018). In this sense, in terms of predisposing factors, the theory covers all aspects comprehensively; need factors, psychological, and cultural factors. The model thus predicts and offers an explanation of the factors contributing to the access to free maternal healthcare.

2.8 Conceptual Framework

The study's conceptual framework is presented below to show the link between independent and dependent variables. The independent variables were distance to the health facilities, quality of service, household characteristics and individual attributes. The dependent variable was access to maternal health care services. The study looked into how transport availability, the cost and the time it takes to a health facility influenced the access to the maternal health care services. The availability of the medical personnel, their cultural competence, the time it takes in consultation and the waiting time were also maternal health access determinants looked into by the study. Household characteristics such as the income level, and religion were also studies to see how they deterred or promoted access to maternal health care services. In addition, some individual attributes such the age, marital status and occupations were also studied to determine their influence on maternal health care service accessibility.

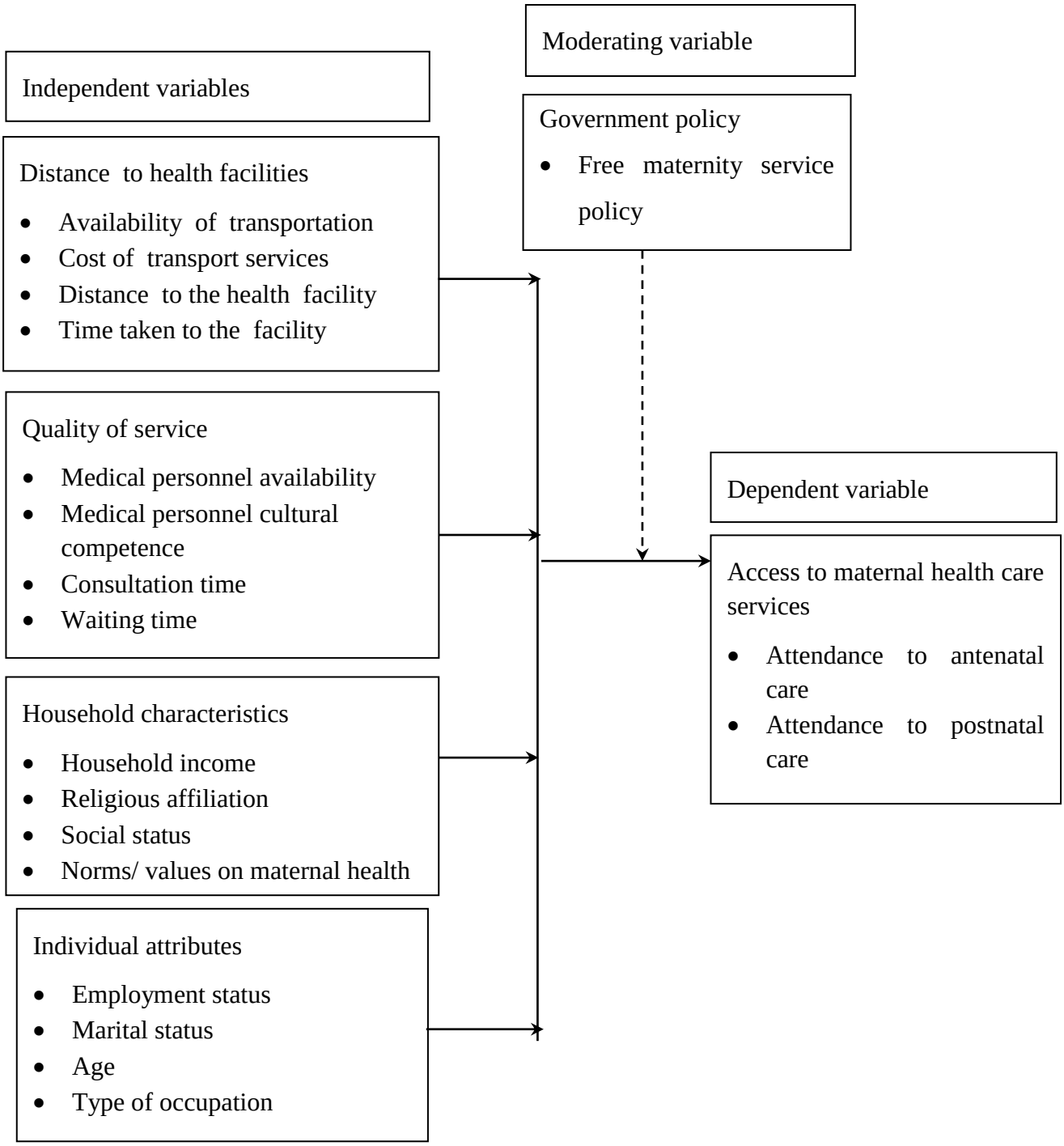

Figure 2.1

Figure 2.1: Conceptual framework

2.9 Knowledge Gap

Table 2.1 presents a summary of the knowledge gaps to be filled by the study.

Table 2.1: Knowledge Gap

Variable	Author (year)	Title of the study	Methodology	Findings	Knowledge gap	Focus of the study
Distance to health facility	Tanou & Kamiya (2019)	The influence of geographic access to healthcare institutions on the utilization of maternal healthcare services	Adopted multivariate logistic regressions	The greater the distance between a woman and the nearest health centre, the less likely she is to obtain adequate maternity healthcare.	The data for this study originated from the 2010 Burkina Faso demographic and health census (DHS).	This study focused in Kenya specifically Embu County
	Quattrochi, Hill, Salomon and Castro (2020)	Under-5 mortality and health care utilization in rural Malawi in relation to variations in distance from the nearest health facility.	This was a retrospective study including 335 mat ernity or maternity/dispensar y facilities built in rural areas of Malawi.	Higher mortality and decreased health-care usage were linked to increased distance (for every extra kilometre: Homebirth increased by 1.2 percentage points (pp). At least three prenatal visits are reduced, and expert help during birth is reduced.	Cox proportional hazards models were applied in this research, along with maternal health care usage.	This study adopted the use of regression analysis.
	Ettarh & Kimani (2016)	The relationship between the distance between people and health-care institutions and the usage of expert delivery.	Adopted a literature review design	Women who lived within 5 kilometres of a health institution were more likely to use expert care during birth than women who lived further away.	Was directed to the use of skilled delivery	The current study focused on maternal health care
Individual attributes	Karlsen, SayJoão-Paulo Souza	The relationship between maternal education and maternal mortality among	Adopted a cross-sectional survey design	Those above the age of 35, those with more prior births and those with lower levels of state investment in health care had a	The study gathered data from 373 health agencies in 24 African, Asian, and Latin American countries.	The current study focused on access maternal health care and gathered

	HogueDinorah, Calles and Raine (2018	women who give birth in health-care facilities		considerably greater risk of mortality (compared to those between the ages of 20 and 25).		data from women aged 18-49 and focused on 2 public hospitals in Embu County
Quality of service	Acharya et al. (2018)	Quality of care and client satisfaction with maternal health services in Nepal.	Bivariate and multivariate regression analysis	Client satisfaction was significantly influenced by the gender of the service provider and the frequency with which facility management committee meetings were held.	due to regional variations, the findings may not be applicable to the current study	The current study focused on access to maternal health care in Kenya
	Fatima (2017)	Factors that influence the utilization of free maternal health care services in Kenya: Garissa level five hospital	Cross-sectional descriptive design	The study found that the mothers were displeased with the long time it took before being attended, lack of privacy and psych-social support.	The study focused on level five hospitals	The current study focused on level 4 hospitals
Household characteristics	Zhou, et.al, (2020)	Socio-demographic factors are linked to the use of maternal health care.	The sample group comprised of 11,961 women aged 15 to 49, descriptive and multivariate analysis in Strata version 14.	In the use of ANC, health facility delivery, and postnatal care services, demographic, socioeconomic, and regional inequalities were identified.	The findings may not be applicable to Kenya also because the study focused on the utilization of maternal health care services in Cambodia and the Southeast.	The current study focused on access to maternal health care in Kenya
	Kalule-Sabiti, et.al, (2014)	looked at the impact of demographic and socioeconomic variables on the use of maternal health care services.	Adopted the use of binary logistic regression model	In comparison to their rural counterparts, urban women are more likely to seek prenatal care, receive tetanus toxoid injections, and deliver their babies in public health facilities.	Dealt with antenatal care, tetanus toxoid jabs, and having their babies delivered in public health facilities.	The current study focused on access to maternal health care in Kenya

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Chapter three presents; the research design, the study area, target population, sampling strategies, research instruments, data collection procedures, data analysis methodology, ethical issues, as well as variable operationalization.

3.2 Research Design

The researcher adopted descriptive survey research design in this study. This entails scientifically studying an object or a phenomenon (Brown, Kelley, Clark & Sitzia, 2003). A descriptive survey design, according to Cooper & Schindler (2008), essentially provides a description of the population in terms of fundamental variables, with a focus on determining the presence of relationships among the studied variables. The researcher chose this design because the study focused on a large population and a limited geographic scope. Again, this design permits collection of data from respondents in their natural setting. The researcher administered questionnaires and interviewed a few respondents at the management level so as to gather sufficient information on various topics of interest (Kothari, 2004).

3.3 Target Population

There are 2 level 4 hospitals in the Embu East sub-county (Embu County Integrated Development Plan, 2017). The target population comprised of women aged 18 to 49 who sought free maternity healthcare services in the Embu East sub-county as presented in Table 3.2. The population is based on the Kenya National Bureau of Standards (2019) and the Embu County Integrated Development Plan 2018-2022. The data was confirmed during data collection by reviewing the attendance registers at the two level 4 hospitals. The study also targeted the 13 maternal healthcare medical personnel working in Runyenjes Level 4 and Kianjokoma Level 4 hospitals.

Table 3.1: Target Population

Hospital	Target population
Runyenjes Level 4	13638
Kianjokoma Level 4	3890
Total	**17528**

(Source ECID, 2018)

The table 3.1 shows that the target population was 17528 women aged 18 to 49 who seeking free maternity healthcare services in Embu East sub-county.

3.4 Sample Size and Sampling Procedures

The sample size and sampling process used in the study, as well as how they were determined are presented in this section.

3.4.1 Sample Size

Yamane's 1967 formula was used to calculate the sample size for this study. Yamane (1967) presents a simplified formula for calculating sample sizes in the presence of a finite population, as stated below:

$$n = \frac{N}{1 + N(e)^2}$$

Where n is the sample size, N is the desired population size (17,528) and e is the degree of accuracy or sampling error with a 95% confidence range of 0.05.

$$n = \frac{17528}{1+17528(0.05^2)} = 391$$

Using this formula the desired sample size was 391 respondents as detailed in Table 3.2 below.

Table 3.2: Sample size

Hospital	Target population	Sample proportion (%)	Sample size
Runyenjes Level 4	13638	77.8	304
Kianjokoma Level 4	3890	22.2	87
Total	**17528**	**100**	**391**

(Source Researcher, 2021)

In addition, 13 maternal healthcare medical personnel providing maternal health care services in the Runyenjes Level 4 and Kianjokoma Level 4 hospitals were purposively selected and interviewed.

3.4.2 Sampling Procedure

The respondents for this study were chosen using stratified random sampling and purposive sampling methods. The goal of stratified random sampling is to divide the target population into homogeneous subgroups and then randomly sample each division (Creswell, 2017). The population was divided into strata. Using stratified random sampling, researchers can obtain a sample population that is the most representative of the overall population under consideration (Sharma, 2017). To ensure that the population from each strata was proportionally represented in the final sample, stratified random sampling was used. The study purposively selected medical workers who offer maternal health care services since they gave accurate data for the study. Purposive sampling, according to Brink (1996), as cited by Muniu, Gakuu, and Rambo (2018), requires the selection of participants who are well-versed in the matter at hand.

3.5 Data Collection Instrument

A structured questionnaire and an interview schedule were used to collect data. The questionnaires were administered to women seeking maternal healthcare services while interview schedules were administered to medical personnel because of their knowledge of socio-economic issues influencing access to maternal healthcare services.

A structured questionnaire containing closed-ended questions and Likert scale questions was used to collect quantitative data. Likert scale questions were constructed on a 5-point scale with 5- strong agreement, 4 - agree, 3 - neutral, 2 - disagree, 1 - strongly disagree. To answer the research questions, the questionnaire had sections focusing on the respondents' demographic information, distance to health facilities, and quality of service, household characteristics, individual attributes and access to maternal healthcare services. The researcher and research assistants administered the questionnaires. An interview schedule with a set of structured questions targeted at generating rich and accurate data was used to collect qualitative data. With the respondents' agreement, the interviews were audio-recorded or notes were taken.

3.5.1 Pilot Testing

To increase the quality and efficiency of the study instruments, the researcher did a pilot test prior to the data collection process. It is suggested that the pilot study be conducted on 10% of the total sample population (Odongo, 2018). Participants were given 39 questionnaires and two interview guides for a total sample size of 391 people. The pilot study was carried out at Embu west Sub County because the research population has similar characteristics to the target population.

3.5.2 The Instruments' Validity

To determine the degree to which the study instruments accurately measure the desired variable, the researcher used content, face, and construct validity.

3.5.2.1 Content Validity

The instruments were designed and operationalized in such a way that they capture the items under each variable and in connection to the study's purpose and objectives. Furthermore, the content validity was confirmed by supervisors' and practitioners' professional opinions.

3.5.2.1 Face Validity

The questionnaire was subjected to expert analysis and judgment from two independent experts who thoroughly assessed the study instrument's representativeness at face value.

3.5.2.3 Construct Validity

Construct validity refers to how well a test assesses an intended imaginary construct (Odongo, 2018). This form of validity can be checked by a group of experts who are familiar with the concept; the experts can look over the items and figure out what the item is supposed to assess (Righa, 2018).

3.5.3 Instruments' Reliability

If a measuring instrument produces consistent results, it is considered trustworthy (Odongo, 2018). A reliability test was performed to see if the data-gathering device consistently produces the same results when tested several times.

The instrument's reliability was tested using the split-half method. This required administering the survey to the pilot group of respondents, dividing the results into two half, and calculating the correlation coefficient of the two halves to see how they related. When testing reliability, a Cronbach's alpha correlational coefficient of 0.70 or higher was considered an acceptable value for the instrument's dependability (Odongo, 2018).

3.6 Procedures for Data Collection

Before beginning data collection, the researcher received approval from the University of Nairobi in the form of a letter, as well as a research permit from the National Commission for Science, Technology, and Innovation. Once the letter is given and the aforementioned permit is granted, the researcher visited the study area, and the hospitals to inform and seek permission from the hospital management to conduct research. Two research assistants were trained how to administer the questionnaires by the researcher.

During data collection, participants were provided guidelines for filling the questionnaires, and research assistants aided those who required assistance by filling in the questionnaires with exact information provided by the participants. For those who wish to be given time, the respondents were given at least a week to respond. A follow-up record was generated to keep track of the pending questionnaires and the ones which were completed.

3.7 Data Analysis

Questionnaires were double-checked for accuracy before being processed and analyzed with the Statistical Package for the Social Sciences (SPSS version 25). Frequencies, means, and standard deviation was used as descriptive statistics to indicate how the data was distributed. Regression analysis was used to estimate the relationship between variables as an inferential statistic. The study observed a 5% level of significance and 95% level of confidence where a variable was significant when $p<0.05$ and insignificant when $P> 0.05$.

The regression equation used was; $Y_i=\beta_0+ \beta_1 X_1 + \beta_2 X_{2+} \beta_3 X_{3+} \beta_4 X_{4+} \varepsilon$

Where

Y is Access to maternal healthcare

X_1 is Distance to health facilities

X_2 is Quality of service

X_3 is Household characteristics

X_4 Is Individual attributes

ε = Error term

Content analysis was used to examine qualitative data utilizing common themes and concerns identified by various key stakeholders. Qualitative data was transcribed, interpreted and analyzed thematically according to the clear aims. Thematic analysis frequently explains and interprets qualitative data using long sentences or terms instead of shorter codes (Saldana, 2016). Themes were utilized to capture something essential about the data and represent some sort of patterned response or context within the data collection in connection to the research objectives.

3.8 Ethical Considerations

While conducting study, the researcher observed ethical protocols. After thoroughly describing the study's objectives and assuring them of the confidentiality and privacy of their data, the researcher obtained informed consent from the participants. The researcher informed the participants that there would be no monetary reward for their participation in the study. The generated results were solely used for the study and will not be disclosed till the research project is completed.

3.9 Operational definition of variables

Table 3.3: Operational definition of variables

Objective	Variable	Indicator	Measurement Scale	Data Collection	Data Analysis
To establish the extent to which distance to health facilities influences access to maternal healthcare services in public hospitals in Embu County, Kenya	Independent Variable	• Availability of transportation • Cost of transport services • Distance to the health facility • Time taken to the health facility • Transport and communication	Ordinal Scale	Questionnaire	Descriptive Statistics
To establish the extent to which the quality of service influence access to maternal healthcare services in public hospitals in Embu County, Kenya	Independent variable	• Medical personnel availability • Medical personnel cultural competence • Consultation time • Waiting time • Level of privacy	Ordinal Scale	Questionnaire	Descriptive Statistics

To determine how household characteristics influence1access to maternal1healthcare services1in public1hospitals in Embu County, Kenya	Independent variable	• Availability of disposable income • Religion • Place of residence • Social status • Norms and values	Ordinal Scale	Questionnaire	Descriptive Statistics
To examine how individual characteristics influence access to maternal1healthcare1services in1public1hospitals in Embu County, Kenya	Independent variable	• Employment status • Age • Marital status • Level of education • Occupation	Ordinal Scale	Questionnaire	Descriptive Statistics
Access to maternal health care	Dependent variable	• Number of antenatal visits • Number of hospital deliveries • Number of postnatal visits	Ordinal Scale		Inferential statistics

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

4.1 Introduction

This chapter discusses how the data from the fielded was analyzed. In addition, the data is presented, interpreted, and debated. The response rate, demographic information, findings according to the objectives, regression analysis, and a discussion of the findings are also presented below.

4.2 Questionnaire Response Rate

A total of 329 of the 391 questionnaires sent out to respondents were completed and returned, giving in an 84.1 percent response rate. A response rate of 70% or above, according to Peil (2015), is good for drawing broad conclusions regarding research.

This is tabulated in Table 4.1.

Table 4.1: Response Rate

Responses	No	Percentages
Administered questionnaires	391	100
Unreturned questionnaires	62	15.9
Questionnaires filled and returned	329	84.1

4.3 Respondents Demographic information

The researcher wanted to know about the respondents' age, marital status, educational level, occupation, and religion. This section summarizes the findings.

4.3.1 Respondents Age

The exploration enquired on the respondents' age to ascertain the age of the women who sought free maternity healthcare services.

Table 4.2: Respondents Age

Age Category	Frequency	Percentage
18-28Years	126	38.3
29-39 Years	180	54.7

Over 40 Years	23	7.0
Total	329	100.0

The results demonstrate that 54.7% of the participants were 29-39 years, 38.3% were 18-28 years and 7% were over 40 years. The findings illustrate that majority of the women seeking maternal health care was between 18 and 39 years. The women were distributed across the reproductive age the higher number of women seeking maternal health care between 18 and 39 years could be attributed to the reproductive activeness of women in this age category.

4.3.2 Marital status

The findings presented in Table 4.3 shows the marital status of the0respondents.

Table 4.3: Marital status

Marital status	Frequency	Percentage
Single	78	23.7
Married	232	70.5
Separated	10	3.0
Divorced	5	1.5
Widow	4	1.2
Total	329	100.0

According to the findings, the majority of respondents (70.5 percent) were married, 23.7 percent were single, 3% were separated, 1.5% were divorced and1.2% were widows. The study was thus inclusive of the diverse marital status. The findings further imply that more married women of reproductive age have access to marital healthcare that the single, separated divorced or the widow which could be attributed to husband support.

4.3.3 Highest level of Education

The respondents' highest level of education was also established by the study. The results are shown in Table 4.4.

Table 4.4: Highest Level of Education

Highest level of Education	Frequency	Percentage
Primary	111	33.7
Secondary	146	44.4
College	54	16.4
University	18	5.5
Total	329	100.0

The majority of the respondents (44.4%) had completed secondary education, 33.7% had completed primary school, 16.4% has completed college and 5.5% had completed university education. The respondents had basic education which was of value in understanding and responding to the questions. The findings also imply that with the basic education most of the women were knowledgeable of the importance and the need for maternal health care.

4.3.4 Occupation

The survey intended to ascertain the respondents' occupations. Table 4.5 summarizes the findings.

Table 4.5: Occupation

Occupation	Frequency	Percentage
Student	12	3.6
Unemployed	103	31.3
Casual	114	34.7
Permanently employed or self-employed	68	20.7
Contractual	32	9.7
Total	329	100.0

On the respondents' occupations, 34.7% were casual labourers, 31.3% were unemployed, 20.7% were either permanently employed or self-employed, and 9.7% were contractual employees while 3.6% were students. This demonstrates that the study's findings are based on responses from women with a variety of occupations.

4.3.5 Religion

Religious affiliations were also looked out for in the investigation. Table 4.6 summarizes the findings.

Table 4.6: Religion

Religion	Frequency	Percentage
Islam	6	1.8
Christianity	320	97.3
Traditional religion	3	0.9
Total	329	100.0

According to the findings, Christians made up the vast majority of the respondents (97.3%), with Muslims accounting for 1.8 percent and traditional believers accounting for 0.9 percent.

4.4 Distance to Health Facility and Access to Maternal Health Care Program Services

The objective was to investigate whether the distance to health facilities in Embu East sub-county influenced access to maternity healthcare. The results are shown in Table 4.7.

Table 4.7: Distance to Health Facility

Distance to Health Facility	n	Minimum	Maximum	Mean	Std. Deviation
Women are unable to obtain free maternity healthcare due to a lack of transportation to the institution.	329	1.00	5.00	3.74	0.76
Women are unable to obtain free maternity healthcare due to a lack of proximity to a health center.	329	1.00	5.00	3.82	1.33

Women are unable to receive free maternal healthcare due to a lack of transportation and communication.	329	1.00	5.00	3.75	0.92
Women are unable to attend this Level 4 hospital for free maternity care due to the high cost of transportation.	329	2.00	5.00	3.98	0.93
Women's access to free maternity healthcare is hampered by the time it takes to go to the health facility.	329	2.00	5.00	4.13	1.12
Composite mean				**3.88**	**1.01**

The results revealed that a majority of the people who answered agreed that women are unable to obtain free maternity healthcare due to a lack of transportation to the institution as supported by a mean of 3.74, a standard deviation of 0.76 implying low diversity in the responses. This has also been evidenced by researchers Felicia, Mathias, and Ndukaku (2020) who found that the distance to a health facility is negatively linked with the utilization of prenatal care and that the distance influences both the likelihood and the frequency of clinic visits. The respondents agreed that women are unable to obtain free maternity healthcare due to a lack of proximity to a health center as illustrated by a mean of 3.82 and a standard deviation of 1.33 implying a high diversity in the responses. Women are unable to receive free maternal healthcare due to a lack of transportation and communication as shown by a mean of 3.75 and a standard deviation of 0.92 implying low diversity in the responses. The finding illustrate that due to poor transportation the frequency of hospital visists irecued, a finding that is also supported by Tanou and Kamiya (2019), who found that a woman's likelihood of having four or more prenatal visits and her baby being delivered by a skilled delivery attendant decreases as she travels further from a health center. The respondents further agreed that women are unable to attend this Level 4 hospital for free maternity care due to the high cost of transportation (mean=3.98, std. deviation= 0.93).

The standard deviation of less than 1 implyied low diversity in the responses. The time it takes to go to the health facility limits women's access to free maternity care (mean=4.13, std.dev=1.12). The standard deviation of more than 1 implied low diversity in the responses.

In line with the findings of the study, Park (2019) found that the accessibility of maternity care for women living in rural areas was affected by factors such as the distance to healthcare centers, the cost of the trip, the amount of time it took to travel, and the modes of transportation used. From the interviews, the medical personnel noted that the distance to the hospital influences the access to free maternal healthcare services. They responded that the hospitals are very far from some women which makes it expensive and time-consuming to get to the hospital for maternal healthcare. The findings show that the distance to a healthcare determines the time taked to the facility and the cost of transport which influences access to the healthcare. Similarly, research conducted in Malawi, Quattrochi et al. (2020) found that the distance to healthcare centers influence the accessibility of maternity healthcare for women living in rural areas.

4.5 Quality of service and Access to Maternal Health Care Program Services

The objective was to investigate the extent to which quality of service influences the access to free maternal healthcare services at public hospitals in Embu East sub-County, Kenya. Table 4.8 presents the findings under this objective

Table 4.8: Quality of service

Quality of service	n	Minimum	Maximum	Mean	Std. Deviation
It takes long before I am attended to	329	1.00	4.00	2.65	0.95
There is no privacy in the free maternal healthcare service	329	1.00	4.00	2.43	1.14
The maternal healthcare attendants are arrogant	329	1.00	4.00	2.36	0.71
The consultation time is enough	329	2.00	5.00	3.92	0.90

The general hygiene during maternal healthcare service is observed	329	1.00	5.00	4.05	1.03
Composite mean				**3.08**	**0.94**

Most of the participants who took the survey were not sure about the statement that it takes long before they are attended to (mean=2.65, std.dev= 0.95). The respondents disagreed that there is no privacy in the free maternal healthcare service (mean=2.43, std.dev=1.14) and that the maternal healthcare attendants are arrogant (mean=2.36, std.dev= 0.71). The findings illsutarted that the there was privacy and the healthcare providers were not arrogant thus the mothers were satisfied. The findings corroborate with

Acharya et al. (2018) who evaluated the quality of maternal health care and client satisfaction and established that client satisfaction with antenatal care services was significantly influenced by factors such as service provider. The fndings further corroborate that clients were satisfied.

In addition, the respondents agreed that the consultation time is enough as indicated by a mean of mean=3.92 and a standard deviation of 0.90) and that, general hygiene during maternal healthcare service is observed (mean=4.05, std.dev=1.03). Most of the responses had a low standard deviation of more than 1 implied a low diversity in the responses. In disagreement with the findings, Fatima (2017) conducted research and found that the mothers were dissatisfied with the length of time it took to be seen, the lack of privacy, thus illustrating that the use of free maternal health care services was affected by factors such as the length of time it took to be attended to, the absence of privacy, and the lack of psychosocial support.

The medical personnel noted that they have a good attitude, give proper information and provide quality services. In addition, the medical personnel added that good quality of services encourages women to seek maternal healthcare services from the hospital. According to the findings, one's access to free maternal healthcare program services is impacted by the quality of the services provided. The findings are in agreement with the findings that were found by Tsawe (2015), who discovered that the quality of service has a unique impact on the utilization of maternal and child health services.

4.6 Household Characteristics and Access to Maternal Health Care Program Services

The findings of this third objective are presented in Table 4.9 below.

Table 4.9: Household Characteristics

Household Characteristics	n	Minimum	Maximum	Mean	Std. Deviation
Women are unable to receive free maternity healthcare due to a lack of household money.	329	1.00	4.00	2.31	1.23
The majority of women in this region are unaware of the availability of free maternal healthcare services throughout pregnancy.	329	1.00	4.00	2.50	1.12
Religious traditions and beliefs impact decisions about access to free maternity healthcare services in your family.	329	1.00	4.00	2.75	1.30
Women in the region believe in traditional birth attendants	329	1.00	5.00	3.56	1.08
Composite mean				**2.22**	**0.95**

A majority of the respondents disagreed that women are unable to receive free maternity healthcare due to a lack of household money as shown by a mean of 2.31 and a std. deviation of 1.23 and that the majority of women in the region are unaware of the availability of free maternal healthcare services throughout pregnancy as demonstrated by a mean of 2.5 and a std. deviation of 1.12.The findings corroborate with Zhang (2016) who examined family factors and maternal health care utilization in population-based research in Eastern China, and the results showed that expectant moms, their partners, and their parents should all get education on maternal health.

Respondents were undecided on whether religious traditions and beliefs impact decisions about access to free maternity healthcare services in the family as illustrated by a mean of 2.75 and a std. deviation of 1.30. The majority of the respondents agreed that women in the region believe in traditional birth attendants as indicated by a mean of 3.56 and a std. deviation of 1.08. All the responses had a high standard deviation of values above 1 indicating that the responses were diverse. Similar to this, Kwast (2018) found that a significant factor influencing access to maternal healthcare is women's access to health information. Some families' choices on access to free maternal healthcare services are influenced by their traditions and beliefs.

From the interviews, the medical personnel noted that the characteristics of the local household affect women's access to maternity healthcare services. They noted that some household beliefs and norms may hinder or promote access to maternal healthcare; for instance, the aspect of male involvement in the neonatal and antenatal clinics. The husband's support is very crucial in ensuring that the women attend the services thus promoting access to maternal healthcare. Consistent with the findings, Onyejose, et al. (2019) revealed that family social standing maternal health accessibility and outcomes.

4.7 Individual Attributes and Access to Maternal Health Care Program Services

The research findings of the fourth objective are presented in Table 4.10 below.

Table 4.10: Individual Attributes

Individual Attributes	n	Minimum	Maximum	Mean	Std. Deviation
My age helps me feel more at ease when it comes to obtaining maternity care.	329	1.00	5.00	4.29	0.84
My level of knowledge allows me to completely comprehend the significance of seeking maternity healthcare.	329	1.00	5.00	4.26	1.00
The majority of women in this region lack awareness about the provision of free maternity healthcare.	329	1.00	4.00	2.58	1.18
Women in this region are unable to make decisions on their own, such as whether or not to use free maternity healthcare services.	329	1.00	5.00	3.00	1.58

Our reliance on males for financial support prevents most women in this region from obtaining maternity healthcare.	329	1.00	5.00	3.72	1.30
Composite mean				**3.57**	**1.18**

The vast majority of the participants strongly agreed that their age helps them feel more at ease when it comes to obtaining maternity care (mean=4.29, std. dev=0.84) and that their level of knowledge allows them to completely comprehend the significance of seeking maternity healthcare (mean=4.26, std. dev= 1.00). The respondents disagreed that the majority of women in the region lack awareness about the provision of free maternity healthcare (mean=2.58, std. dev= 1.18). Similarly, research findings by Kwast (2018) showed that women who did not get maternal health care were typically hampered by their poverty, single status, or lack of awareness about maternity care services.

The findings show that the respondents were undecided on whether women in the region are unable to make decisions on their own, such as whether or not to use free maternity healthcare services (mean=3.00, std. dev=1.58). The respondents agreed that their reliance on males for financial support prevents most women in the region from obtaining maternity healthcare (mean=3.72, std. dev=1.30). Almost all the responses had a high standard deviation of values above 1 indicating that the respondents had diverse opinions.

The medical personnel noted that women's unique characteristics have an impact on their access to free maternity healthcare. They elaborated that learned women have more knowledge and are likely to seek maternal healthcare services as opposed to the less educated. The findings corroborate with Barman and Chouhan (2020), who found that mother age, birth order, age at marriage, income, and social status are among the factors influencing maternal health care usage.

4.8 Access to Maternal Health Care Program Services

This set of questions sought accessibility to free maternal healthcare services. The findings are presented in Table 4.11.

Table 4.11: Access to Maternal Health Care Program Services

Access to Maternal Health Care Services	n	Minimum	Maximum	Mean	Std. Deviation
I have attended all ante-natal care visits as required	329	2.00	5.00	4.42	0.89
All my previous delivery has been in hospital	329	1.00	5.00	4.30	0.99
I seek help from medical personnel when I have an issue	329	1.00	5.00	4.28	1.03
I have normally taken my child to the postnatal clinic for medical checkups	329	2.00	5.00	4.17	1.08
I always take my child to the hospital whenever he/she is unwell.	329	2.00	5.00	4.24	0.76
Composite mean				**4.28**	**0.95**

The research findings indicate that a majority of the respondents strongly agreed that they have attended all ante-natal care visits as required (mean=4.42, std. dev=0.89) that all their previous delivery has been in hospital (mean=4.30, std. dev=0.99) and that they seek help from medical personnel when they have an issue (mean=4.28, std. dev=1.03). Similarly, the findings concuure with the findings by Banik (2016) who discovered that a high majority of women had access to healthcare facilities. The respondents agreed that they normally take their child to the postnatal clinic for medical checkups (mean=4.17, std. dev = 1.08) and that they always take their child to the hospital whenever he/she is unwell (mean=4.24, std. dev=0.76). The standard deviations for most of the responses were below 1 implying that the responses were less diverse. In consistent with the study findings, a study by Kitui (2017), established that the majority of women gave birth outside a hospital.

4.9 Regression Analysis

Table 4.12: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.676[a]	.457	.455	.30762

a. Predictors: (Constant), distance, quality of service, household characteristics, individual attributes

The corrected R squared value was 0.455, indicating that there was a variation of 45.5 per cent on access to free maternal healthcare due to changes in distance, quality of service, household characteristics, and individual attributes at a 95 per cent confidence interval. R is the correlation coefficient that indicates the strength of the association between the study variables; 0.676 values indicate a moderate relationship between variables as shown below.

Analysis of Variance

Table 4.13: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	97.784	4	24.446	10.952	.000[b]
	Residual	723.212	324	2.232		
	Total	820.997	328			

a. Dependent Variable: access to free maternal healthcare program services.

b. Predictors: (Constant), distance, quality of service, household characteristics, and individual attributes

In order to determine the model's fitness, the researchers used an Analysis of Variance. Table 4.13 summarizes the findings.

The ANOVA demonstrates that the test for the model given by the F computed 10.952 are statistically significant (0.000) at a 5% level of significance, which is less than (0.05). The projected F value (value = 2.3995) is more than the F critical value, suggesting that the entire model is significant.

Coefficients

Table 4.14: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.095	.356		5.881	.000
	Distance	-.216	.051	-.218	-4.286	.000
	Quality of service	.465	.094	.263	4.925	.000
	Household characteristics	.184	.032	.313	5.836	.000
	Individual attributes	.307	.060	.275	5.116	.000

a. Dependent Variable: access to free maternal healthcare program services

$$\mathbf{Y=2.095+ -0.216\ X_1 + 0.465\ X_2 + 0.184X_3 + 0.307X_4 + \varepsilon}$$

Holding distance to health institution, quality of service, household characteristics and individual attributes to a constant zero access to free maternal healthcare program services would be at 2.095.

A 1 percentage rise in distance to health institutions would cause a reduction in access to free maternal healthcare program services by 21.6 per cent. The findings corroborate with Felicia, Mathias & Ndukaku (2020) who discovered that distance to a health facility is adversely associated with prenatal care use and that distance affects both the chance and frequency of clinic visits. A 1 per cent rise in the quality of service delivered would result in a rise in access to free maternal healthcare program services by 46.5 per cent, consistent with the findings by Tsawe (2015) that service quality influenced the use of maternal healthcare. A 1 per cent rise in household characteristics would result in a rise in access to free maternal healthcare program services by 18.4 per cent. Similarly, El Shiekh and Kwaak (2015) established an association between the household charcteristics such as the normdic lifestyle and access to maternal healthcare. A 1 percentage rise in individual attributes would cause a rise in access to free maternal healthcare program services by 30.7 per cent. The findings concur with the findings of Kwast (2018) which showed that women who did not get maternal health care were typically hampered by their attributes such as poverty and single status. The variables were significant ($p<0.05$) at a 5% level of significance and a 95% level of confidence.

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter summarises the study with sections on summary of the findings, the conclusions, recommendations and suggestions for further studies. The sections are presented as per the study objectives. The objective of the study was to determine the socio-economic factors that influence access to free maternal health care program services in Embu County, Kenya. The specific objectives focused on how; distance to health facilities, quality of service, household characteristics, and individual attributes influence access to maternal health care program services. The research was based on a descriptive survey research design. Both quantitative and qualitative data was collected using a structured questionnaire and an interview schedule. The target population was women aged between 18 to 49 years seeking free maternal healthcare services in Level 4 hospitals in Embu East sub-County and the medical personnel providing maternal health care services in the hospitals.

5.2 Summary of the Findings

5.2.1 Distance to health facility and access to free maternal healthcare program services

The findings revealed that distance to health institution influences access to free maternal healthcare program services (coefficient=-0.216, P=0.000). Women are unable to obtain free maternity healthcare due to a lack of transportation to the institution (M=3.736, standard deviation= 0.757. Women are unable to obtain free maternity healthcare due to a lack of proximity to a health centre (M= 3.821, standard deviation =1.333). Women are unable to receive free maternal healthcare due to a lack of transportation and communication (M =3.745, standard deviation= 0.922). Women are unable to attend this Level 4 hospital for free maternity care due to the high cost of transportation (M=3.982, std. deviation= 0.930). Women's access to free maternity

healthcare is hampered by the time it takes to go to the health facility (M=4.131, std. dev=1.120).

5.2.2 Quality of service and access to free maternal healthcare program services

The findings revealed that quality of service influences access to free maternal healthcare program services (coefficient=0.465, P=0.000). It takes long before they are attended to (M=2.651, std. dev= 0.948). There is no privacy in the free maternal healthcare service (M=2.429, std. dev=1.135). The maternal healthcare attendants are arrogant (M=2.363, std. dev= 0.705). The consultation time is enough (M=3.918, std. dev=0.902). General hygiene during maternal healthcare service is observed (M=4.052, std. dev=1.030).

5.2.3 Household characteristics and access to free maternal healthcare program services

The findings revealed that the household characteristics influence access to free maternal healthcare program services (coefficient=0.184, P=0.000). Women cannot receive free maternity healthcare due to a lack of household money (M= 2.313, std. dev=1.233). The majority of women in the region are unaware of the availability of free maternal healthcare services throughout pregnancy (M= 2.499, std. dev=1.118). Religious traditions and beliefs impact decisions about access to free maternity healthcare services in the family (M=2.748, std. dev=1.300). Women in the region believe in traditional birth attendants (M= 3.562, std. dev= 1.083).

5.2.4 Individual attributes and access to free maternal healthcare program services

The findings revealed that the individual attributes influence access to free maternal healthcare program services (coefficient=0.307, P=0.000). Women's age helps them feel more at ease when it comes to obtaining maternity care (M=4.286, std. dev=0.839). Women's' level of knowledge allows them to completely comprehend the significance of seeking maternity healthcare (M=4.264, std. dev= 1.003). Majority of women in the region lack awareness about the provision of free maternity healthcare (M=2.584, std. dev= 1.179). Women in the region cannot make decisions on their own, such as whether or not to use free maternity healthcare services (M=2.997, std. dev=1.582).

The reliance on males for financial support prevents most women in the region from obtaining maternity healthcare (M=3.717, std. dev=1.303).

5.3 Discussions of Findings

The findings revealed that the distance to the health facility affects access to free maternal health care in the Embu East sub-county. The women are unable to obtain free maternity healthcare due to a lack of transportation to the institution. The women are unable to obtain free maternity healthcare due to a lack of proximity to a health centre. The findings corroborate with Tanou and Kamiya (2019) who established that increasing the distance from a health center lowers the chances of a woman having four or more prenatal visits and the likelihood of her baby being delivered by a trained delivery attendant. The findings show that women are unable to receive free maternal healthcare due to a lack of transportation and communication. The women are unable to attend this Level 4 hospital for free maternity care due to the high cost of transportation. Women's access to free maternity healthcare is hampered by the time it takes to go to the health facility. Consistent with the study findings, Park, (2019) also established that distance to healthcare centres, trip cost, journey duration, and transportation methods impact maternity healthcare accessibility for women living in rural regions.

The findings revealed that quality of service influences access to free maternal healthcare program services. The findings concur with the findings by Tsawe (2015), who found that quality of service affects the use of maternal and child health services differently. The study found that there is privacy in the free maternal healthcare service. The maternal healthcare attendants are not arrogant. The consultation time is enough. In addition, general hygiene during maternal healthcare service is observed. Consistent with the study findings, a study by Fatima (2017) established that the uptake of free maternal health care services was influenced by the time it took before being attended, lack of privacy and psycho-social support.

The findings revealed that household characteristics influence access to free maternal healthcare program services. Women are able to receive free maternity healthcare due to household money. Many women in the study areas are aware of the availability of free maternal healthcare services throughout pregnancy.

Similarly, Kwast (2018) established that women's access to health information is a key factor that affects access to maternal healthcare. Religious traditions and beliefs impact decisions about access to free maternity healthcare services in some families.

Women in the region believe in traditional birth attendants. Consistent with the study findings, Shiekh and Kwaak (2015) revealed that gender norms, beliefs and values impact maternal health practices. The findings revealed that the individual attributes influence access to free maternal healthcare services. Older women are more at ease when it comes to obtaining maternity care. The findings corroborate with Barman and Chouhan (2020), who found that factors influencing maternal health care usage include mother age, birth order, age at marriage, income, and social status. The level of knowledge allows the women to completely comprehend the significance of seeking maternal healthcare. The majority of women in the region are aware of the provision of free maternity healthcare. Some women in the region cannot make decisions on their own, such as whether or not to use free maternity healthcare services. The reliance on males for financial support prevents most women in the region from obtaining maternity healthcare. Similarly, research findings by Kwast (2018) showed that women who did not get maternal health care were typically hampered by their poverty, single status, or lack of awareness about maternity care services.

5.4 Conclusion

The study concludes that distance to health institution influence access to free maternal healthcare program services. The women are unable to obtain free maternity healthcare due to a lack of transportation to the institution, proximity to a health centre and the high cost of transportation. Women's access to free maternity healthcare is hampered by the time it takes to go to the health facility.

In conclusion, quality of service influences access to free maternal healthcare program services. There is privacy in the free maternal healthcare service and the maternal healthcare attendants are not arrogant. The consultation time is enough and general hygiene during maternal healthcare service is observed.

Based on objective three, household characteristics influence access to free maternal healthcare program services. The many women in the region are aware of the availability of maternal healthcare services throughout their pregnancy. Women in the region believe in traditional birth attendants and Religious traditions and beliefs impact decisions about access to free maternity healthcare services in some families.

The study further concludes that the individual attributes influence access to free maternal healthcare program services. Women's age helps them feel more at ease when it comes to obtaining maternity care. Their level of knowledge allows them to completely comprehend the significance of seeking maternity healthcare.

5.5 Recommendations

The study observed that women's access to free maternity healthcare is hampered by the time it takes to go to the health facility. The research findings recommend that the national and county ministries of health work together to provide more health facilities nearer to the people. In addition, some of the rural hospitals should be upgraded to level 4 hospitals to meet the maternal health care needs.

The researcher suggests that the management of the health facilities should ensure that maternal health care seekers are kept for long considering the sensitivity of the service. The county government should thus provide adequate resources to the health facilities to meet the efficiency gaps.

The study established that religious traditions and beliefs impact decisions about access to free maternity healthcare services in families where women believe in traditional birth attendants. As such the study recommends that adequate sensitization programs should be provided to educate the women on the need to seek hospital maternal healthcare.

The researcher is also in the view that women should be economically empowered to ensure that they can make decisions, especially regarding healthcare without having to rely on their husbands for financial support.

5.6 Suggestions for Further Studies

The research looked into the influence of socio-economic factors on the access to free maternal healthcare program services in Embu East sub-county, Kenya. More study should be carried in other sub-counties in the region so that the findings can be compared and a collective action plan may be developed. The socio-economic factors studied only influence 45.5% of the access to free maternal healthcare program services in Embu East sub-county, Kenya, and therefore future studies should establish the other factors that account for the 54.5%.

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APPENDICES

Appendix I: Consent Form

Title of Study: **INFLUENCE OF SOCIO-ECONOMIC FACTORS ON THE ACCESS TO FREE MATERNAL HEALTHCARE PROGRAM SERVICES IN EMBU EAST SUB-COUNTY, KENYA**

Principal Investigator \ and institutional affiliation:

Joseph Nyaga Ndwiga

L50/13605/2018

Student the University of Nairobi:

INTRODUCTION:

The objective of this consenting form is to give you the information you need to determine whether or not to participate in the study

You can decide whether or not to participate in the study once we have answered all of your questions to your satisfaction.

WHAT IS THE PURPOSE OF THE STUDY?

The researcher listed above is interviewing women of reproductive age between 18 to 49 women seeking free maternal healthcare services in Embu East sub-county Level 4 hospitals.

The study will also interview the medical personnel providing maternal healthcare services in Embu East sub-county Level 4 hospitals willing to participate after giving informed consent.

WHAT HAPPENS IF YOU DECIDE TO PARTICIPATE IN THIS RESEARCH?

If you accept to take part in this study, you will experience the following:

A professional interviewer will ask you to fill out surveys in a confidential place where you feel comfortable answering questions. The interview should last about 30 minutes**.**

ARE THERE ANY RISKS, HARMS, OR DIFFICULTIES IN THIS STUDY?

There are no known hazards or dangers associated with participating in this research. All information you submit will be kept private and confidential, and will not be used without your explicit permission.

Some inquiries may feel invasive, which might be a concern. You are not required to respond to any questions that make you feel uncomfortable, and any information you submit will be kept private and confidential. Another disadvantage of participating in the study is the potential loss of privacy. Everything you tell us will be kept as private as possible. You have the right to decline to take part in the interview or answer any questions that are asked during the interview.

ARE THERE ANY ADVANTAGES TO PARTICIPATING IN THIS STUDY?

The outcomes of this study will give helpful information to maternal healthcare stakeholders in Embu County on the socio-economic variables that influence access to maternal health care in public hospitals. The study will be of great importance to women who will get feedback to women who get feedback and insights on the socio-economic factors that enhance or undermine their access to maternal healthcare services in public hospitals.

The study finding and recommendations could help women from different religions, cultural backgrounds and economic statuses to gain insight into how they can work around the household and individual issues that hinder their access to maternal health care. The Government will use the study findings to sensitize the community on maternal healthcare and strengthen existing infrastructure and maternal healthcare programs to enhance accessibility. Medical personnel providing healthcare services will use the study findings and recommendations as a basis for making adjustments to their approaches and strategies toward maternal healthcare service recipients in public hospitals.

IS THERE ANY PENALTY FOR NOT PARTICIPATING IN THIS STUDY?

The study will require you to spend time at the study location while the researchers complete their work, so it will take some of your time.

AFTER PARTICIPATING IN THE STUDY IS THERE ANY TOKEN?

There will not be direct material gain from the study.

WHAT IF YOU HAVE FUTURE QUESTIONS?

If you have any further questions or concerns regarding this study, please contact the study team by calling or texting the number shown at the bottom of this page.

Contact researcher Joseph Nyaga Ndwiga on 0726504990 for additional information about your rights as a study participant.

WHAT OTHER OPTIONS DO YOU HAVE?

It is entirely up to you whether or not to engage in this study. You have the right to refuse or withdraw from the research at any time, with no repercussions or loss of rewards.

If you don't want to, you don't have to offer a reason for your withdrawal. Withdrawal from the study will have no impact on the services that you are entitled to at this or other health facilities.

CONSENT FORM (STATEMENT OF CONSENT)

I accept to take part in this research study of my own volition:

Name……..……..

Signature…….

Date…….

Appendix II: Questionnaire for Mothers

Introduction

I am undertaking a research titled "**INFLUENCE OF SOCIO-ECONOMIC FACTORS ON THE ACCESS TO FREE MATERNAL HEALTHCARE PROGRAM SERVICES IN EMBU EAST SUB-COUNTY, KENYA''.** I'm writing to ask for your help in making my study successful by allowing me to collect pertinent data from your company. I'd want to reassure your office that all of the information gathered will be kept in strict confidence and utilized solely for the objectives of this academic study. I eagerly await your kind consideration.

Part A: Profile of the Respondent

Instructions: Please answer the questions below by putting a tick in the appropriate statement.

1. State your age

- Less than 18 Years ( )
- 18-28Years ( )
- 29-39 Years ( )
- Over 40 Years ( )

2 What is your current marital status

- Single ( )
- Married ( )
- Separated ( )
- Divorced ( )
- Widow ( )

3. State your highest level of Education

- No Formal Education ( )
- Primary ( )
- Secondary ( )
- College ( )
- University ( )

4 What is your occupation?

- Student ( )
- Unemployed ( )

- Casual ( )
- Permanently employed or self-employed ( )

5. State your religion

- Islam ( )
- Christianity ( )
- Traditional religion ( )
- Others. State……

Part B: Distance to Health Facility and Access to Maternal Health Care Services

The goal of this set of questions is to determine if the distance between health facilities and public hospitals in Embu East sub-County, Kenya affects access to maternal healthcare services. Please select 1, 2, 3, 4, or 5 to indicate how much you agree with the statements. 1 – Strongly disagree, 2 – Disagree, 3 – Moderate, 4 – Agree, 5 – Strongly Agree

Statement	Response category				
	1	2	3	4	5
Women are unable to obtain free maternity healthcare due to a lack of transportation to the institution.					
Women are unable to obtain free maternity healthcare due to a lack of proximity to a health centre.					
Women are unable to receive free maternal healthcare due to a lack of transportation and communication.					
Women are unable to attend this Level 4 hospital for free maternity care due to the high cost of transportation.					
Women's access to free maternity healthcare is hampered by the time it takes to go to the health facility.					

Part C: Quality of service and Access to Maternal Health Care Services

This series of questions investigates whether the quality of service has an impact on access to maternal healthcare services at public hospitals in Embu East sub-County, Kenya. Please select 1, 2, 3, 4, or 5 to indicate how much you agree with the statements presented. 1 – Strongly disagree, 2 – Disagree, 3 – Moderate, 4 – Agree, 5 – Strongly Agree

Statement	Response category				
	1	2	3	4	5
It takes long before I am attended to					
There is no privacy in the free maternal healthcare service					
The maternal healthcare attendants are arrogant					
The consultation time is enough					
The general hygiene during maternal healthcare service is observed					

Part D: Household Characteristics and Access to Maternal Health Care Services

This collection of questions investigates whether household factors impact access to maternity healthcare services in public hospitals in East sub-County. Please select 1, 2, 3, 4, or 5 to indicate how much you agree with the statements presented. Scale 1= Strongly disagree, 2=Disagree, 3 Moderate, 4=Agree, 5=Strongly Agree

Statement	Response category				
Women are unable to receive free maternity healthcare due to a lack of household money.	1	2	3	4	5
The majority of women in this region are unaware of the availability of free maternal healthcare services throughout pregnancy.					
Religious traditions and beliefs impact decisions about access to free maternity healthcare services in your family.					
Women in the region believe in traditional birth attendant					

Part E: Individual Attributes and Access to Maternal Health Care Services

Individual characteristics impact access to free maternal healthcare services in public hospitals in Embu East sub-County, Kenya, according to this collection of questions. Please select 1, 2, 3, 4, or 5 to indicate how much you agree with the statements presented. 1 – Strongly disagree, 2 – Disagree, 3 – Moderate, 4 – Agree, 5 – Strongly Agree

Statement	Response category				
My age helps me feel more at ease when it comes to obtaining maternity care.	1	2	3	4	5
My level of knowledge allows me to completely comprehend the significance of seeking maternity healthcare.					
The majority of women in this region lack awareness about the provision of free maternity healthcare.					
Women in this region are unable to make decisions on their own, such as whether or not to use free maternity healthcare services.					
Our reliance on males for financial support prevents most women in this region from obtaining maternity healthcare.					

Part F: Access to Maternal Health Care Services

This set of questions inquires about your use of maternal healthcare services. Please indicate your response to the provided statements by choosing 1, 2, 3, 4 or 5.

1 – Strongly disagree, 2 – Disagree, 3 – Moderate, 4 – Agree, 5 – Strongly Agree

Statement	Response category				
	1	2	3	4	5
I have attended all ante-natal care visits as required					
All my previous delivery has been in hospital					
I seek help from medical personnel when I have an issue					
I have normally taken my child to the postnatal clinic for medical checkups					
I always take my child to the hospital whenever he/she is unwell.					

Thank you

Appendix III: Interview Schedule

Do you believe that the socioeconomic status of women in this community has an impact on their access to free maternity healthcare services?

Please provide more information.

.....

.....

.....

What would you say about the medical personnel at the hospital in terms of maternity care?

.....

.....

.....

Do you believe the distance to the hospital influence the access to free maternal healthcare services? Please elaborate.

.....

.....

.....

How does the quality of service affect access to maternal healthcare in the hospital?

…….

…….

How would you characterize the local household features and their impact on women's access to maternity healthcare services?

.....

.....

.....

Do you believe that women's unique characteristics have an impact on their access to free maternity healthcare? Please provide more information.

……..……

……..…

…….

Appendix IV: Letter of Authorization (From School)

UNIVERSITY OF NAIROBI
OPEN, DISTANCE AND e-LEARNING CAMPUS
SCHOOL OF OPEN AND DISTANCE LEARNING
DEPARTMENT OF OPEN LEARNING
NAIROBI LEARNING CAMPUS

Your Ref:
Our Ref:
Telephone: 318262 Ext. 120

Main Campus
Gandhi Wing, Ground Floor
P.O. Box 30197
NAIROBI

REF: UON/ODeL/NLC/30/002

30th July, 2021

TO WHOM IT MAY CONCERN

RE: JOSEPH NYAGA NDWIGA - REG NO: L50/13605/2018

This is to confirm that the above named is a student at the University of Nairobi, Open Distance and e-Learning Campus, School of Open and Distance Learning , Department of Open Learning pursuing Masters of Art in Project Planning and Management.

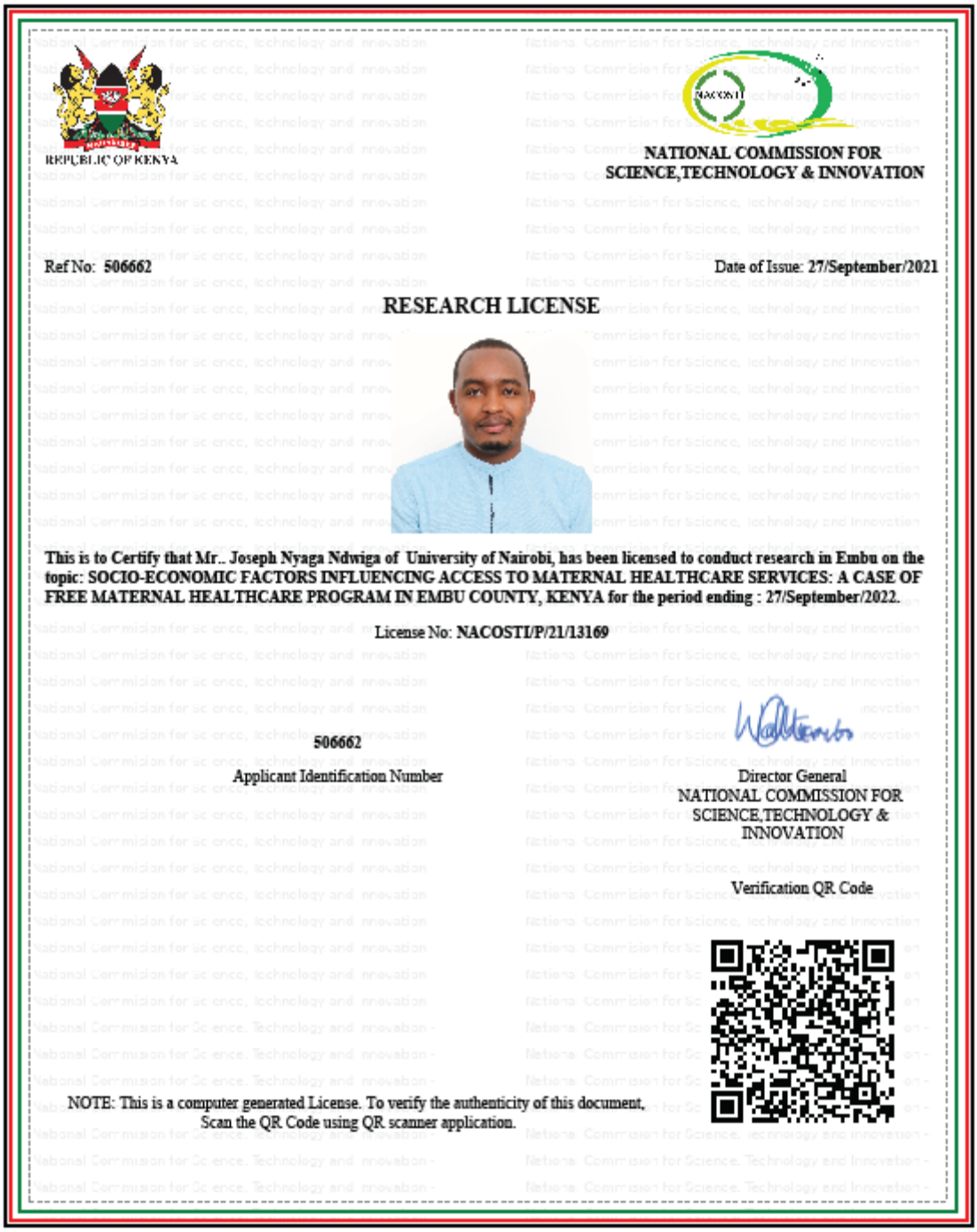
She is proceeding for research entitled **"Socio-Economic Factors Influencing Access To Maternal Healthcare Services: A Case Of Free Maternal Healthcare Program In Embu County, Kenya."**

Any assistance given to him will be highly appreciated.

30 JUL 2021

CAREN AWILLY
CENTRE ORGANIZER
NAIROBI LEARNING CENTRE

Appendix V: NACOSTI Research Permit



REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **506662**

Date of Issue: **27/September/2021**

RESEARCH LICENSE

This is to Certify that Mr.. Joseph Nyaga Ndwiga of University of Nairobi, has been licensed to conduct research in Embu on the topic: SOCIO-ECONOMIC FACTORS INFLUENCING ACCESS TO MATERNAL HEALTHCARE SERVICES: A CASE OF FREE MATERNAL HEALTHCARE PROGRAM IN EMBU COUNTY, KENYA for the period ending : 27/September/2022.

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