DETERMINANTS OF FOCUSED ANTENATAL CARE SERVICE UPTAKE AMONG WOMEN OF REPRODUCTIVE AGE IN SIRISIA SUB COUNTY, BUNGOMA COUNTY, KENYA

TOBIAS MAKUNJA

A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF MASTER OF PUBLIC HEALTH DEGREE OF

MOUNT KENYA UNIVERSITY

JULY, 2025

DECLARATION AND APPROVAL

Declaration by Student

This thesis is my original work and has never been presented for any academic award.

Signature …… Date: 8TH JULY, 2025

TOBIAS MAKUNJA

MPH/2022/46678

Approval by the Supervisor

This thesis is being submitted for examination with our approval as University supervisors.

Name: **Dr. John Kariuki (PHD)**

Dean School of Public Health

Institution Affiliation: Mount Kenya University

Signature…… Date: 8TH JULY, 2025

Name**: Dr. Taratisio Ndwiga (PHD)**

Institution Affiliation: South Eastern Kenya University

Signature…… Date; 8TH JULY, 2025

DEDICATION

This research is dedicated to my family members for their continued support and encouragement during the entire period.

May the Almighty God bless them Abundantly.

ACKNOWLEDGEMENT

I really appreciate God for His benevolence in my life; He has given me the love, grace, and endurance required to complete this assignment on time.

I am grateful to my supervisors, Dr. John G. Kariuki (Ph.D.) and Dr. Taratisio Ndwiga (Ph.D.), for their focused advice and supervision during the study. Thank you for your time, patience, and coaching throughout. I would also like to thank all of the lecturers at Mount Kenya University Eldoret Campus for successfully guiding me through the coursework and helping me enhance my knowledge and skills. I applaud the School of Public Health staff for their help during my learning, giving me adequate time, and allowing me to access the essential materials for the success of this study.

My heartfelt gratitude goes to all of my family members for their prayers, support, and encouragement, and my friends for their support and encouragement during my studies.

ABSTRACT

Women's health is a good predictor of a country's overall economic health and well-being. Maternal health is strongly linked to neonatal survival. For every woman who dies, almost thirty others sustain lasting damage. Focused prenatal care is one of the therapies used to reduce maternal morbidity and death. The study's overall purpose was to investigate the factors that influence the uptake of specialized prenatal care services among pregnant women in Sirisia Sub- County, Bungoma County, Kenya. The study used a cross-sectional descriptive design to investigate the uptake of FANC among pregnant women in Bungoma County. The target group for this study was women who had given birth in the last two years in Sirisia Sub-County. The sample size was 323 participants who delivered within the last two years. Data was analyzed using SPSS version 26, and the chi-square test was used to assess the association between variables and content analysis for qualitative data. A piloted questionnaire was used to collect quantitative data, while a Focused Group Discussion (FGD) guide was utilized to obtain qualitative data. The findings showed that 103 (31.9%) were between 21-30 years, 276 (85.4%) were in marital union, 185 (57.3%) had secondary level of education, 112 (34.7%) were self-employed, and 98 (30.3%) had between 1-2 births. More than half 183 (56.7%) had initial prenatal care attendance between 4-6 months, 202 (62.5%) had four or more ANC visits with 5 (1.5%) and 85 (26.3%) had one and three visits respectively. The utilization of WHO recommended four FANC services reduced with increase in respondents age from 39(65.0%) to 38(60.3%) among respondents 20 years and below and above 40 years respectively. Uptake of FANC services was higher among married 125(67.6%), respondents affiliated to Christianity faith 47(70.1%), formally employed 176(63.8%), and with between 1-2 births 66(67.3%). The uptake of recommended FANC services was higher 146(62.7%) among respondents who agreed that there was a sense of well-being experienced when attending FANC, further analysis showed that likelihood was 5.8 times likely to utilize recommended FANC services, and women who agreed to attend recommended FANC services to identify pregnancy issues early on were 72(62.6%). Marital status (χ^2=4.674, df=1, p=0.031), level of education (χ^2=19.096, df=3, p=0.0001), agreeing there is a sense of well-being experienced when attending FANC (OR=5.810; 95% CI=1.921-36.674; p= 0.017), FANC visits alleviates worries about pregnancy and its outcome (OR=2.425; 95% CI=1.165-9.623; p= 0.041), completing FANC visits reduces risk of pregnancy-related complications (OR=5.011; 95% CI=2.001-10.210; p= 0.003), the considerable distance to the health facility during pregnancy hinders my access to FANC services (χ^2=56.109, df=2, p=0.0001), and the poor terrain makes traveling to the FANC clinic uncomfortable (χ^2=77.610, df=2, p=0.0001) were significantly associated with uptake of FANC services. The county health team and hospital administrators should organize quarterly ANC outreaches to improve mothers' skills and knowledge, establish delivery champions, increase awareness, adopt group ANC, and integrate CHW and HCW services into a single package.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATION AND ACRONYMS

AIDS	Acquired immune deficiency syndrome
ANC	Antenatal care
APGAR	Appearance, Pulse, Grimace, Activity, Respiration.
CHW	Community Health Worker
FANC	Focused Antenatal Care
FGDs	Focused Group Discussions
GOK	Government of Kenya
HIV	Human immunodeficiency virus
IFAS	Iron Folic Acid Supplementation
IGAs	Income Generating Activities
KDHS	Kenya Demographic Health Survey
KDNBS	Kenya national Bureau of Statistics
KHIS	Kenya Health Information System
MKU	Mount Kenya University
MMR	Maternal Mortality rate
MOH	Ministry of Health
NHIF	National Hospital Insurance Fund
NMR	Neonatal Mortality Rate
PH	Postpartum hemorrhage
PMCT	Prevention of Mother to Child Transmission
SDG	Sustainable development goals
TTV	Tetanus Toxoid Vaccine
UFMR	Under-five mortality rate
UNCF	United Nations Children's Fund
VDRL	Venereal Disease Research Laboratory test (VDRL)
WHO	World Health Organization

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

In 2021, the global maternal mortality rate (MMR) was 158.8 deaths per 100,000 live births. Every year, 303,000 women die from pregnancy-related problems around the world (WHO, 2015). An estimated 2.6 million babies are stillborn, with another four million dying in the neonatal period (Chan et al., 2022). Many of these deaths could have been avoided with interventions provided as part of essential antenatal care services, such as micronutrient supplementation and nutrition education, malaria prevention, tetanus toxoid immunization, HIV and syphilis screening, and pre-eclampsia and other hypertensive disorders screening and treatment (Anderson et al., 2022). Pregnancy-associated complications contribute to more than half the deaths among women annually, with 90-95% from developing countries (WHO,2019). Globally, approximately 86% of expectant women attend antenatal healthcare facility at least once, while 62% meet the recommended four visits (United Nations Children's Fund, 2019. More than 95% of women make ANC visits in developed countries hence recording low maternal and neonatal morbidities and mortalities. The World Health Organization (WHO, 2021) promoted the adoption of a new ANC model targeting low-income countries. The model is referred to as focused ANC, consisting of at least four visits to a health facility during pregnancy (WHO, 2021). The revised model tended towards reduced but goal-orientated clinic visits (WHO, 2018). Focused antenatal care (FANC) is an individualized service provided to an expectant mother that emphasizes overall health, preparation for childbirth, and prevention of possible pregnancy and birth-related complications (WHO, 2018).

The majority of maternal deaths (66%) happened in Sub-Saharan Africa, while 99% occurred in low- and middle-income countries, with the majority of them preventable (WHO, 2021). Hemorrhage, hypertensive illnesses of pregnancy, and sepsis were the leading causes of these maternal deaths, with indirect causes resulting from the interaction of pre-existing medical problems and pregnancy (WHO, 2021). Focused ANC requires pregnant women to attend at least four scheduled ANC consultations and receive all of the WHO-recommended comprehensive packages from experienced healthcare practitioners (WHO, 2018). This new approach is based on the quality of services rather than the amount of services provided to pregnant mothers. Focused prenatal care replaced traditional risk evaluations in favor of assisting women in maintaining normal pregnancies (WHO, 2021). In response to this research, some countries in Sub-Saharan Africa implemented FANC to improve the health and survival of mothers and babies. The maternal mortality ratio (MMR) is decreasing dramatically worldwide (WHO, 2018). Despite this recent drop, Sub-Saharan Africa has the world's highest MMR, despite certain policies and measures prioritizing maternal health (Bosman, 2019; WHO, 2021). The usage of prenatal services in several parts of Africa and the developing world has been disappointing. Pregnant women frequently arrive late for services and attend less focused antenatal care (FANC) visits than recommended (Konlan et al., 2020). Ghana currently has a maternal mortality ratio of 308 deaths per 100,000 live births (WHO, 2019). However, this figure is significantly lower than the number of maternal deaths over a decade ago (WHO, 2019).

According to latest estimates in Kenya, the maternal mortality ratio is 362 deaths per 100,000 live births (KNBS, 2019), much exceeding the SDG target of less than 70 per 100,000 live births by 2030 (UNICEF, 2015). A lack of access to quality maternal health

services, including as antenatal, delivery, and postnatal care, contributes to the problem of high maternal mortality, according to Nyangena (2020). Effective utilization of focused antenatal care (FANC) services can enhance mother health. The call to adopt a prenatal care paradigm known as FANC arose from a desire to improve the inadequate implementation of traditional antenatal care (ANC) in underdeveloped nations. Kenya's implementation of WHO-aligned Focused Antenatal Care (FANC) seeks to ensure at least four structured visits combining screening, birth planning, and education. However, uptake remains suboptimal. Nyangena (2020) found only 56.7% of women began prenatal care at 4–6 months, and 62.5% completed the four recommended visits. Focused Antenatal Care (FANC) is complete, tailored care for a pregnant woman that focuses on her overall health, birth preparation, and problem prevention. Orwa et al. (2020). More resources injected into the health system are expected to improve healthcare service delivery, resulting in increased uptake. A well-functioning health system provides healthcare services that fulfill minimal quality standards and ensure population adoption. Strengthening healthcare service delivery is essential to realize Sustainable Development Goal #3, including interventions to reduce maternal-child mortality (Stenberg et al., 2017). This study will aim to establish the determinants of FANC uptake among women of reproductive age in the Sirisia sub-county.

1.2 Statement of the Problem

Proper uptake of FANC is an important way to reduce maternal and child morbidity and mortality. Worldwide 303,000 thousand women die each year as a result of pregnancy-related complications, and 99% of all maternal deaths occur in developing countries (WHO,2015). Unfortunately, many women in Kenya do not receive proper FANC services

Kisiangani *et al.*, (2020). In Kenya, the current uptake of FANC is at 66%, with the highest uptake of FANC recorded in Nyeri county, at 82%, which still fell short of the then millennium target goal of 100% (KNBS, 2022).

Western Region is one of the largest regions in Kenya and a host to 9 counties. Of the 9 counties with less than 50% attendance of the recommended four FANC visits, 6 are in the Western Region. The recent uptake of FANC in the region is at 51% (KNBS *et al.,* 2014). In Bungoma County, the maternal mortality ratio is 374 per 100,000 live births, according to World Health Organization. (2023), which is way beyond the first target under SDG3 to reduce the global maternal mortality ratio to less than 70 per 100,000 live births by 2030.

Bungoma County hosts Sirisia Sub-County, which has had an alarming low intake of FANC services with worrying trends in the past three years. According to the latest survey on uptake of FANC services, Sirisia Sub-County scores as low as 28% (KDHS 2015). In addition, studies have yet to be conducted in this area in Kenya, thus limiting the available literature. Understanding the determinants of this low uptake of FANC is required to improve uptake of FANC and reduce maternal morbidity and mortality rates. This study, therefore, aims to establish the determinants of the uptake of FANC among women of reproductive age in Sirisia Sub-County in Bungoma County.

1.3 Justification

FANC enables health workers to identify potential pregnancy, birth, or postnatal hazards and give timely treatment to women facing health issues throughout pregnancy (WHO, 2014). FANC programs help women build an individual birth plan and prepare for parenting after childbirth. Other services provided include Tetanus Toxoid Vaccine (TTV), iron/folic acid supplements, and nutritional deficiency management (Nisbett & Tranchant

2020). According to studies, inadequate prenatal care is linked to poor pregnancy outcomes. The FANC model is defined by at least visits to reduce waiting time during antenatal appointments and increase the time spent teaching women on pregnancy-related topics. Haruna et al. (2019).

1.4 Objectives of the Study

1.4.1 General Objective

The study's overall goal is to identify the factors that influence women of reproductive age usage of specialized prenatal care services in Sirisia Sub- County, Bungoma County, Kenya.

1.4.2 Specific Objectives

The specific objectives of the study are;

i). To investigate the uptake of FANC services among pregnant women in Sirisia Sub-County, Bungoma County, Kenya.

ii). To investigate how perceptions of pregnancy, labor, and post-partum difficulties related to the utilization of FANC services among pregnant women in Sirisia sub-County, Bungoma County, Kenya.

iii). To identify the signals to action connected with the use of FANC services by pregnant women in Sirisia sub-County, Bungoma County, Kenya.

1.5 Research Question

i). How can we find out factors influence the uptake of FANC services among women of reproductive age in Sirisia Sub- County, Bungoma County, Kenya?

ii). How can we find out how women of reproductive age in Sirisia sub-County, Bungoma County, Kenya, perceive pregnancy, labor, and post-partum difficulties and how they use FANC services?

iii). How can we identify the cues to action connected with the use of FANC services by women of reproductive age in Sirisia sub-County, Bungoma County, Kenya?

1.6 Limitations of the Study

Due to socio-cultural attitudes, some community members were hesitant to share and disclose sensitive information about their reproductive health difficulties. To address this constraint, the researcher reassured the respondents that the information they contribute were kept confidential and used only for the purposes of the study. Their identify was not revealed to any other party.

1.7 Delimitation of the Study

The study took place between August and September 2023, and used a survey research approach to gather feedback from 384 moms who have given birth and are seeking healthcare services. These moms proceeded through the prenatal care period and are more likely to have received all of the available maternity care packages. The study was done in Bungoma County and focused on public ANC facilities because they provide a higher percentage of these services; hence, the perspectives of non-public prenatal care customers were excluded. It only considered four variables: early ANC initiation, skilled health professionals' attitudes, availability of CHVs, and availability of competent healthcare personnel. Other elements, such as socio-cultural views, affected the uptake of ANC services

1.8 Significance of the Study

The study's findings will be useful in making decisions about antenatal care provision and as a reference for ongoing or planned Ministry of Health actions.

The findings of this study will help to determine the factors of FANC adoption and give policymakers with insights into prospective public health interventions to improve FANC uptake. This will help to meet SDG 3, which seeks to reduce global maternal death to fewer than 70 per 100,000 live births by 2030.

The study marks a big step forward in objectively improving maternal health among women in Sirisia sub-county Bungoma County, Kenya, by identifying and developing effective antenatal service provision programs. These activities will help the community alter attitudes, lowering the risk of maternal illness and mortality among Sirisia women.

1.9 Assumptions of the Study

All targeted respondents were available and honest when responding, and ANC services was provided at all public health facilities.

1.10 Operational Definition of Terms

Accessibility of Services: Defined as the physical and financial ability to reach and afford specialized prenatal care, including transportation availability and facility proximity (within 5 km).

Barriers to Care: Refers to any condition or circumstance that prevents or delays women from seeking or continuing prenatal care—this includes distance, transport cost, lack of knowledge, family disapproval, and negative attitudes of health workers.

Early Initiation of Care: Starting the first antenatal care visit during the first trimester (within 12 weeks of pregnancy).

Perceived Benefits of Care: The personal beliefs and attitudes a woman holds about the advantages of FANC, such as detecting complications early, ensuring fetal health, and receiving delivery planning advice.

Specialized Prenatal Care Services: Refers to Focused Antenatal Care (FANC) services provided by skilled health professionals, including early pregnancy screening, nutritional support, management of pre-existing conditions, ultrasound, malaria prophylaxis, HIV testing, birth preparedness counseling, and referral services.

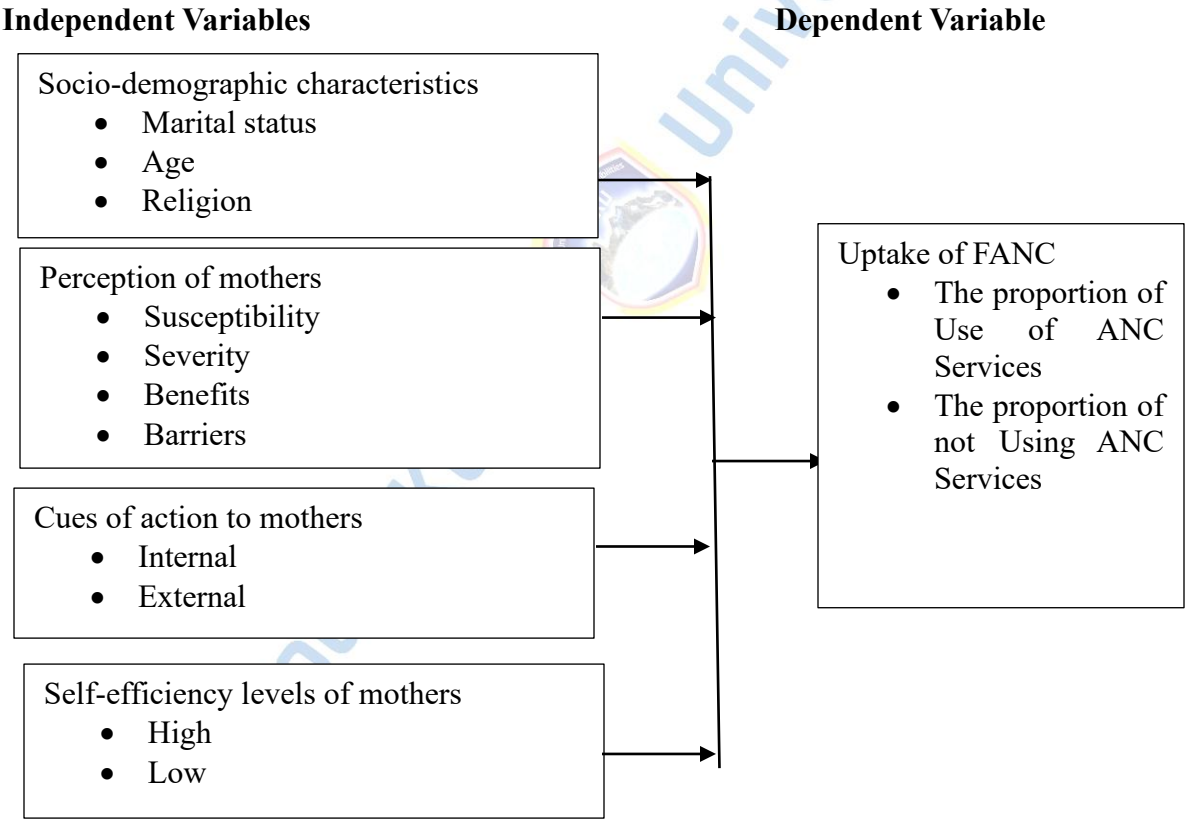
Utilization of Prenatal Care: The number and timing of visits a woman makes to a health facility for FANC. Specifically, "utilization" means attending at least four FANC visits during pregnancy as recommended by WHO.

Women of Reproductive Age: Refers to females aged 15–49 years residing in Sirisia Sub-County, who are biologically capable of becoming pregnant and may currently be pregnant or have been pregnant within the last year.

1.11 Conceptual Framework

This tool is used for analysis, and it includes a lot of versions and situations for conceptual prominence and idea organization. An excellent conceptual framework captures elements that are natural and simple to recall and use (Dynes et al., 2012). The independent variables have a direct influence on FANC uptake. Age, parity, religion, education status, societal values, attitudes, and habits of pregnant women may all have an impact on FANC uptake, either positively or negatively. Furthermore, women with high perceived perceptions, high signals to action, and high self-efficacy are more likely to adopt FANC than women with low perceived perceptions.

In this study, FANC uptake refers to the number of times a pregnant woman sees prenatal care clinics and the gestational age at which she has her first FANC visit. The number of visits and gestation age at the first visit will be classified as low or adequate according to the WHO FANC visit schedule. Adequate FANC uptake was defined as a woman who attended four or more FANC appointments during her pregnancy, began her first FANC visit in the first trimester, and maintained the schedule throughout her pregnancy; otherwise, it was classified as insufficient. Benefits (fewer hurdles) suggest a preferable course of action



Source: Adopted from the literature review.

Figure 1. 1: Conceptual framework.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

The section includes determinants of Focused Ante Natal Care, new born mortality, pre-natal care, FANC in Kenya, The Health Belief Model, Socio-demographic Characteristics, Perceived Susceptibility, Perceived Severity, Perceived Benefit, Perceived barriers associated with Uptake of FANC, Cues to the Action of mothers associated with the Uptake of FANC Services, Self-efficacy levels of mothers associated with uptake of FANC, Theoretical Framework, Conceptual Framework and Research gap.

2.1 Determinants of Focused Anti Natal Care

Focused antenatal care (FANC) is an important period for improving the health of both moms and babies. An antenatal care visit is an important entry point for a pregnant woman into the health-care system to obtain medical treatment. The WHO recommends eight ANC interactions. However, the Sirisia sub-county needs to enhance its coverage of at least four ANC visits. The Sustainable Development Goals 3:1 aim to lower maternal mortality to less than 70 per 100,000 live births by 2030 (Apanga & Kumbeni, 2021; UN, 2016). Pregnancy-related problems account for more than half of maternal fatalities worldwide. According to a WHO estimate, 90%-95% of these deaths occur in developing nations. Kenya has a maternal mortality ratio of approximately 355 deaths per 100,000 live births (UNFPA Kenya, 2020). Focused antenatal care (FANC) is one of the maternal and child health service interventions provided to reduce preventable maternal and infant mortalities (WHO, 2014). An ANC visit is a crucial entry point for pregnant women to access preventative, curative, and health promotion treatments, including nutrition, HIV/AIDS, malaria, anemia, TB, and sexually transmitted infections (WHO, 2014). Higher maternal

education, household wealth, and formal employment significantly increase the likelihood of completing four or more FANC visits (Wairoto et al., 2020; Murang'a County, 2019). Marital status supports utilization, with married women more likely to attend FANC than unmarried counterparts (Wairoto et al., 2020). Proximity to services and shorter travel/wait times are critical, longer distances and wait times reduce uptake (Murang'a County, 2019; Wairoto et al., 2020). Additionally, joint decision-making with husbands positively influences attendance (Ngowi et al., 2023). Last, high birth order negatively correlates with FANC utilization due to competing time demands and perceived self-competence (Wairoto et al., 2020). All of these services contribute to the health of the mother and her unborn child.

The WHO prenatal care guidelines urge that pregnant women undergo at least eight antenatal care visits with health care providers (WHO, 2016). The new guideline represents a shift from the current paradigm, which requires a minimum of four or more ANC visits, to a more expansive approach that includes several interactions and services. This model proposes that the first contact happens in the first 12 weeks of pregnancy, followed by two contacts in the second trimester (at the 20th and 26th weeks of gestation) and five contacts in the third trimester (30th, 34th, 36th, 38th, and 40th weeks of gestation) (WHO, 2016). As the frequency of contacts between a pregnant woman and a healthcare practitioner increases, so does her satisfaction with ANC services (Ekholuenetale, Benebo et al., 2020; Ekholuenetale, Nzoputam et al., 2020). However, in Africa, the proportion of pregnant women attending the necessary eight visits remains low. For example, in the Republic of Benin, 8.0% of people had eight or more ANC contacts. Another study in 15 countries discovered a pooled prevalence of 8 or more ANC contacts of only 13.0% (Ekholuenetale,

2021). Before providing the revised prenatal recommendation of eight ANC contacts, Mchenga et al. (2019) released another FANC model guideline. The model package focuses on goals and reduces the number of antenatal visits. For an uncomplicated pregnancy, the model proposes four visits, with one in the first and second trimesters and two in the third trimester. Therapeutic therapies, screening, and health education are among the suggested services in this paradigm. It was also advised that all services at the ANC unit be made available, including simple fast diagnostics. Integrating services in the FANC model address certain challenges to utilizing ANC in underdeveloped countries (WHO, 2002).

FANC is a successful healthcare strategy designed to increase mother and infant health and survival during pregnancy, delivery, and postpartum. Several research have been undertaken to study the factors influencing FANC use. Previous research conducted in Tanzania (Gross et al., 2012; Rwabilimbo et al., 2020), Ethiopia (Basha, 2019), and Ghana (Sakeah et al., 2017) found that women with primary, secondary, and higher education were more likely to use at least four ANC services than women without education. Other research found that women who did not participate in household decision-making were less likely to use FANC services as suggested (Chol et al., 2019; Rwabilimbo et al., 2020). Previous research found that maternal age, marital status, number of pregnancies, place of residence, planned pregnancy, distances to health facilities, and cultural practices all have an impact on ANC service utilization (Basha, 2019; Mgata & Maluka, 2019; Okedo-Alex et al., 2019; Tekelab et al., 2019). Determinants of FANC usage vary among cultures and socioeconomic statuses within a society. To improve mother and child health care, it is critical to analyze the factors influencing FANC service utilization in various situations.

2.2 Social-Demographic Characteristics of Pregnant Women

Age also plays a crucial role in antenatal care utilization. Asim *et al*. (2020) observed that mothers aged 25–34 were more likely to attend antenatal visits compared to younger mothers aged 15–24. Similar patterns have been found in studies conducted in Ethiopia (Asim et al., 2020), Kenya (Njiku *et al.,* 2019), and Tanzania (Gitonga *et al.,* 2021). However, a study in Embu, Kenya, found that factors like age, marital status, and educational attainment had limited influence on the timing of ANC visits (Omwenga *et al.,* 2020). Women aged 20–34 in Kenya are 1.82 times more likely to receive quality ANC compared to those aged 15–19, according to KDHS 2022 data, while women over 35 have a lower likelihood of timely ANC (AHR 0.83; 95% CI 0.72–0.95) (Asiimwe et al., 2024; KDHS, 2022). Adolescents (<20 years) often delay care due to stigma, lower autonomy, and fear of discrimination in healthcare settings, reducing FANC utilization rates.

Married women in Kenya are more likely to complete early and sufficient ANC visits; being married is associated with higher quality ANC compared to unmarried counterparts (Gitonga et al., 2021). Marital union facilitates financial and decision-making support, reducing barriers such as transport or permission delays. Conversely, unmarried, divorced, or widowed women lack spousal backing and may confront stigma, reducing their engagement with FANC services (Omwenga et al., 2020). Similarly, unmarried women in Kenya who started childbearing before 20 years of age had fewer antenatal visits than married women who started later (Afulani 2019)—another study on factors affecting the utilization of FANC in developing countries identified several factors, including maternal education, husband's education, marital status, availability, cost,

household income, women's employment, media exposure, and cultural beliefs and ideas about pregnancy and parity. Gitonga et al. (2017) used the binary logic regression model to explore the drivers of FANC uptake in Tharaka Nithi and discovered that married women were three times more likely than unmarried women to go for ANC visits early.

Kenyan women identifying as Muslim have lower odds (AHR 0.76; 95% CI 0.64–0.89) of initiating ANC early, compared to Christians (KDHS 2022). Cultural belief systems that consider pregnancy a natural state or rely on spiritual protection discourage formal care-seeking. Additionally, religious norms restricting interactions with male providers and requiring permission from male relatives further reduce utilization among Muslim women and within conservative communities (Omwenga *et al.,* 2020). Christian women exhibit higher FANC attendance than Muslim or no-religion peers; Muslims have marginally lower use (OR 0.79), and non-religion significantly less (OR 0.49). Cultural beliefs, pregnancy not seen as illness or religious reliance on divine protection, also discourage ANC seeking (Njiku *et al.,* 2019). In Islamic contexts, women may avoid male providers, reinforce traditional gender norms and limit facility access (Asim et al., 2020).

Financial constraints have been considered the biggest barrier to antenatal care for displaced women. Alibhai, (2022). Most research have found a link between socioeconomic status and the use of ANC (Sui et al., 2021). According to an Ethiopian study, women with greater incomes start ANC earlier, and the chance of using ANC decreases as family income falls (Tolera et al., 2020). Similarly, a Chinese study discovered that women with higher household income were more likely to use ANC services

adequately (AOR=1.6, 95% CI=1.0-2.5) Abdurahman (2021). Other studies have also found that higher wealth status had a good impact on all maternal service indicators, as well as a significant impact on postnatal care.

Sub-Saharan Africa experienced poor uptake of ANC. According to the existing literature, various factors influenced the uptake of ANC. For example, a study conducted by Ahinkorah et al., (2022) using the Probit regression model revealed a strong demand for ANC services in metropolitan areas. Obse and Ataguba, (2021) found that women with a high degree of education were more likely to complete four ANC visits.

Shared decision-making significantly influences ANC uptake: women in couples with joint health decisions had lower odds (AOR 0.74) of quality ANC compared to those deciding independently (Asiimwe et al., 2024). Mobile phone ownership nearly doubles odds of attending ≥4 ANC visits in Marsabit pastoralist communities. Close family encouragement, especially from husbands or mothers, increases care-seeking, whereas restrictive family structures or limited communication can delay initial visits and reduce FANC completion (Abdurahman, 2021).

Ochako and Gichuhi (2016) study, which used a probit regression model, found that older women had a larger need for ANC services than youth. Obse and Ataguba conducted this study. Seidu et al., (2022) discovered in their study that the type of work women held influenced their number of ANC visits. The findings revealed that employed women, particularly those with white collar occupations and higher pay, began their trips earlier

than those who did not have such positions. According to their research (Seidu et al., 2022), women in managerial positions are 53% more likely to start attending ANC early. This was higher than the women in the other roles, who were 36.9% likely to initiate the ANC process on time.

Maternal mortality has been declining globally, albeit it has been slower in low-income nations. Pregnancy problems and, in some cases, childbirth is known to contribute to these high fatality rates. According to the WHO, women from low-income areas are more likely to be exposed to maternal mortality due to their tendency to complete the four ANC-recommended visits. For example, (Wekesa et al., 2018) suggest that women in Kwale County, Kenya, have significantly lower ANC visits, owing to a lack of education. According to WHO, the suggested first visit is often scheduled for the first trimester of pregnancy.

Poor ANC visits in Makueni County are highly related to the number of first pregnancies among mothers. According to Mlandu, Zvifadzo, and Eustasius (2022), women who had already given birth started their ANC visits later. The study also found that women with two children started their ANC visits 65.2% later than those with one child or less (57.7%). This research of sub-Saharan African nations such as Kenya and Tanzania reveal that women who have successfully given birth to two or more children frequently assume the need for ANC visits, despite being aware of the requirement. Arguably, mothers who have previously given birth frequently postpone

Christopher et al. (2019) thus support the claim that occupation and financial ability are significant determinants of ANC visits; the research in sub-Saharan African countries' ANC visits (Christopher et al., 2019) established that some areas recorded significantly lower

ANC visits. In Kenya (Ousman, 2022), low-income women who relied on fishing and farming frequently reported reduced ANC visits. This finding suggests that a pregnant woman's ability to attend ANC visits is determined by her location and immediate occupation. The tendency indicated that women with low-income abilities frequently

The age of the pregnant woman's pregnancy disclosure and parity played a significant role in shaping the patterns of ANC visits among women. Women with lower levels of pregnancy awareness and customization, for example, frequently seek medical counsel while experiencing pregnancy symptoms. In certain circumstances, women who are unfamiliar with the signs and symptoms of pregnancy, such as teenagers, have mistaken pregnancy for other conditions. In such cases, they go to hospitals, disclose the pregnancy, and have the youngsters undergo an ANC. In such cases, young women frequently begin their ANC visits on schedule and complete the minimal number of visits recommended by WHO. This differs from the experiences of other pregnant women. It determined that they documented fewer visits than their contemporaries.

2.3 Perceptions of Pregnancy, Labour and Post-Partum Complications

The study's overarching goal was to investigate the factors that influence the usage of specialized prenatal care services among pregnant women in Sirisia Sub-county, Bungoma County, Kenya. In the United States, African American women had greater rates of maternal morbidity, postpartum problems, and maternal mortality than white women. The total maternal mortality rate (MMR) in the United States is only increasing, with about "seven hundred pregnant women dying every year" (Bridges, 2020). However, according to data, African American women are three to four times more likely to die from postpartum problems and twice as likely to have severe maternal morbidity (Wang et al., 2020).

Although several chronic medical issues (e.g., diabetes, heart disease, and asthma) may contribute to this considerable imbalance, African American women's experiences and treatment inequalities in the healthcare profession deserve special attention. Many African American women report feelings of neglect, miscommunication, and distrust of their caregivers prior to, during, and after childbirth (Wang et al., 2020). Furthermore, some women report that the lack of private insurance has resulted in a shift in their maternity care, with clinicians communicating less and paying less attention (Wang et al., 2020). Such adjustments may also be linked to medical personnel' beliefs about pain thresholds and biological abnormalities. According to Hoffman and others, many medical students assume that African Americans are naturally stronger. Biases like these can have an impact on the quality of care that patients receive, as well as their chances of survival in medical emergencies, particularly those that occur after delivery.

Every year, 303,000 women worldwide die as a result of pregnancy-related complications (WHO, 2015). Eshete and Abiy (2020) estimate that 2.6 million babies are stillborn, with an additional 4 million dying during the neonatal period. Many of these deaths could be avoided with interventions provided as part of essential antenatal care services, such as micronutrient supplementation and nutrition education, malaria prevention, tetanus toxoid immunization, HIV and syphilis screening, and pre-eclampsia and other hypertensive disorders screening and treatment (Stenberg et al., 2021). Kenya has historically struggled from high maternal morbidity and mortality rates (Nduati, 2023). The most recent estimates place the maternal mortality ratio at 362 deaths per 100,000 live births (KNBS, 2014), well exceeding the SDG target of less than 70 per 100,000 live births by 2030 (UNICEF, 2015). The issue of high maternal mortality is fueled, at least in part, by a lack of access to

excellent maternal health services such as antenatal, delivery, and postnatal care Nyangena (2020). The proper use of focused antenatal care (FANC) services can improve maternal health. The push to adopt a prenatal care paradigm known as FANC stemmed from a desire to improve the inadequate implementation of traditional antenatal care (ANC) in underdeveloped nations. Focused Antenatal Care (FANC) provides comprehensive and tailored care. It is a straightforward, timely, courteous, economical, and safe service for a woman. The goal is to provide a positive outcome for both the baby and the mother while avoiding difficulties during pregnancy, labor, delivery, and postpartum. According to studies, pregnant women and their husbands are viewed as 'risk identifiers' after getting counseling on danger indications, and they are also 'collaborators' with the health care by accepting and implementing the advice given Presnell (2022). As a result, examining women's participation in all four FANC visits is crucial in assessing positive outcomes and preventing difficulties during pregnancy, labor, delivery, and the postpartum period (Mgbekem, 2020). Against this backdrop, this study aims to examine the perceptions of women of reproductive age on the uptake of focused antenatal care. Maternal health refers to the health of women throughout pregnancy, childbirth, and the postpartum period. It includes the healthcare aspects of family planning, preconception, prenatal, and postnatal care in order to prevent maternal morbidity and death. Dude et al. (2022). Sub-Saharan Africa has a 175-fold higher risk of maternal death (during pregnancy or childbirth) than wealthy countries, and the risk of pregnancy-related diseases and bad outcomes after birth is significantly higher (WHO, 2014). In underdeveloped nations, pregnancy and delivery problems are the major causes of death among women of reproductive age (Kiani et al., 2019). These deaths can be avoided by giving pregnant moms targeted antennal care

(Geltore et al., 2021). Kenya's major causes are pregnancy problems, childbirth, and puerperium. Kenya implemented the WHO-recommended entire FANC service package, with extra components tailored to national health needs. PMTCT, intermittent presumptive malaria treatment, the development of an individual birth plan, tuberculosis screening, detection, and treatment, and education on a variety of topics, including rest, nutrition, and exercise in pregnancy, breastfeeding information, family planning, and postpartum care planning (Avila, 2020). Guidelines specified the appropriate times to provide specific services and education, such as measuring blood pressure and providing nutrition education at all four visits, and assessing the fetal position and providing family planning information at the third and fourth visits (Asratie et al., 2023). The Health Belief Model (HBM) was developed in the early 1950s to explain why people fail to implement disease prevention techniques or screening tools for early illness diagnosis. The HBM is based on psychology and behavioral theory, with the premise that the two components of health-related behavior are the desire to avoid sickness or, conversely, to recover if already ill, and the belief that a certain health action may prevent or cure illness (Hazaha et al., 2023). This study used HBM theory to uncover the determinants of FANC use. HBM believes that an individual's decision to engage in health activity is frequently influenced by their views of the benefits and limitations (Adoma 2019). The HBM was employed in this study.

2.4 Cues to action of mothers associated with the uptake of FANC services

Cues to action are the stimuli required to initiate the decision-making process to accept a recommended health action. Ahmadinia et al., (2023) affect a woman's participation in FANC. These cues can be internal (e.g., persistent headache in hypertensive women, dizziness in anemic mothers) or external (e.g., advise from others, past negative pregnancy

outcome, newspaper item). For example, Sendo et al. (2020) discovered that women with a history of obstetric difficulties were more likely to use FANC services. In a study conducted at Goroka Hospital in New Guinea, 65% of the study participants attended focused antenatal care to receive information about the health of their unborn child, 60% attended FANC to receive medical and nutritional supplements, and another 60% attended general antenatal care to discover any illness in themselves (Sema et al., 2020). Another study conducted in Zambia on FANC use found that the content of FANC is a major factor of use, and that enhancing the content and quality of treatment provided could boost overall FANC service use (Sendo et al., 2023). A study conducted in Cameroon found that women who had previously attended prenatal checkups believed it was helpful to begin ANC early in pregnancy, as opposed to those who had not and chose third trimester enrollment (Sindiani et al., 2020).

Worldwide, pregnancy-related problems account for more than half of all female deaths each year. According to WHO, 90-95% of these are from underdeveloped nations (WHO, 2015). The launch of the Safe Motherhood Initiative (SMI) was viewed as a significant step forward in the fight to reduce maternal mortality worldwide, particularly in developing nations. It issued a call to action to cut maternal death and morbidity in half by 2000 (Moller et al., 2019).

Focused prenatal Care (FANC) is a new goal-oriented prenatal clinic attendance model proposed by WHO that reduces the number of required antenatal visits to four and provides focused treatments to improve maternal outcomes. It is not just a plan, but also an important factor in ensuring safe delivery. It enables women to be educated to detect and act on symptoms related with potentially catastrophic illnesses such as pre-eclampsia, malaria

infection, and obstructed labour as a strategy for decreasing maternal death. The World Health Organization recommends that women without difficulties have at least four visits for adequate prenatal care. Prenatal care is more likely to be beneficial if women start receiving it in the first trimester and continue to get it throughout the pregnancy (Warri & George, 2020). However, much effort remains to be done to ensure maternal health for women everywhere. To reduce life-threatening hazards and death, qualified health workers must provide and use high-quality maternal health services. As a result, safe motherhood methods must be comprehensive; even when effective health services are accessible, women may be unable to use them due to social, economic, and cultural barriers (WHO, 2015).

WHO suggested the Focused Antenatal Care (FANC) package, which encourages the implementation of interventions to address the most common health concerns impacting pregnant women and babies (Birungi and Onyango-Ouma, 2006). The Kenya Ministry of Health (MOH) has developed new standards for FANC services, emphasizing four ANC visits centered on antenatal care, birth planning, and emergency readiness. These visits now serve as a gateway to additional reproductive health care, encouraging comprehensive, integrated service delivery (Chorongo, 2016). Serologic screening for syphilis, malaria control, anti-tetanus immunization, and prevention of mother-to-child HIV transmission are among the proven beneficial prenatal therapies.

Malindi and Magarini sub-counties have carried out FANC operations in accordance with national requirements. However, the first and second visits are highly successful (90% and 80%, respectively), but the third and fourth visits are only 50% and 35.2%, respectively (Chorongo, 2016). Various reasons have been identified for mothers starting clinics late

and failing to complete the four ANC visits, despite efforts to improve health education. This calls for further investigation into the underlying causes of late prenatal attendance and insufficient use of the services provided during FANC. The study aimed to identify socio-demographic factors associated with the use of focused antenatal care services in order to determine clients' awareness and perception of the frequency and timing of FANC services, the proportion of pregnant women who use FANC services correctly as specified in the FANC strategy, and the health service provision factors that influence the frequency and timing of FANC service uptake.

2.5 Theoretical Framework

2.5.1 Antenatal Care Theory

The World Health Organization adopted Antenatal Care (ANC) recommendations, which essentially established a frequency-based system of prenatal health care (WHO, 2002). The primary purpose of regular visits and categorizing pregnant women as low or high risk is to forecast difficulties in order to care for both the mother and the fetus (WHO, 2016). Antenatal care is a preventive strategy that involves regular check-ups. It allows doctors and midwives to physically examine expecting moms, assess their health, and prevent and treat underlying medical issues. They monitor maternal health throughout pregnancy and promote healthy habits for both the mother and the baby. According to the World Health Organization (WHO), over 830 women died every day in 2015 due to pregnancy and delivery complications, with only 5 of them living in high-income nations. The remainder lived in low-income nations (Dowswell et al., 2015). Traditional prenatal care in high-income nations typically includes monthly visits during the first two trimesters, from the first to the 28th week. Fortnightly visits from the 28th to the 36th week of pregnancy;

weekly visits following the 36th week to delivery, from the 38th to the 42nd week; and, finally, an assessment of parental requirements and family dynamics. WHO, (2017). The largest underutilization among pregnant women was discovered in Africa and Asia, particularly in low-income nations. According to UNICEF (2016), two-thirds (69%) of pregnant women worldwide have at least one ANC visit, whereas half of pregnant women worldwide receive the required number of prenatal care visits during pregnancy; this is reflected internationally (62%), sub-Saharan Africa (52%), and South Asia (46%). In Somalia, antenatal care coverage is 26%, and there are 0.8 basic emergency obstetric care (BEmONC) facilities per 500 000 people, compared to the worldwide guideline of five. Mothers die as a result of restricted, timely access to emergency obstetric care for managing pregnancy problems such as hemorrhage, obstructed labor, and eclampsia, among others (DHS, 2020).

2.5.2 Health Belief Model (HBM)

The health belief model is the psychological health behavior change model developed to explain and predict health-related behavior, particularly regarding the uptake of health care services. The health belief model, developed in the 1950s by social psychologists in the United States Public Health Service, is still one of the most well-known and commonly utilized ideas in health behavioral research. (Yastica et al.,2020). According to the health belief model, people's beliefs about the community's health problems, perceived rewards of action, barriers to action, and self-efficiency explain participation (or lack thereof) in health-promoting behavior (Liu et al., 2023).

The health belief model is one of the first models of health behavior, created in the 1950s by social psychologists (Irwin et al. 1950 in the United States). The public health services must investigate the widespread failure of malaria screening programs in children (Nasir et al., 2020). The health belief model has been used to predict a variety of health-related behaviors, including screening for early identification and diagnosis of asymptomatic disorders and vaccines. The more recent model has been used to better understand patients' responses to disease signs and symptoms, compliance with medical regimens, lifestyle behaviors, and chronic disease behaviors, all of which may necessitate long-term behavior maintenance in addition to initial health behavior changes. The model was modified as late as 1988 to incorporate increasing findings from the field of psychology regarding the importance of self-efficacy in decision-making and health behaviour (Ran et al., 2020).

2.6 Summary of Literature and Gap

According to the Kenya Demographic Health Survey (Rosenfeld, 2019), only 58% of women reported getting at least four prenatal visits for their most recent baby. The situation is much worse in Sirisia Sub-County, where only 28% of women attended all four FANC appointments. The research has identified various characteristics related with low FANC utilization, with several studies agreeing that most mothers not only have less than the four recommended WHO FANC visits, but also delay initiating FANC. The analysis also emphasized the importance of early attendance in recognizing and reducing potential problems during pregnancy and after delivery that could result in mother or newborn mortality. The health belief model was used in this study to assist the researcher in highlighting the respondent's behavior in obtaining FANC services. In conclusion, using

the HBM ideas, the combined levels of sensitivity and severity create the energy or force to act, as well as the perception of

CHAPTER THREE: RESEARCH METHODOLOGY

3.0 Introduction

This chapter presents the study area, study design, sampling method and sample size determination, data collection and analysis techniques to be used, validity and reliability control techniques, and ethical matters in the study.

3.1 Research design

A cross-sectional descriptive study design was used to aid an investigation of the determinants of FANC service uptake among women of reproductive age in Bungoma County. Cross-sectional studies serve many purposes, and the cross-sectional design is the most relevant design when assessing the prevalence of disease, attitudes and knowledge among patients and health personnel, in validation studies comparing, for example, different measurement instruments and reliability studies. This paper describes the use of cross-sectional studies and provides examples of FANC. Caveats are also described; for example, when cross-sectional data is used for analytical purposes of associations between an exposure and an outcome, authors and readers should be careful not to make causal inferences unless the exposure may safely be assumed to be stable over time and not influenced by experiencing the outcome. In such cases, analyses are also subject to selection and information bias as well as confounding. The study used qualitative and quantitative data collection approaches to understand the research question better, as Nassaji (2020) suggested.

3.2 Study Variables

Independent variables have a direct impact on FANC uptake. Age, parity, religion, education status, societal values, attitudes, and habits of pregnant women in connection to

FANC intake may all have a favorable or negative impact. Furthermore, women with high perceived perceptions, high signals to action, and high self-efficacy levels are more likely to participate in FANC than women with low perceived perceptions.

FANC uptake in this study refers to the number of visits a pregnant woman makes to prenatal care clinics as well as the gestational age at which she makes her first FANC appointment. The number of visits and gestation age at the first visit were classified as low or adequate according to the approved WHO FANC visit schedule. Adequate FANC uptake was defined as a woman who attended four or more FANC visits during her pregnancy, began her first FANC visit in the first trimester, and maintained the schedule throughout her pregnancy; otherwise, it was considered inadequate.

Moderating variables, summaries that include Government of Kenya and WHO guidelines and policies on antenatal services, and individual characteristics of respondents

3.3 Location of Study

The study took place at Sirisia Sub-County (latitude 0.756179N, longitude 34.505752E). Sirisia Sub- County has a population of roughly 136,922 (distributed across an area of approximately 213.20 square kilometers), and agriculture is the principal source of income. Administratively, it is divided into three wards: Namwela, Malakisi/South Kulisiru, and Lwandayi. It has one sub-county hospital, one health center, sixteen dispensaries, two medical clinics, and thirty-two community units. The study took place in Sirisia Sub-County, which is located between latitude 0.756179N and longitude 34.505752E. Sirisia Sub- County has a population of roughly 136,922 (distributed across an area of approximately 213.20 square kilometers), with agriculture as its principal source of income. Administratively, there are three (3) wards: Namwela, Malakisi/South Kulisiru,

and Lwandayi. It is served by one sub-county hospital, one health center, sixteen dispensaries, two medical clinics, and 32 community units. The main reason for choosing this study region is that the infant and mother in Sirisia Sub-County encounter difficulties during pregnancy, labor, delivery, and postpartum, which this study prevented. These facilities' newborn units (NBUs) were recently refurbished, outfitted with diagnostic equipment, and its health personnel trained in newborn care.

3.4 Target population

The target population is a universal set of study that includes all members of a real or hypothetical collection of individuals, events, or subjects for which an investigator desires to achieve this conclusion. The study's target group were women of reproductive age between 15-49 years who gave birth in the last two years in Sirisia Sub-County. This age group represent the group biologically capable of conceiving and bearing children (World Health Organization, 2022). Focusing on this age range captures the full spectrum of prenatal care needs, including adolescents who may face unique barriers and older women who may have higher pregnancy risks. Sirisia Sub County has a population of 136,992, with 71,099 women, 30,549 women of reproductive age, and an estimated 4740 pregnant women.

3.4.1 Inclusion criteria

All women of reproductive age who consented to participate in the study or whose guardians consented to their participation (for women under the age of 18).

3.4.2 Exclusion criteria

All women of reproductive age in Sirisia Sub-County who did not consent to participate in the study or whose guardians did not consent (for women under the age of 18).

Mothers whose pregnancy was classified as high risk, necessitating additional antenatal follow-up, and those who were more than two years post-delivery were also excluded from the study.

3.5 Sample Size and Sampling Procedure

The non-probability sampling method were employed since it is purposeful and snowballing. Participants in the study were selected based on the inclusion and exclusion criteria listed below.

3.5.1 Sampling Techniques

The study included 340 women who were chosen to provide quantitative data. Sirisia Sub-County was chosen as the study region due to its low uptake of FANC during the past three years (Appendix 6). The two largest wards, Namwela and Malakisi/South Kulisiru, were purposefully chosen. From the list of villages in each of the two wards, 18 and 24 villages were chosen at random from Namwela and Malakisi/South Kulisiru wards, for a total of 42. Using systematic sampling, households were selected at random from the corresponding household listings in each hamlet. To select the houses to participate in the study, a sampling interval of 13 were employed. Finally, one woman of reproductive age who is less than two years post-delivery (to reduce recall bias) were chosen from each home. For the qualitative data, only one of the seven women groups in each ward were purposefully chosen to participate. The group leaders helped in picking between 6-12 participants for FGDs from the selected women groups in order to create a diverse group in terms of age, domicile, and education levels. However, effort was made to ensure that diversity results in an active discussion rather than preventing some individuals.

3.5.2 Sample Size Determination

The sample size was calculated using Fisher's statistical procedure for obtaining the minimal sample size in descriptive prevalence studies (Fisher et al., 1998).

$$n = \frac{Z^2 p(1-P)}{d^2}$$

Where

n = minimize sample size

$Z_{\alpha/2}$ =Standard errors from mean corresponding to the 95% confidence level

P =Estimated level of adherence to uptake of FANC in Sirisia (28%) (Kenya National Bureau of Statistics, 2010)

Q = 1-p (the proportion of population without characteristics.)

d = the allowable error

Substitution:

$n = Z^2 \times p(1-p)/d^2$

$$= \frac{1.96^2 0.28 \times 0.72}{0.5^2}$$

$= 310$

Considering the possibility for non-response rate, a 10% increment of sample size was necessary (Israel, 2009), bringing the total sample size to 340.

3.6 Data Collection, Instruments, Tools and Procedure

Quantitative data were collected by interviewer-administered questionnaires. The questionnaires, which included open and closed-ended questions in English, were translated into Kiswahili, the language spoken by the study participants. The questionnaire includes sections on the participants' socio-demographic and economic characteristics, pregnancy history (number of ANC visits), perceptions of FANC utilization (reported susceptibility, severity, benefits and barriers), and questions to assess cues to action and

self-efficacy. To assist the quantitative analysis, thematic analysis of FGD results is performed.

3.7 Pre-test

A pre-test was conducted in Cheptais Subcounty, which is next to the study region, to determine the validity of the questionnaire.

3.8 Data Collection Techniques

The quantitative data were obtained through household visits, with four research assistants administering questionnaires to participants. The research team utilized local authorities as guides to walk them around the selected residences and introduce them to the residents. Data collection occurred only once informed consent or assent is acquired. The information provided were validated by consulting the ANC booklet (if applicable), and the research assistants thanked the mother for her participation in the trial. FGDs collecting qualitative data took place at a central location that is convenient for all participants. This were done only once informed consent or agreement has been acquired. The moderator led the focused group discussion on two days (each in a different ward) for two hours, with the assistance of a notetaker. The moderator led the FGD, while the assistant took notes and oversee the audio-recording equipment and nonverbal communication. The participants' real names were not revealed, but pseudonyms were offered to the ladies to use during the FGD.

3.9 Data analysis

The researcher filed all completed data collecting instruments after checking them for completeness at the end of each day's activity in the field.

3.9.1 Quantitative data

The data were coded and entered into SPSS, followed by data cleaning to confirm completeness and eliminate any incorrectly entered characters. The data were checked to guarantee that only valid information is analyzed. The data were described using descriptive statistics such as percentages and frequency. The hypothesis was tested using the chi-square test of association to determine the relationship between FANC uptake and the postulated parameters influencing utilization. The use of FANC was characterized as either utilized or not utilized in accordance with WHO's (2004) classification. Because the dependent variable is binary (Utilized or Not utilized FANC), binary multivariate logistic regression was used to calculate the odds ratio, confidence interval, and probabilistic values (p-value). The number of visits made by pregnant women and the gestational age at which they made their first FANC visit were used to calculate the level of FANC service uptake.

3.9.2 Qualitative and Qualitative Data

Content analysis were performed on qualitative data, which included coding and classifying data, also known as categorizing and indexing, in order to make sense of the acquired data and emphasize the most relevant messages, features, or discoveries.

The analysis of FGD notes comprised a complete transcription of the tapes. The raw data from the cassettes and notes were arranged into a coherent set of information based on numerous themes. Following the transformation of the raw data, it was organized in relation to the conversation topics to supplement the quantitative findings.

3.10 Ethical Clearance

The proposal was presented to the IREC board of MKU for approval and ethical clearance. Permission to collect data were sought from relevant authorities, including the National

Council of Science and Technology (NACOSTI) and Bungoma County's Ministry of Health. Informed consent was obtained from participants by first informing them of the study's purpose, the voluntary nature of the study and the freedom to withdraw from the study at any time, the anonymity of the research participants, the confidentiality of the information they provided, what they stand to gain from participating in the study, and the fact that no harm was caused by their participation. Participants were also given contact information for the ladies, which were used during the focus group discussion, as well as questions about the study, their rights, and any other concerns. After the participants have grasped the material, those who assent were asked to sign the informed consent form (or stamp their fingerprints for those who cannot write). The use of serial numbers in the surveys, as well as pseudonyms during the FGD and qualitative findings reporting, ensured anonymity. As a result, the participants' true names were only utilized for selection purposes and were not recorded or used during analysis and reporting. The privacy and confidentiality of the participant's information were protected first by restricting access to it to the study team exclusively. Furthermore, the use of pseudonyms and serial numbers instead of participant names ensures that the information provided is not associated with a specific participant. The study's findings were shared with the Bungoma County Ministry of Health and other partners that are implementing maternal and child health programs in Bungoma.

3.11 Expected Outcomes

- Women with higher education are more likely to attend ANC visits compared to those with lower education levels.

- Demographics such as age, gender, religion, marital status, household employment, and income impact the utilization of ANC services.
- Uptake of ANC services is affected by individual opinions of their importance.
- Sirisia sub county has a significantly lower percentage of pregnant women attending at least four ANC visits compared to the national average.

CHAPTER FOUR: RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

This section presents analysis and findings as set out in the research methodology and is presented showing factors that influence pregnant women's usage of specialized prenatal care services in Sirisia Sub- County, Bungoma County, Kenya. Out of the targeted research sample of 340, 323 (95.0%) respondents filled and returned the questionnaire. A response rate of 50% is adequate for analysis and reporting; a rate of 60% good while a response rate of 70% and over is excellent for the analysis (Mugenda & Mugenda, 2003). The response rate obtained in the study was adequate for analysis and reporting.

4.2 Distribution of Respondents

4.2.1 Socio-Demographic Characteristics

The respondents age ranged from 15 years to 47 years, the mode was 29 years, median 29.0 years and the mean age was 30.6 ± 1.7. The findings showed that 103 (31.9%) were between 21-30 years, 60 (18.6%) were 20 years and below, and 63 (19.5%) were 41 years and above. More than half 185 (57.3%) and 276 (85.4%) were in marital union and affiliated to Christianity faith during the study period respectively as shown in table 4.1.

Table 4. 1: Socio-demographic characteristics of the respondents

Characteristics		Frequency	Percent
Age group	11-20 years	60	18.6%
	21-30 years	103	31.9%
	31-40 years	97	30.0%
	41-50 years	63	19.5%
Marital status	Single	111	34.4%
	Married	185	57.3%
	Divorced/separated	20	6.2%
	Widowed	7	2.2%
Religious affiliation	Christian	276	85.4%
	Muslim	35	10.8%
	Traditional beliefs	12	3.7%

4.2.2 Socio-Economic Characteristics of Respondents

Approximately 4% of respondents had no formal education with most 185 (57.3%) had secondary level of education and 77 (23.8%) had tertiary level of education. Most of respondents 112 (34.7%) were self-employed with 67 (20.7%) being formally employed and 80 (24.8%) were unemployed as presented in table 4.2.

Table 4. 2: Respondents Socio-Economic Characteristics

Characteristics		Frequency	Percent
Level of education	No formal education	14	4.3%
	Primary	47	14.6%
	Secondary	185	57.3%
	Tertiary	77	23.8%
Employment status	Self-employed	112	34.7%
	Employed	67	20.7%
	Casual labourer	64	19.8%
	Unemployed	80	24.8%

4.2.3 Number of Births

Most of the respondents 98 (30.3%) had between 1-2 births with 86 (26.6%) and 82 (25.4%) had between 3-4 births and more than 4 births respectively as shown in figure 4.1.

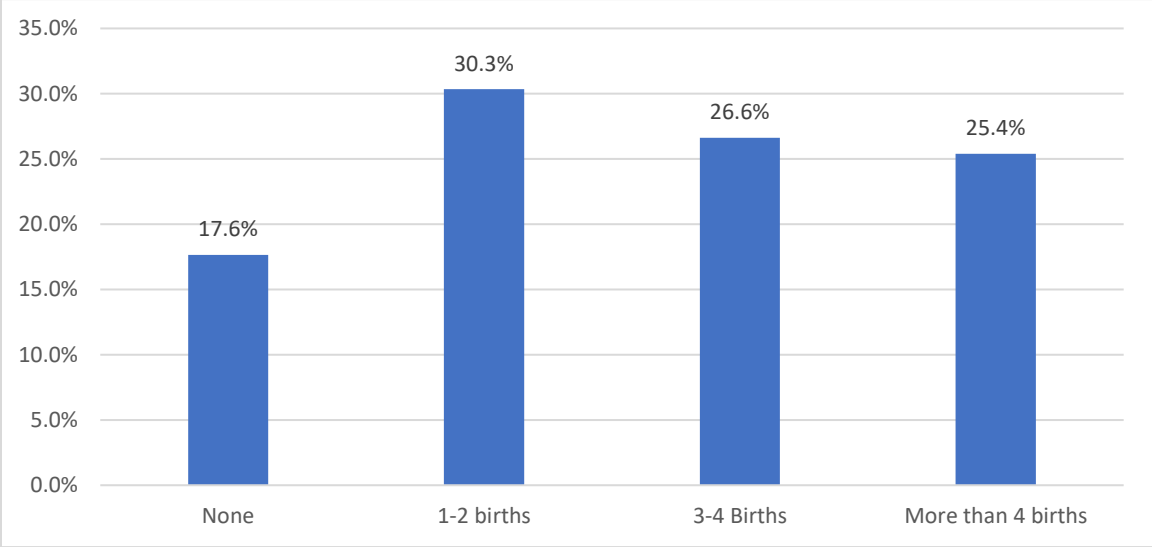


Figure 4. 1: Number of Births

4.2.4 Number of Living Children

At least 97 (30.0%) had between 1-2 living children with 75 (23.2%), and 68 (21.1%) had none and more than 4 living children respectively as shown in figure 4.2.

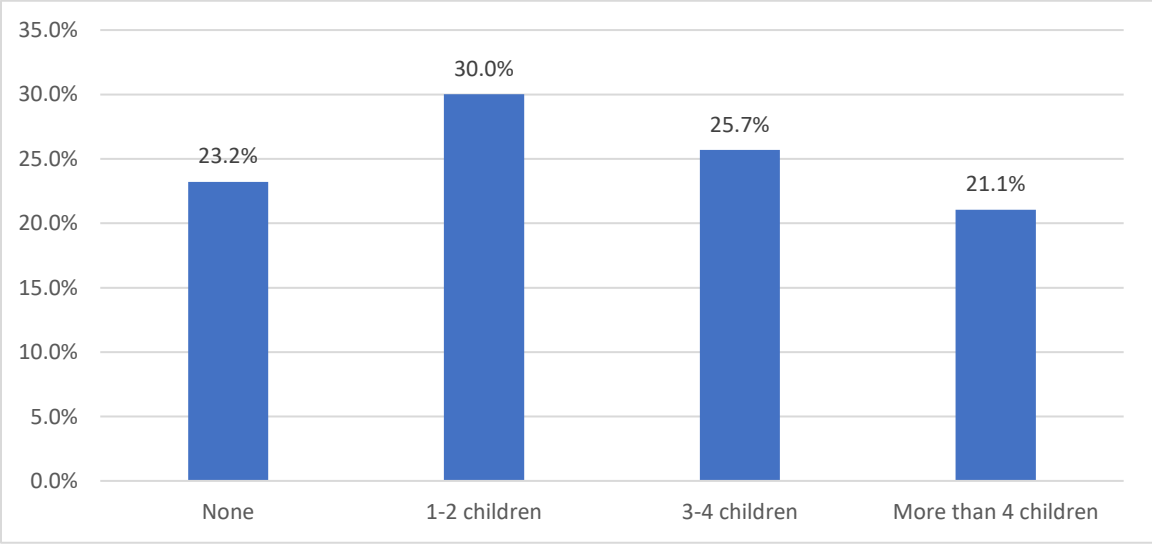


Figure 4. 2: Number of Living Children

4.3 Uptake of Focused Antenatal Care

4.3.1 Initial Attendance of Prenatal Clinic

More than half 183 (56.7%) had initial prenatal care attendance between 4-6 months and 17 (5.3%) between 7-9 months as shown in figure 4.3.

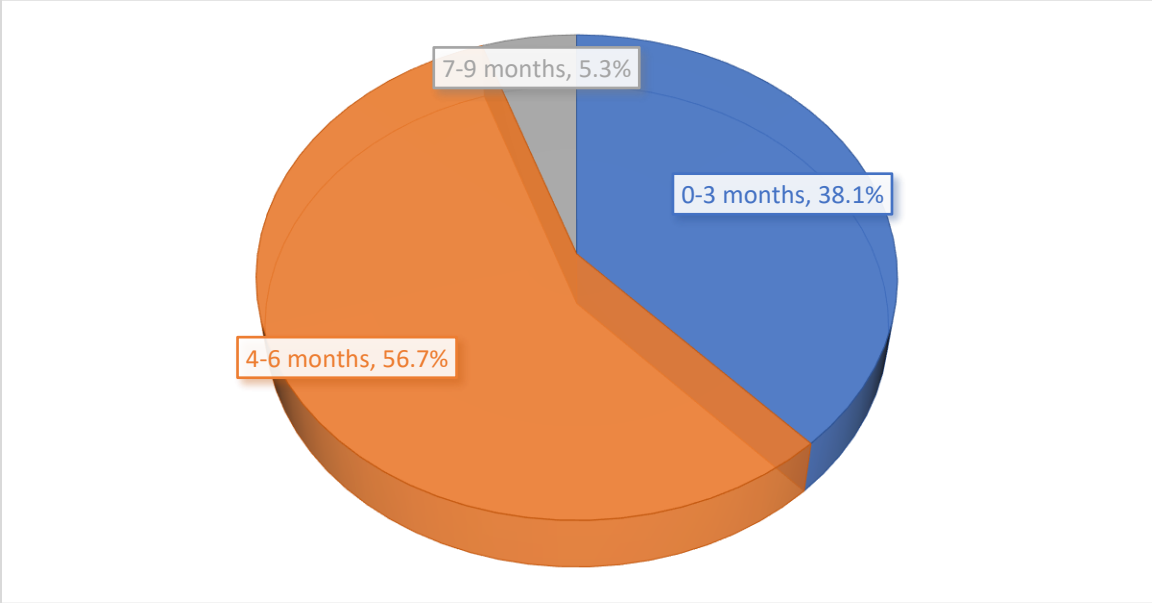


Figure 4. 3: Initial Attendance of Prenatal Clinic

ANC booklet is one other facilitating factor for women to visit the clinic, during the first and second trimesters and to some still during the last trimester.

"*When I go to the clinic, I get a book (ANC Booklet) which is required for me to have before delivery and for progress of my pregnancy*". (FGD 2).

4.3.2 Actual Antenatal Clinics Visits

At least 222 (68.7%) had ANC visits between 0-16 gestation weeks with 283 (87.6%), and 323 (100%) at 29-32 weeks and more than 33 gestation weeks respectively. Focused antenatal care (FANC) is one of the maternal and child health service interventions

provided to reduce preventable maternal and infant mortalities (WHO, 2014). An ANC visit is a crucial entry point for pregnant women to access preventative, curative, and health promotion treatments, including nutrition, HIV/AIDS, malaria, anemia, TB, and sexually transmitted infections (WHO, 2014). All of these services contribute to the health of the mother and her unborn child.

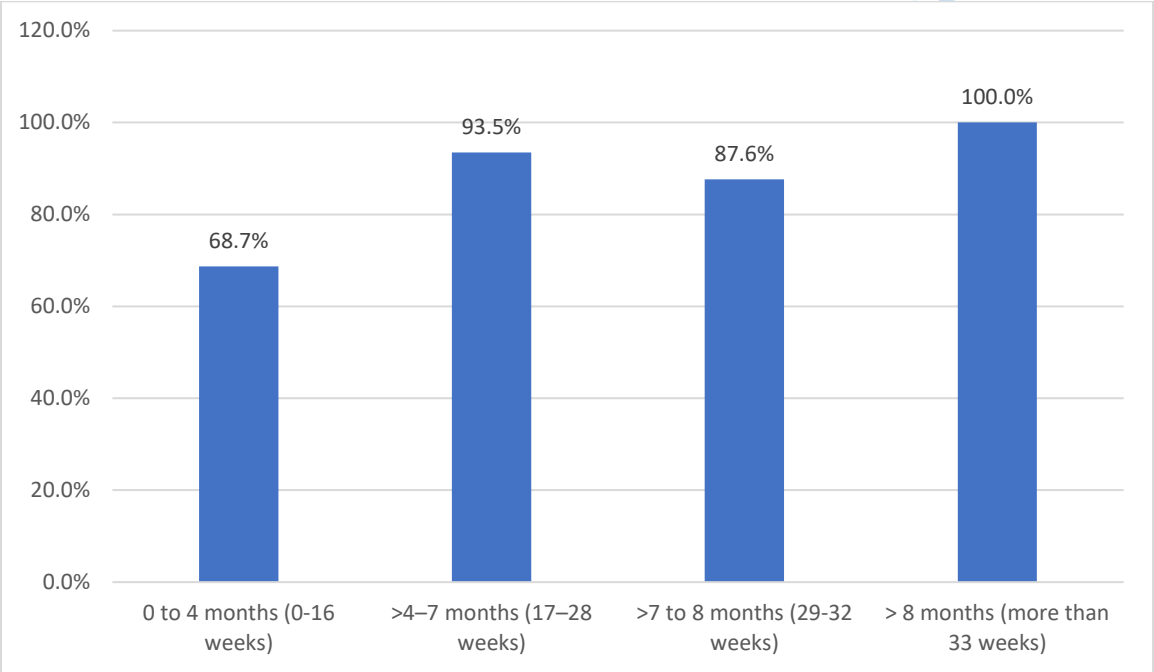


Figure 4. 4: Frequency of Attendance of Antenatal Clinics

This concurs with Kenya Demographic Health Survey (2023) that indicated that the majority (88%) of pregnant women in the country receive antenatal care from a skilled birth attendant, which supports this statement. The finding is consistent with the findings of Fekede and Mariam (2017) that, despite high usage of antenatal care, the pattern of follow-up was often inappropriate for the majority of pregnant women started using the service around 7-9 months with decreasing number in the 1st and 2nd trimester of pregnancy.

The WHO prenatal care guidelines urge that pregnant women undergo at least eight antenatal care visits with health care providers (WHO, 2016). The new guideline represents a shift from the current paradigm, which requires a minimum of four or more ANC visits, to a more expansive approach that includes several interactions and services. This model proposes that the first contact happens in the first 12 weeks of pregnancy, followed by two contacts in the second trimester (at the 20th and 26th weeks of gestation) and five contacts in the third trimester (30th, 34th, 36th, 38th, and 40th weeks of gestation) (WHO, 2016). As the frequency of contacts between a pregnant woman and a healthcare practitioner increases, so does her satisfaction with ANC services (Ekholuenetale, et al., 2020.

4.3.3 Number of Actual ANC Visits

Figure 4.5 shows that 202 (62.5%) had four or more ANC visits with 5 (1.5%) and 85 (26.3%) had one and three visits respectively.

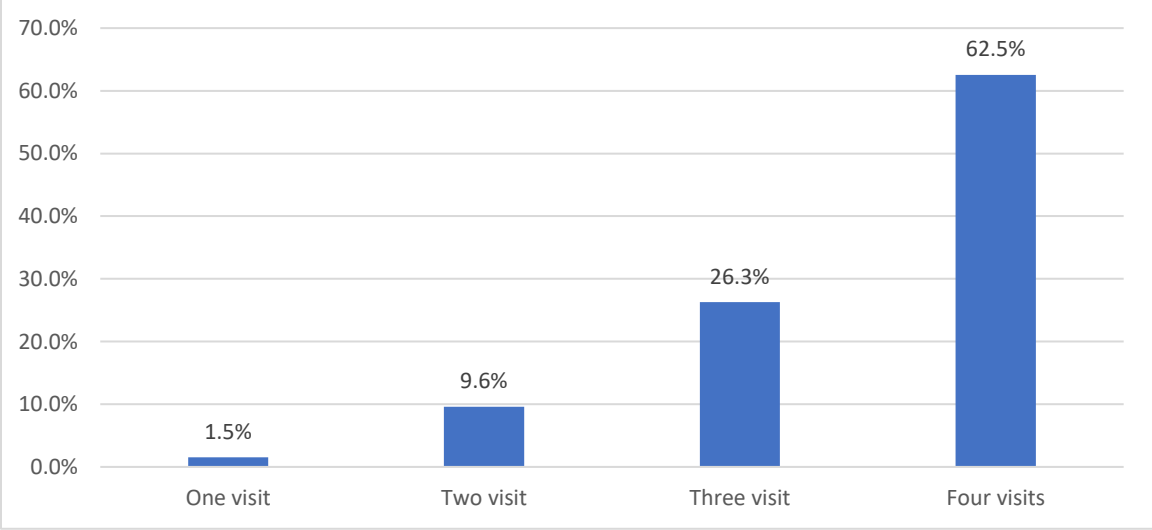


Figure 4. 5: Number of Actual ANC Visits

The timing of the initial FANC Visit ultimately affects the actual number of FANC visit by

pregnant women. Pregnant women who complete the four FANC Visit are mostly the ones who start their FANC visit in the first trimester

"I was only able to go to the hospital two times to have my baby checked by the doctor because I delivered before the next visit that I had been told to come back". (FGD 8).

The results of this study contradict the conclusions of a previous study conducted by SOS hospital in 2018, which reported an ANC attendance rate of 13% in the Huriwaa region of Mogadishu. Somalian women in their childbearing years have significantly lower rates of attendance at antenatal care (ANC) facilities compared to women in surrounding countries. The explanation for this might be attributed to the high occurrence of instability, cultural challenges, and limited educational achievements among women in Somalia. The antenatal care attendance rates in Somalia, Kenya, and Ethiopia were 24%, 58%, and 62% respectively, as reported by KDHS (2023), SHDS (2020), and EDHS (2016). The high levels of ANC attendance in Guriel can be linked to the cultural acceptability of ANC services, as expressed by 96.8% of the respondents. Furthermore, a significant majority (62.5%) of the women were knowledgeable about the availability of ANC services. A study conducted in Nigeria found that the amount of awareness of ANC services may have a favorable impact on women's utilization of maternal health services, namely ANC services (Umar, 2017).

4.3.4 Socio-Demographic Factors Influencing Uptake of FANC Services

The utilization of WHO recommended four FANC services reduced with increase in respondents age from 39(65.0%) to 38(60.3%) among respondents 20 years and below and above 40 years respectively. Uptake of FANC services was higher among married

125(67.6%), respondents affiliated to Christianity faith 47(70.1%), formally employed 176(63.8%), and with between 1-2 births 66(67.3%) (Table 4.3). Further, marital status (χ^2=4.674, df=1, p=0.031) and level of education (χ^2=19.096, df=3, p=0.0001) were significantly associated with uptake of FANC services as indicated in Table 4.7.

Table 4. 3: Socio-Demographic Factors Influencing Uptake of FANC Services

Variables		FANC		Statistics
		Four visits	< Four visits	
Age	11-20 years	39(65.0%)	21(35.0%)	χ^2=0.321, df=3, p=0.956
	21-30 years	65(63.1%)	38(36.9%)	
	31-40 years	60(61.9%)	37(38.1%)	
	41-50 years	38(60.3%)	25(39.7%)	
Marital status	Single	77(55.8%)	61(44.2%)	χ^2=4.674, df=1, p=0.031
	Married	125(67.6%)	60(32.4%)	
Religious affiliation	Christian	176(63.8%)	100(36.2%)	χ^2=1.286, df=2, p=0.526
	Muslim	19(54.3%)	16(45.7%)	
	Traditional beliefs	7(58.3%)	5(41.7%)	
Level of education	No formal education	5(35.7%)	9(64.3%)	χ^2=19.096, df=3, p=0.0001
	Primary	19(40.4%)	28(59.6%)	
	Secondary	121(65.4%)	64(34.6%)	
	Tertiary	57(74.0%)	20(26.0%)	
Current employment status	Self-employed	74(66.1%)	38(33.9%)	χ^2=4.684, df=3, p=0.196
	Employed	47(70.1%)	20(29.9%)	
	Casual labourer	36(56.3%)	28(43.8%)	
	Unemployed	45(56.3%)	35(43.8%)	
Births	None	37(64.9%)	20(35.1%)	χ^2=3.161, df=3, p=0.368
	1-2 births	66(67.3%)	32(32.7%)	
	3-4 Births	54(62.8%)	32(37.2%)	
	More than 4 births	45(54.9%)	37(45.1%)	

Similarly, unmarried women in Kenya who started childbearing before 20 years of age had fewer antenatal visits than married women who started later (Afulani 2019), another study

on factors affecting the utilization of FANC in developing countries identified several factors, including maternal education, husband's education, marital status, availability, cost, household income, women's employment, media exposure, and cultural beliefs and ideas about pregnancy and parity. This study is similar with a study done in Rwanda which stated that widowed, separated and never married women made fewer ANC attendances compared to married women (Akashi, et al, 2017). The reason maybe that widowed women have no husband support, while married women have husband support especially if the husband is educated and has good income as this can increase the chances to take his wife to health facility. Seidu et al., (2022) discovered in their study that the type of work women held influenced their number of ANC visits. The findings revealed that employed women, particularly those with white collar occupations and higher pay, began their trips earlier than those who did not have such positions. Poor ANC visits in Makueni County are highly related to the number of first pregnancies among mothers. According to Mlandu, Zvifadzo, and Eustasius (2022), women who had already given birth started their ANC visits later. The study also found that women with two children started their ANC visits 65.2% later than those with one child or less (57.7%). This research of sub-Saharan African nations such as Kenya and Tanzania reveal that women who have successfully given birth to two or more children frequently assume the need for ANC visits, despite being aware of the requirement. Arguably, mothers who have previously given birth frequently postpone.

4.4 Perceptions of Pregnancy, Labour and Post-Partum Complications in Women

4.4.1 Perceived Susceptibility

Table 4.4 shows that most of respondents 103(67.3%), 75(64.1%), 99(65.6%) disagreed that they are likely to encounter challenges related to pregnancy, it is likely that they will

encounter challenges related to childbirth and the postpartum period, and they had a good chance of having pregnancy-related issues utilized FANC services respectively. Further, 60(61.9%), 145(64.4%), and 103(60.9%) agreed that they had a higher likelihood than the average woman of experiencing adverse pregnancy outcomes, feel confident in my health and believe unlikely to experience any pregnancy, delivery, or postpartum complications, and worry that they might have problems during pregnancy, during delivery, or after delivery if they don't receive FANC services utilized FANC services. However, these variables were not significantly associated with uptake of FANC services.

Table 4. 4: Perceived Susceptibility

Variables		FANC		Statistics
		Four visits	< Four visits	
Encounter challenges related to pregnancy	Agree	66(58.4%)	47(41.6%)	χ^2=2.841, df=2, p=0.242
	Neutral	33(57.9%)	24(42.1%)	
	Disagree	103(67.3%)	50(32.7%)	
Anxious about-facing challenges during pregnancy	Agree	117(60.3%)	77(39.7%)	χ^2=1.178, df=2, p=0.555
	Neutral	26(68.4%)	12(31.6%)	
	Disagree	59(64.8%)	32(35.2%)	
Encounter challenges related to childbirth and the postpartum period	Agree	69(63.9%)	39(36.1%)	χ^2=0.677, df=2, p=0.713
	Neutral	58(59.2%)	40(40.8%)	
	Disagree	75(64.1%)	42(35.9%)	
Good chance of having pregnancy-related issues	Agree	60(60.0%)	40(40.0%)	χ^2=1.108, df=2, p=0.575
	Neutral	43(59.7%)	29(40.3%)	
	Disagree	99(65.6%)	52(34.4%)	
Higher likelihood of experiencing adverse pregnancy outcomes	Agree	60(61.9%)	37(38.1%)	χ^2=2.204, df=2, p=0.332
	Neutral	47(70.1%)	20(29.9%)	
	Disagree	95(59.7%)	64(40.3%)	
Feel confident in health even without FANC	Agree	145(64.4%)	80(35.6%)	χ^2=1.589, df=2, p=0.452
	Neutral	31(55.4%)	25(44.6%)	
	Disagree	26(61.9%)	16(38.1%)	
	Agree	103(60.9%)	66(39.1%)	

Worry of pregnancy outcome or after delivery without FANC	Neutral	32(66.7%)	16(33.3%)	χ^2=0.552, df=2, p=0.759
	Disagree	67(63.2%)	39(36.8%)	

4.4.2 Perceived Severity

Most of respondents utilized recommended four FANC services were neutral that challenges they might face during pregnancy and delivery would have long-lasting effects 25(65.8%) and fear the pregnancy would not progress to full term 50(71.4%). Additionally, 130(64.7%), 64(67.4%), and 161(65.2%) of respondents disagreed that pregnancy complications could strain their relationship with their partner, pregnancy-related issues could result in permanent life changes, and scared of their baby would not survive the pressure that comes with labour and delivery utilized recommended four FANC services respectively. However, these variables were not significantly associated with uptake of FANC services

Table 4. 5: Perceived Severity

Variables		FANC		Statistics
		Four visits	< Four visits	
Challenges in pregnancy and delivery have long-lasting effects	Agree	151(62.7%)	90(37.3%)	χ^2=0.396, df=2, p=0.820
	Neutral	25(65.8%)	13(34.2%)	
	Disagree	26(59.1%)	18(40.9%)	
Pregnancy complications could strain relationship	Agree	36(57.1%)	27(42.9%)	χ^2=1.233, df=2, p=0.540
	Neutral	36(61.0%)	23(39.0%)	
	Disagree	130(64.7%)	71(35.3%)	
Pregnancy-related issues could result in permanent life changes	Agree	84(60.4%)	55(39.6%)	χ^2=1.341, df=2, p=0.511
	Neutral	54(60.7%)	35(39.3%)	
	Disagree	64(67.4%)	31(32.6%)	
	Agree	59(62.8%)	35(37.2%)	

Fear the pregnancy would not progress to full term	Neutral	50(71.4%)	20(28.6%)	χ^2=3.476, df=2, p=0.176
	Disagree	93(58.5%)	66(41.5%)	
Scared baby would not survive the pressure that comes with labour and delivery	Agree	20(54.1%)	17(45.9%)	χ^2=3.432, df=2, p=0.209
	Neutral	21(53.8%)	18(46.2%)	
	Disagree	161(65.2%)	86(34.8%)	
My baby might be born prematurely	Agree	38(66.7%)	19(33.3%)	χ^2=1.250, df=2, p=0.535
	Neutral	24(55.8%)	19(44.2%)	
	Disagree	140(62.8%)	83(37.2%)	

Similarly, studies by Stenberg et al., (2021); Bridges, (2020) and Wang et al., (2020) have recorded similar results regarding the fear of pregnancy complications, fear of survival of the infant and prematurity with a heightened recognition of the significance of antenatal care (ANC) among women. Furthermore, research has indicated that education plays a crucial role in empowering women to make informed decisions regarding their healthcare and equips them with the ability to recognize the warning symptoms associated with pregnancy ((Mgbekem, 2020).

4.4.3 Perceived Benefits

The uptake of recommended FANC services was higher 146(62.7%) among respondents who agreed that there is a sense of well-being experienced when attending FANC, further analysis showed that likelihood was 5.8 times likely to utilize recommended FANC services. Likewise, respondents agreed FANC visits alleviates worries about pregnancy and its outcome, completing FANC visits reduces risk of pregnancy-related complications, completing FANC visits allows to learn about individual birth preparedness and reduces the likelihood of delaying seeking care during labor, Completing my FANC visits enables me to access a wide range of services (such as PMTCT, TTV immunizations, iron and

vitamin A supplementation, SP, ITNs, and hookworm treatment) for a favourable pregnancy outcome, and attending FANC clinic enhances the chances of early detection of risk conditions associated with pregnancy were 2.4, 5.0, 4.6, 3.0, and 5.8 times more likely to utilize the recommended FANC services.

There was a significant relationship between agreeing there is a sense of well-being experienced when attending FANC (OR=5.810; 95% CI=1.921-36.674; p= 0.017), FANC visits alleviates worries about pregnancy and its outcome (OR=2.425; 95% CI=1.165-9.623; p= 0.041), completing FANC visits reduces risk of pregnancy-related complications (OR=5.011; 95% CI=2.001-10.210; p= 0.003), completing FANC visits allows to learn about individual birth preparedness and reduces the likelihood of delaying seeking care during labor (OR=4.551; 95% CI=2.345-10.170; p= 0.015), Completing my FANC visits enables me to access a wide range of services (such as PMTCT, TTV immunizations, iron and vitamin A supplementation, SP, ITNs, and hookworm treatment) for a favourable pregnancy outcome (OR=3.005; 95% CI=0.944-8.033; p= 0.033), and attending FANC clinic enhances the chances of early detection of risk conditions associated with pregnancy (OR=5.847; 95% CI=3.421-12.658; p= 0.004) as indicated in Table 4.6

Table 4. 6: Perceived Benefits

		FANC		OR	95% CI		p-value
		Four visits	< Four visits		Lower Bound	Upper Bound	
Experience a sense of well-being at FANC	Agree	146(62.7%)	87(37.3%)	5.810	1.921	36.674	**0.017**
	Neutral	29(60.4%)	19(39.6%)	1.100	0.047	2.215	0.062
	Disagree	27(64.3%)	15(35.7%)	Ref			
FANC clinics enables to monitor the progress of pregnancy	Agree	166(61.3%)	105(38.7%)	1.272	1.067	1.996	0.067
	Neutral	14(77.8%)	4(22.2%)	2.319	2.106	6.959	0.051
	Disagree	22(64.7%)	12(35.3%)	Ref			

FANC visits alleviates worries about pregnancy and its outcome	Agree	102(66.7%)	51(33.3%)	2.425	1.165	9.623	**0.041**
	Neutral	39(62.9%)	23(37.1%)	1.000	0.546	3.857	0.088
	Disagree	61(56.5%)	47(43.5%)				
FANC visits reduces risk of pregnancy-related complications	Agree	123(63.4%)	71(36.6%)	5.011	2.001	10.210	**0.003**
	Neutral	53(65.4%)	28(34.6%)	2.767	1.490	7.644	**0.037**
	Disagree	26(54.2%)	22(45.8%)	Ref			
FANC reduces the likelihood of delaying seeking care during labor	Agree	139(64.4%)	77(35.6%)	4.551	2.345	10.170	**0.015**
	Neutral	33(56.9%)	25(43.1%)	1.994	0.300	3.261	**0.045**
	Disagree	30(61.2%)	19(38.8%)	Ref			
FANC visits enables favourable pregnancy outcome	Agree	179(63.5%)	103(36.5%)	3.005	0.944	8.033	**0.033**
	Neutral	11(47.8%)	12(52.2%)	1.776	1.052	4.230	**0.049**
	Disagree	12(66.7%)	6(33.3%)	Ref			
FANC clinic enhances early detection of risk conditions associated with pregnancy	Agree	129(60%)	86(40%)	5.847	3.421	12.658	**0.004**
	Neutral	30(66.7%)	15(33.3%)	2.369	1.109	5.866	**0.028**
	Disagree	43(68.3%)	20(31.7%)	Ref			

Typically, the women were ambiguous on the specific ailments they would be checked for, simply mentioning things like 'getting blood tested to determine if they have a sickness' or alluding to a blood examination. Only malaria and HIV were mentioned as illnesses. The women recognized the need of being aware of their HIV status for the purpose of receiving treatment and preventing transmission of the illness to their child. Nevertheless, HIV testing was perceived as an obstacle to seeking medical attention.

"*When we go to the clinic, we are happy because our blood is tested so we know our status and this is something good that a TBA would not do"* (FGD 3).

Checking the position of the foetus was also a reason to access FANC – although some women acknowledged the TBA also performed this task so would visit them instead.

Women reasoned this would determine whether their birth would be straightforward, or thought that the doctor would then be able to turn a malpresentation around.

"Whether it is the child that is in a bad position, the doctor is there, you will leave that place when you have been helped totally" (FGD 5).

Additionally, the necessity of receiving injections was identified as a significant factor in clinic attendance. While tetanus was occasionally referenced, only a small number of women specified the purpose of the injection. The following serves as an illustration of the ambiguous knowledge that women possessed.

"I think they help us because when we get to clinic you get some injection. The injection would help the life of the child and me" (FGD 1).

Additionally, individuals were encouraged to attend ANC for the purpose of receiving medications, despite the fact that the purpose of these medications was only vaguely comprehended, such as "to prevent disease," "to provide energy," and "to prevent infection." This was also regarded as advantageous in the event that an expectant woman lacked an adequate amount of blood. In general, the services offered by ANC were perceived as trustworthy and valuable by women. Other women stated that the primary incentive for attending ANC was to receive a registration card, which would enable them to deliver in the hospital in the event of an emergency.

'*So, when leaving the house in the morning it is clear in the mind that you will get some injections, some drugs and advice. So, I would do whatever has been told to do. Those are the benefits of going to the clinic'* (FGD 10).

'*She would rather go when she is left with a few days to delivery just for the purpose of securing a card so that even if things are difficult, she is not chased away'* (FGD 3)

"The services are good because say I am given a net; I will use it with my whole family. Secondly, my husband benefits too" (FGD 6).

4.4.4 Perceived Barriers

All respondents who utilized recommended FANC services disagreed they struggle to make it to FANC clinics 133(85.3%), considerable distance to the health facility during pregnancy hinders their access to FANC services 97(78.2%), and the poor terrain makes traveling to the FANC clinic uncomfortable 138(85.2%). At least 49(81.7%) and 132(85.2%) of respondents were neutral that they are uneasy waiting in such a huge line at the FANC clinic and disagreed to skip some of the clinics because of the FANC clinic's staffing shortage respectively. Further, 64(66.0%), 67(67.0%), and 160(65.0%) of respondents agreed that the fatigue from attending every FANC visit is intense, in order to visit the FANC clinic, they must obtain permission first, and when it comes to using FANC services, transportation is an issue respectively. However, struggle to make it to FANC clinics (χ^2=75.212, df=2, p=0.0001), the considerable distance to the health facility during pregnancy hinders my access to FANC services (χ^2=56.109, df=2, p=0.0001), the poor terrain makes traveling to the FANC clinic uncomfortable (χ^2=77.610, df=2, p=0.0001), being uneasy in waiting in such a huge line at the FANC clinic (χ^2=14.698, df=2; p=0.0001), and skipping some of the clinics because of the FANC clinic's staffing shortage (χ^2=69.812, df=2; p=0.0001) were influencing the uptake of FANC services as indicated in Table 4.7.

Table 4. 7: Perceived Barriers

Variables		FANC		Statistics
		Four visits	< Four visits	
Struggle to make it to FANC clinics	Agree	48(35.8%)	86(64.2%)	**χ^2=75.212, df=2, p=0.0001**
	Neutral	21(63.6%)	12(36.4%)	
	Disagree	133(85.3%)	23(14.7%)	
Interacting with doctors and nurses at the FANC clinic unsettles me	Agree	73(60.8%)	47(39.2%)	χ^2=0.712; df=2, p=0.700
	Neutral	57(66.3%)	29(33.7%)	
	Disagree	72(61.5%)	45(38.5%)	
Distance to the health facility during pregnancy hinders access to FANC services	Agree	33(32.7%)	68(67.3%)	**χ^2=56.109, df=2, p=0.0001**
	Neutral	71(73.2%)	26(26.8%)	
	Disagree	97(78.2%)	27(21.8%)	
Poor terrain makes traveling to the FANC clinic uncomfortable	Agree	46(35.1%)	85(64.9%)	**χ^2=77.610, df=2, p=0.0001**
	Neutral	17(58.6%)	12(41.4%)	
	Disagree	138(85.2%)	24(14.8%)	
Awkward to get examination by male workers at the FANC facility	Agree	71(62.3%)	43(37.7%)	χ^2=1.454, df=2, p=0.483
	Neutral	65(67.0%)	32(33.0%)	
	Disagree	66(58.9%)	46(41.1%)	
The fatigue from attending every FANC visit is intense	Agree	64(66.0%)	33(34.0%)	χ^2=2.633, df=2, p=0.268
	Neutral	71(65.7%)	37(34.3%)	
	Disagree	67(56.8%)	51(43.2%)	
Obtain permission to visits FANC	Agree	67(67.0%)	33(33.0%)	χ^2=1.600; df=2, p=0.449
	Neutral	70(62.5%)	42(37.5%)	
	Disagree	65(58.6%)	46(41.4%)	
Transportation is an issue to visit FANC	Agree	160(65.0%)	86(35.0%)	χ^2=2.984, df=2, p=0.225
	Neutral	17(51.5%)	16(48.5%)	
	Disagree	25(56.8%)	19(43.2%)	
Main obstacles to obtaining FANC services is money	Agree	134(62.6%)	80(37.4%)	χ^2=1.937, df=2, p=0.380
	Neutral	24(54.5%)	20(45.5%)	
	Disagree	44(67.7%)	21(32.3%)	
Lack of privacy in the FANC clinic	Agree	55(56.1%)	43(43.9%)	χ^2=4.085, df=2, p=0.130
	Neutral	64(61.0%)	41(39.0%)	
	Disagree	83(69.2%)	37(30.8%)	
	Agree	91(54.2%)	77(45.8%)	

Uneasy waiting in such a huge line at the FANC clinic	Neutral	49(81.7%)	11(18.3%)	**χ^2=14.698, df=2, p=0.0001**
	Disagree	62(65.3%)	33(34.7%)	
Skip some of the clinics because of the FANC clinic's staffing shortage	Agree	48(37.2%)	81(62.8%)	**χ^2=69.812, df=2, p=0.0001**
	Neutral	22(56.4%)	17(43.6%)	
	Disagree	132(85.2%)	23(14.8%)	

Many of the women in the various groups identified four primary obstacles to attending a health facility for FANC. These were HIV testing, attitudes of clinic personnel, which were associated with another barrier, long clinic waiting times, and cost. Participants also discussed the dread of others (rather than their own) of discovering their HIV status, despite the fact that some women considered it significant to be aware of their status. This appeared to be partially due to an apprehension of not wanting to disclose their HIV status or having others discover it.

'And there are some people who if they hear about VCT they would rather die even if they are positive. They would die without taking the drugs' (FGD 2).

'*If you tell her that you have given birth to eight kids, she would quarrel you and ask you if you still intend to give birth to more children. And maybe some of the children that she is talking about some had died. So, you come from the clinic upset.'* (FGD 7).

They were also deemed to have an unprofessional attitude, preferring to chat amongst themselves rather than working, which contributed to their habit of keeping the women waiting. Much criticism was levelled at long clinic waiting times, which was weighed up against the other duties that women had to attend to, a significant reason for non-repeat attendance at clinic.

'You can stay in the [ANC] clinic for maybe two hours while critically sick and there is nobody to attend to you. When the nurse comes, she would be harsh. So those are the problems we experience' (FGD 5).

This view was not however held by all; a couple of women when asked specifically, refuted this, reporting that they received care in good time, and did not spend a lengthy time at

clinic. Cost of ANC services was also a barrier preventing some women from attending ANC, either at all, or for repeat visits. However, costs mounted up particularly if tests were needed, and this had the effect of either preventing women from attending ANC at all, or making them visit as late as possible in their pregnancy so that they only needed to attend just once to check that there were no problems. This was also mentioned as a reason to visit a TBA whom the women can pay in commodities or in instalments.

'What I would say about the cost is that at times I am already 3 months pregnant and should be going to the clinic and I am supposed to pay 100/-, how I am going to get this 100/- I will not be able because at times I have children and that is what they are going to feed on so I am going to keep postponing that I will go next time if I get, yet there is no any other day that you will get it ready.' (FGD 10).

"You can stay in the [ANC] clinic for as long as three hours waiting for the nurse to come, when the she finally comes, she would be harsh and if you tell her that you have given birth to seven kids, she would be mad and sometimes you have lost some of the children she is talking about to other calamities, so you get disappointed with the services and come out of the clinic upset (FGD 4).

Distance to health facilities and lack of transport was cited in all FGDs as obstacles to delivering at a health facility. The timing and the unpredictability of the onset of labour, combined with distance to health facilities, played a critical role in determining where women deliver.

'It depends, if the hospital is close then you go to the hospital (to deliver) and if the TBA's places are close then it is the TBA' (FGD 3).

'Getting a means at night to take you to the hospital may be a bit difficult; this will make you to go to a TBA' (FGD 7).

4.5 Mothers Cues to Action Towards Uptake of FANC

The interviewees who agreed to attend recommended FANC services to identify pregnancy issues early on were 72(62.6%). Most of the respondents agreed it's crucial to stay healthy

throughout pregnancy 74(66.7%), utilize FANC to learn new things on health while I'm pregnant 71(68.9%), know importance of getting frequent check-ups during pregnancy 77(69.4%), and due to previous pregnancy challenges, I attended FANC during recent pregnancy 108(75.5%) utilized recommended FANC services. Further analysis showed that respondents who agreed to attend recommended FANC services to identify pregnancy issues early on, it's crucial to stay healthy throughout pregnancy, utilize FANC to learn new things on health while I'm pregnant, know importance of getting frequent check-ups during pregnancy, and due to previous pregnancy challenges, I attended FANC during recent pregnancy were 3.5, 3.1, 4.98, 5.8, and 5.0 times more likely to utilize FANC services (Table 4.8).

Among the respondents, there was a statistically significant association between respondents who agreed to attend recommended FANC services to identify pregnancy issues early on (OR=3.534; 95% CI=1.123-11.117; p= 0.031), it's crucial to stay healthy throughout pregnancy (OR=3.186; 95% CI=0.541-9.648; p= 0.044), utilize FANC to learn new things on health while I'm pregnant (OR=4.985; 95% CI=0.099-10.370; p= 0.028),

know importance of getting frequent check-ups during pregnancy (OR=5.810, 95% CI=1.921-16.674, p= 0.017), and due to previous pregnancy challenges, I attended FANC during recent pregnancy (OR=5.011, 95%CI=0.001-10.210, p= 0.003) with uptake of recommended FANC services (Table 4.8).

Table 4. 8: Mothers Cues to Action Towards Uptake Of FANC

Variables		FANC		OR	95%CI	p-value
		Four visits	< Four visits			
I want to identify pregnancy issues early on	Agree	72(62.6%)	43(37.4%)	3.534	1.123-11.117	**0.031**
	Neutral	68(62.4%)	41(37.6%)	1.722	0.503-5.890	0.387
	Disagree	62(62.6%)	37(37.4%)	Ref		
Its crucial to stay healthy throughout pregnancy	Agree	74(66.7%)	37(33.3%)	3.186	0.541-9.648	**0.044**
	Neutral	62(57.4%)	46(42.6%)	0.697	0.182-2.667	0.058
	Disagree	66(63.5%)	38(36.5%)	Ref		
Utilize FANC to learn new things on health while I'm pregnant	Agree	71(68.9%)	32(31.1%)	4.985	0.099-10.370	**0.028**
	Neutral	76(59.8%)	51(40.2%)	3.641	1.067-8.972	**0.039**
	Disagree	55(59.1%)	38(40.9%)	Ref		
Its critical to engage in pregnancy-related activities	Agree	60(61.2%)	38(38.8%)	1.598	0.469-5.447	0.454
	Neutral	82(65.6%)	43(34.4%)	2.158	0.664-7.012	0.201
	Disagree	60(60.0%)	40(40.0%)	Ref		
Go to FANC clinic to learn about dietary choices	Agree	82(66.1%)	42(33.9%)	1.851	0.603-5.677	0.282
	Neutral	58(56.3%)	45(43.7%)	0.702	0.218-2.254	0.552
	Disagree	62(64.6%)	34(35.4%)	Ref		
Know importance of getting frequent checkups during pregnancy	Agree	77(69.4%)	34(30.6%)	5.810	1.921-16.674	**0.017**
	Neutral	64(58.2%)	46(41.8%)	0.889	0.474-7.526	0.367
	Disagree	61(59.8%)	41(40.2%)	Ref		
The media has highlighted the importance of IFAS for a healthy pregnancy	Agree	71(62.8%)	42(37.2%)	2.836	0.206-12.557	0.162
	Neutral	67(63.8%)	38(36.2%)	1.655	0.138-2.801	0.239
	Disagree	64(61.0%)	41(39%)	Ref		
Began FANC clinics after hearing from friends or family that they are crucial	Agree	71(67.0%)	35(33.0%)	2.020	0.666-6.735	0.152
	Neutral	55(53.9%)	47(46.1%)	1.022	0.551-7.345	0.170
	Disagree	76(66.1%)	39(33.9%)	Ref		
Due to previous pregnancy challenges, I attended	Agree	108(75.5%)	35(24.5%)	5.011	0.001-10.210	**0.003**
	Neutral	62(59.6%)	42(40.4%)	3.200	0.734-6.754	0.094

FANC during my recent pregnancy.	Disagree	32(42.1%)	44(57.9%)	Ref		
Unlike my close family or acquaintance, I did not experience pregnancy complications while attending FANC clinics.	Agree	62(56.9%)	47(43.1%)	2.232	0.582-8.565	0.242
	Neutral	79(65.3%)	42(34.7%)	0.623	0.077-5.921	0.657
	Disagree	61(65.6%)	32(34.4%)	Ref		

Similarly, Sendo et al. (2020) discovered that women with a history of obstetric difficulties were more likely to use FANC services. In a study conducted at Goroka Hospital in New Guinea, 65% of the study participants attended focused antenatal care to receive information about the health of their unborn child, 60% attended FANC to receive medical and nutritional supplements, and another 60% attended general antenatal care to discover any illness in themselves (Sema et al., 2020). Another study conducted in Zambia on FANC use found that the content of FANC is a major factor of use, and that enhancing the content and quality of treatment provided could boost overall FANC service use (Sendo et al., 2023). Prenatal care is more likely to be beneficial if women start receiving it in the first trimester and continue to get it throughout the pregnancy (Warri & George, 2020). However, much effort remains to be done to ensure maternal health for women everywhere. To reduce life-threatening hazards and death, qualified health workers must provide and use high-quality maternal health services. As a result, safe motherhood methods must be comprehensive; even when effective health services are accessible, women may be unable to use them due to social, economic, and cultural barriers (WHO, 2015).

Malindi and Magarini sub-counties have carried out FANC operations in accordance with national requirements. However, the first and second visits are highly successful (90% and 80%, respectively), but the third and fourth visits are only 50% and 35.2%, respectively

(Chorongo, 2016). Various reasons have been identified for mothers starting clinics late and failing to complete the four ANC visits, despite efforts to improve health education. This calls for further investigation into the underlying causes of late prenatal attendance and insufficient use of the services provided during FANC.

4.6 Maternal Self-Efficacy Levels Regarding the Adoption of FANC

The extent of uptake of recommended FANC services was higher 163(68.2%) among respondents who knew there are four FANC clinics that must be attended during pregnancy, and respondents who were sure they can make it to all of the FANC visits that are necessary 159(66.5%). Additionally, 153(65.4%), 164(73.2%), and 173(77.2%) of respondents who agreed they had faith that they can get past such obstacles in order to get FANC services during my pregnancy, the advantages of receiving FANC are thought to exceed the drawbacks of doing so, and by the end of the antenatal period, they had received all of the services listed in table four respectively.

The findings further revealed that awareness of four FANC clinics that must be attended during pregnancy (χ^2=13.483; df=2, p=0.001), sure they can make it to all of the FANC visits that are necessary (χ^2=8.085; df=2, p=0.018), having faith that they can get past such obstacles in order to get FANC services during my pregnancy (χ^2=6.360; df=2, p=0.042), the advantages of receiving FANC are thought to exceed the drawbacks of doing so (χ^2=40.202; df=2, p=0.0001), and by the end of the antenatal period, they had received all of the services listed in table four (χ^2=81.710; df=2, p=0.0001) were significantly associated with the uptake of recommended FANC services (Table 4.9).

Table 4. 9: Maternal Self-Efficacy Levels Regarding the Adoption of FANC

Variables		FANC		Statistics
		Four visits	< Four visits	
Aware four FANC clinics that must be attended during pregnancy	Agree	163(68.2%)	76(31.8%)	**χ^2=13.483; df=2, p=0.001**
	Neutral	23(51.1%)	22(48.9%)	
	Disagree	16(41.0%)	23(59.0%)	
I can make it to all of the FANC visits that are necessary	Agree	159(66.5%)	80(33.5%)	**χ^2=8.085; df=2, p=0.018**
	Neutral	24(58.5%)	17(41.5%)	
	Disagree	19(44.2%)	24(55.8%)	
I plan to attend every FANC visit during my upcoming pregnancies	Agree	176(65.4%)	93(34.6%)	χ^2=5.771; df=2, p=0.056
	Neutral	17(47.2%)	19(52.8%)	
	Disagree	9(50.0%)	9(50.0%)	
I am aware of the warning indicators to look out for when pregnant	Agree	159(62.4%)	96(37.6%)	χ^2=0.081; df=2, p=0.960
	Neutral	22(64.7%)	12(35.3%)	
	Disagree	21(61.8%)	13(38.2%)	
I can make a plan for preparing for my own birth	Agree	154(64.7%)	84(35.3%)	χ^2=3.125; df=2, p=0.210
	Neutral	24(51.1%)	23(48.9%)	
	Disagree	24(63.2%)	14(36.8%)	
I am certain of the services I require at the FANC clinic in order to have a healthy pregnancy and a successful pregnancy result	Agree	130(64.4%)	72(35.6%)	χ^2=3.711; df=2, p=0.156
	Neutral	45(66.2%)	23(33.8%)	
	Disagree	27(50.9%)	26(49.1%)	
Regarding the dates and times of the FANC visits, I am positive	Agree	137(62.8%)	81(37.2%)	χ^2=3.253; df=2, p=0.197
	Neutral	34(54.8%)	28(45.2%)	
	Disagree	31(72.1%)	12(27.9%)	
I have faith that I can get past such obstacles in order to get FANC services during my pregnancy	Agree	153(65.4%)	81(34.6%)	**χ^2=6.360; df=2, p=0.042**
	Neutral	29(64.4%)	16(35.6%)	
	Disagree	20(45.5%)	24(54.5%)	
The advantages of receiving FANC are thought to exceed the drawbacks of doing so	Agree	164(73.2%)	60(26.8%)	**χ^2=40.202; df=2, p=0.0001**
	Neutral	24(49.0%)	25(51.0%)	
	Disagree	14(28.0%)	36(72.0%)	
I am able to distinguish between genuine labor pains and fake labor.	Agree	123(58.0%)	89(42.0%)	χ^2=5.758; df=2, p=0.056
	Neutral	40(74.1%)	14(25.9%)	
	Disagree	39(68.4%)	18(31.6%)	
	Agree	173(77.2%)	51(22.8%)	

By the end of the antenatal period, I had received all of the services listed in table four (attached).	Neutral	21(51.2%)	20(48.8%)	**χ^2=81.710; df=2, p=0.0001**
	Disagree	8(13.8%)	50(86.2%)	
I was quite pleased with all of the services mentioned above.	Agree	112(59.9%)	75(40.1%)	χ^2=1.552; df=2, p=0.460
	Neutral	47(68.1%)	22(31.9%)	
	Disagree	43(64.2%)	24(35.8%)	

'Sometimes the labour pain may begin when you are with your spouse and you tell him to accompany you to the hospital since you can't walk on foot. He will respond that he is busy and moreover he doesn't have money to take you to the hospital. This will force you to deliver at home because even if you go to the hospital, he says that he warned you not to go there because he has no money'. (FGD 2).

A study by Moller et al., (2019) indicated that focused prenatal Care (FANC) is a new goal-oriented prenatal clinic attendance model proposed by WHO that reduces the number of required antenatal visits to four and provides focused treatments to improve maternal outcomes. It is not just a plan, but also an important factor in ensuring safe delivery. It enables women to be educated to detect and act on symptoms related with potentially catastrophic illnesses such as pre-eclampsia, malaria infection, and obstructed labour as a strategy for decreasing maternal death. The World Health Organization recommends that women without difficulties have at least four visits for adequate prenatal care. A study conducted in Cameroon by Sindiani et al., (2020) found that women who had previously attended prenatal check-ups believed it was helpful to begin ANC early in pregnancy, as opposed to those who had not and chose third trimester enrolment.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The present section provides a summary and conclusion of the investigation. The text presents several policy recommendations. The initial component pertains to a succinct overview of the results obtained from the investigation, while the subsequent segment presents the final deductions drawn from the study. Ultimately, the concluding segment offers suggestions derived from the results of the subject matter.

5.2 Summary

5.2.1 Uptake of FANC Services Among Pregnant Women

The study revealed that 202 (62.5%) had four or more ANC visits with 5 (1.5%) and 85 (26.3%) had one and three visits respectively. This coverage was much higher than the average coverage of 58% according to the Ochako and Gichuhi (2016) but was below WHO recommended target of 90%. The high coverage in the county could be attributed to the deliberate effort by the county to prioritize health, especially the maternal health.

The utilization of WHO recommended four FANC services reduced with increase in respondents age from 39(65.0%) to 38(60.3%) among respondents 20 years and below and above 40 years respectively. Uptake of FANC services was higher among married 125(67.6%), respondents affiliated to Christianity faith 47(70.1%), formally employed 176(63.8%), and with between 1-2 births 66(67.3%), further, marital status (χ^2=4.674, df=1, p=0.031) and level of education (χ^2=19.096, df=3, p=0.0001) were significantly associated with uptake of FANC services. This concurs with a study by Mwanza (2015) that found a statistically important factors in the findings included education, income, age, residence, and parity. The relationship between marital status and religion with the

frequency of ANC visits during pregnancy in Makueni County was found to be statistically insignificant. This contradicts the results reported by Srijana et al. (2014). The findings indicated that women who were enrolled in secondary education and participated in ANC visits had a tenfold increase in the likelihood (Gitonga et al., 2017; Kimani et al., 2017). those who had four or more children were less inclined to have four antenatal care (ANC) visits compared to those with one to two children, three children, or less. This outcome is similar to the one obtained in a study conducted by Gitonga et al (2017). In Ido Ekiti, Nigeria, a survey was done by Ahinkorah et al., (2022) where 50.2% of the participants had a tertiary degree of education. The study found that 95% of the participants were aware of FANC. This indicates that pursuing higher education can enhance women's understanding and familiarity with the utilization of ANC services and its repercussions, empowering them to make well-informed choices regarding their healthcare. Moreover, there is a correlation between higher education and a greater understanding of obstetric problems, leading to better utilization of antenatal care (ANC) services (Obse & Ataguba, 2021). The study also discovered that health conversations conducted during antenatal visits were the primary means by which information on FANC was obtained. This discovery has the potential to be valuable in creating focused treatments aimed at enhancing the understanding and consciousness of FANC among expectant mothers, especially those with limited educational attainment. This may involve supplying health education resources and conducting training sessions for healthcare professionals to ensure the provision of precise and current information during prenatal appointments.

5.2.2 Perceptions of Pregnancy, Labour and Post-Partum Complications

The study found that most respondents, including 103, 65.6%, and 107, disagreed about potential pregnancy challenges, but acknowledged the likelihood of childbirth and postpartum issues. They also expressed concerns about adverse pregnancy outcomes and the potential for complications if they didn't receive FANC services. However, these variables were not significantly associated with FANC uptake. In the United States, Bridges, (2020) found that African American women had greater rates of maternal morbidity, postpartum problems, and maternal mortality than white women. The total maternal mortality rate (MMR) in the United States is only increasing, with about "seven hundred pregnant women dying every year". However, according to data, African American women are three to four times more likely to die from postpartum problems and twice as likely to have severe maternal morbidity (SMM; Wang et al., 2020). Although several chronic medical issues (e.g., diabetes, heart disease, and asthma) may contribute to this considerable imbalance, African American women's experiences and treatment inequalities in the healthcare profession deserve special attention. Many African American women report feelings of neglect, miscommunication, and distrust of their caregivers prior to, during, and after childbirth (Wang et al., 2020).

The study revealed that most of respondents utilized recommended four FANC services were neutral that challenges they might face during pregnancy and delivery would have long-lasting effects 25(65.8%) and fear the pregnancy would not progress to full term 50(71.4%). Additionally, 130(64.7%), 64(67.4%), and 161(65.2%) of respondents disagreed that pregnancy complications could strain their relationship with their partner, pregnancy-related issues could result in permanent life changes, and scared of their baby

would not survive the pressure that comes with labour and delivery utilized recommended four FANC services respectively. However, these variables were not significantly associated with uptake of FANC services. Similarly, Wang et al., (2020) found that some women report that the lack of private insurance has resulted in a shift in their maternity care, with clinicians communicating less and paying less attention. Such adjustments may also be linked to medical personnel' beliefs about pain thresholds and biological abnormalities. According to Hoffman and others, many medical students assume that African Americans are naturally stronger. Biases like these can have an impact on the quality of care that patients receive, as well as their chances of survival in medical emergencies, particularly those that occur after delivery. The issue of high maternal mortality is fueled, at least in part, by a lack of access to excellent maternal health services such as antenatal, delivery, and postnatal care Nyangena (2020). The proper use of focused antenatal care (FANC) services can improve maternal health. The push to adopt a prenatal care paradigm known as FANC stemmed from a desire to improve the inadequate implementation of traditional antenatal care (ANC) in underdeveloped nations.

5.2.3 Cues to Action of Mothers Associated with the Uptake of FANC services

The study revealed that 62.6% of respondents agreed to attend recommended FANC services to identify pregnancy issues early, 66.7% agreed it's crucial to stay healthy, 68.9% used FANC to learn about health, 69.4% knew the importance of frequent check-ups, and 75.5% used FANC services due to previous pregnancy challenges. Ahmadinia et al., (2023) affect a woman's participation in FANC. These cues can be internal (e.g., persistent headache in hypertensive women, dizziness in anemic mothers) or external (e.g., advise from others, past negative pregnancy outcome, newspaper item). For example, Sendo et al.

(2020) discovered that women with a history of obstetric difficulties were more likely to use FANC services. In a study conducted at Goroka Hospital in New Guinea, 65% of the study participants attended focused antenatal care to receive information about the health of their unborn child, 60% attended FANC to receive medical and nutritional supplements, and another 60% attended general antenatal care to discover any illness in themselves (Sema et al., 2020). Another study conducted in Zambia on FANC use found that the content of FANC is a major factor of use, and that enhancing the content and quality of treatment provided could boost overall FANC service use (Sendo et al., 2023). WHO suggested the Focused Antenatal Care (FANC) package, which encourages the implementation of interventions to address the most common health concerns impacting pregnant women and babies (Birungi and Onyango-Ouma, 2006). The Kenya Ministry of Health (MOH) has developed new standards for FANC services, emphasizing four ANC visits centered on antenatal care, birth planning, and emergency readiness. These visits now serve as a gateway to additional reproductive health care, encouraging comprehensive, integrated service delivery (Chorongo, 2016). Various reasons have been identified for mothers starting clinics late and failing to complete the four ANC visits, despite efforts to improve health education. This calls for further investigation into the underlying causes of late prenatal attendance and insufficient use of the services provided during FANC.

5.3 Conclusions

The study found that 68.7% of pregnant women had ANC visits between 0-16 weeks, with 62.5% having four or more visits. WHO recommended four FANC services usage decreased with age, but was higher among married, Christian, formally employed, and

those with 1-2 births. Further, marital status and level of education were significantly associated with uptake of FANC services.

The study reveals that while various factors related to perceived benefits and experiences with FANC (Focused Antenatal Care) services significantly influence their uptake, logistical challenges such as travel distance, poor terrain, and staffing shortages also play a critical role in affecting whether individuals utilize these services. Respondents who recognize the benefits of FANC services, such as enhanced well-being, reduced pregnancy-related worries, and access to a range of services, are more likely to utilize them. However, practical barriers like travel difficulties and clinic-related issues remain significant obstacles to accessing FANC services.

The study found that 62.6% of respondents agreed to attend recommended FANC services to identify pregnancy issues early on. Most respondents also agreed that it's crucial to stay healthy throughout pregnancy, utilize FANC to learn new health information, know the importance of frequent check-ups, and have attended FANC during recent pregnancy. The uptake of recommended FANC services was significantly associated with these factors. The extent of uptake was higher among respondents who knew the four FANC clinics needed to attend during pregnancy, were sure they could make all necessary visits, had faith in their ability to overcome obstacles, and had received all of the services listed in table four by the end of the antenatal period.

5.4 Recommendations

To increase the uptake of the FANC, the study shows there is need to

1. It is recommended that the Bungoma county health team; hospital administrators and other stakeholders organize regular ANC Outreaches in the community every quarter to enhance the skills and knowledge of mothers through capacity building and health education. To ensure effective follow-up, it is advisable to establish a systematic approach by appointing delivery champions in each community to support healthcare workers in their follow-up efforts. It is advisable to employ more affordable methods of showing gratitude in order to ensure continuity.
2. The county government health team and health partners in the area should increase awareness through health education to sensitize women on the importance of ANC service utilization through the use of community health workers at the community level to track women and link them to the facilities. This should be done through training community health workers to track and educate pregnant women on FANC, partnering with NGOs like Amref and Marie Stopes for support. Mobile clinics will serve remote areas, while community forums and media campaigns raise awareness. Regular monitoring ensures effectiveness and continuous improvement of sensitization efforts. Further, the governments and relevant NGOs should try to come up with mobile clinics to offer FANC services to far places where they are not easily accessible, therefore, the Ministry of Health should equip the community health workers with relevant information to create awareness on importance of ANC services in reducing pregnancy related deaths in the districts.
3. There is need for the county government, Ministry of Health and professional bodies to adopt group ANC Concept where women are grouped into same groups according to their trimesters and seen as a group, the group ANC model has three

steps; first one clinical assessment, second participatory facilitated learning and third peer support. This way it will reduce waiting time, improve staff attitude and motivates pregnant women. Services offered by the CHW and HCW should be integrated into one package since all three have similar interest to the pregnant mother and all want a safe delivery for the mother and delivery to be done by all in the facility.

5.5 Recommendation for Further Study

For comparison, the same study needs to be replicated in counties with similar characteristic in term of demographic to highlight the uptake of FANC services.

A study on perceptions of women towards FANC to delve deeper into the hindrances that leads to the trends depicted within the age group

REFERENCES

Abdurahman, H. (2021). Health Professionals Intention to Leave the Organization and Associated Factors in Public Health Facilities of Pastoralist Area; Fafan Zone, Eastern Ethiopia (Doctoral dissertation, Haramaya university).

Adeniyi F. and Erhabor S. (2015). Barriers to antenatal care use in Nigeria: evidences from non-users and implications for maternal health programming.

Adoma, P. O. (2019). *Management and coping strategies of hypertensive patients seeking treatment at Brong Ahafo Regional hospital, Sunyani* (Doctoral dissertation, University of Cape Coast).

Afulani, P. A., Buback, L., Essandoh, F., Kinyua, J., Kirumbi, L., & Cohen, C. R. (2019). Quality of antenatal care and associated factors in a rural county in Kenya: an assessment of service provision and experience dimensions. *BMC health services research*, *19*(1), 1-16.

Ahinkorah, D. A., Ehizibue, P., Ekele, I. N., Ekennia-Ebeh, J., Ibrahim, A., & Ikegwuonu, O. (2022). Antenatal-care knowledge among women of reproductive age group in Ido Ekiti, Nigeria. AJOG Global Reports, 2, Article 100073. https://doi.org/10.1016/j.xagr.2022.100073

Ahmadinia, H., Eriksson-Backa, K., Heinström, J., & Nikou, S. (2023). Cues to taking health action among people with asylum-seeking background—Findings from Norway and Finland.

Alam, A. (2022, March). Educational robotics and computer programming in early childhood education: a conceptual framework for assessing elementary school students' computational thinking for designing powerful educational scenarios. In *2022 International Conference on Smart Technologies and Systems for Next Generation Computing (ICSTSN)* (pp. 1-7). IEEE. Avila, W. S., Alexandre, E. R. G., Castro, M. L. D., Lucena, A. J. G. D.,

Alex, T. S. (2020). Assessing The Factors Affecting the Utilization of Focused Antenatal Care Among Pregnant Women in Lainya County, Central Equatoria State-South Sudan.

Alibhai, K. M., Ziegler, B. R., Meddings, L., Batung, E., & Luginaah, I. (2022). Factors impacting antenatal care utilization: a systematic review of 37 fragile and conflict-affected situations. *Conflict and Health*, *16*(1), 1-16.

Anderson, J. R., & Chen, G. (Eds.). (2022). *Global Women's Health, An Issue of Obstetrics and Gynecology Clinics, E-Book* (Vol. 49, No. 4). Elsevier Health Sciences.

Asratie, M. H., Tesema, G. A., Chilot, D., Aragaw, F. M., Merid, M. W., & Belay, D. G. (2023). Socio-demographic and antenatal care-related factors associated with early post-partum family planning use in Ethiopia: evidence from Ethiopian Demographic and Health Survey 2016 data. *Frontiers in Global Women's Health*, *4*.

Ayiasi, R. M., Kasasa, S., Criel, B., Orach, C. G., & Kolsteren, P. (2014). Adherence to four antenatal care visits and newborn care practices among lactating mothers in

rural Uganda. Aarnio P, Olsson P and Chimbiri A, Kulmala T (2004). Male involvement in antenatal HIV counseling and testing: exploring men's perceptions in rural Malawi.

Begum N,Rahman M,Nayan S,Zinia S and Khan Z. (2014). Utilization of Antenatal care Services in a selected Rural area in Bangladesh.

Bossman, E. (2019). The post-2015 development agenda: progress towards sustainable development goal target on maternal mortality and child mortality in limited resource settings with mHealth interventions: a systematic review in Sub-Saharan Africa and Southern Asia (Master's thesis, UiT Norges arktiske universitet).

Bourbonnais, N. (2013). Implementing free maternal health care in Kenya: challenges, strategies and recommendations.

Bridges, K. M. (2020). Racial disparities in maternal mortality. New York University Law Review, 95(5), 1229-1318.

Brown, L. K., DiClemente, R. J., & Park, T. (1992). Predictors of condom use in sexually active adolescents. Journal of Adolescent Health, 13(8), 651-657.

Callixte Y, George B, Rebero S. (2017). Barriers to Antenatal Care Services Seeking in Africa.

Cao, Z. J., Chen, Y. and Wang, S. M. 2014. Health belief model-based evaluation of school health education programme for injury prevention among high school students in the community context. BMC Public Health, 14, 26. doi:10.1186/1471-2458-14-26.

Chama. (2015). Utilization of focused antenatal care in Zambia: examining individual-and community-level factors using a multilevel analysis. Health policy and planning, 30(1), 78-87.

Chan, G. J., Goddard, F. G., Hunegnaw, B. M., Mohammed, Y., Hunegnaw, M., Haneuse, S., ... & Bekele, D. (2022). Estimates of stillbirths, neonatal mortality, and medically vulnerable live births in Amhara, Ethiopia. *JAMA Network Open*, *5*(6), e2218534-e2218534.

Chevance, A., Gourion, D., Hoertel, N., Llorca, P. M., Thomas, P., Bocher, R., ... & Gaillard, R. (2020). Ensuring mental health care during the SARS-CoV-2 epidemic in France: A narrative review. *L'encephale*, *46*(3), 193-201.

Chorongo, D., Okinda, F. M., Kariuki, E. J., Mulewa, E., Ibinda, F., Muhula, S., & Muga, R. (2016). Factors influencing the utilization of focused antenatal care services in Malindi and Magarini sub-counties of Kilifi county, Kenya. *The Pan African Medical Journal*, *25*(Suppl 2).

Ciobanu, A., Khan, N., Syngelaki, A., Akolekar, R., & Nicolaides, K. H. (2019). Routine ultrasound at 32 vs 36 weeks' gestation: prediction of small-for-gestational-age neonates. *Ultrasound in Obstetrics & Gynecology*, *53*(6), 761-768.

Clark, H., Coll-Seck, A. M., Banerjee, A., Peterson, S., Dalglish, S. L., Ameratunga, S., ... & Costello, A. (2020). A future for the world's children? A WHO–UNICEF–Lancet Commission. *The Lancet*, *395*(10224), 605-658.

Dude, A. M., Schueler, K., Schumm, L. P., Murugesan, M., & Stulberg, D. B. (2022). Preconception care and severe maternal morbidity in the United States. *American journal of obstetrics & gynecology MFM*, *4*(2), 100549.

Eshete, A., & Abiy, S. (2020). When do newborns die? Timing and cause-specific neonatal death in neonatal intensive care unit at referral hospital in Gedeo Zone: a Prospective Cohort Study. *International journal of pediatrics*, *2020*, 1-8.

Geltore, T. E., & Anore, D. L. (2021). The impact of antenatal care in maternal and perinatal health. *Empowering Midwives and Obstetric Nurses*, *107*.

Haruna, U., Dandeebo, G., & Galaa, S. Z. (2019). Improving access and utilization of maternal healthcare services through focused antenatal care in rural Ghana: a qualitative study. *Advances in Public Health*, *2019*.

Hazaha, H. S., Ismail, T. A. T., Ghazali, A. K., Daud, A., & Sulaiman, Z. (2023). Development and validation of an educational module on intimate partner violence for young adults. *IIUM Medical Journal Malaysia*, *22*(3).

Kiani, M. A., Ghazanfarpour, M., & Saeidi, M. (2019). Adolescent pregnancy: a health challenge. *International Journal of Pediatrics*, *7*(7), 9749-9752.

Kisiangani, I., Elmi, M., Bakibinga, P., Mohamed, S. F., Kisia, L., Kibe, P. M., ... & Ziraba, A. K. (2020). Persistent barriers to the use of maternal, newborn and child health services in Garissa sub-county, Kenya: a qualitative study. *BMC pregnancy and childbirth*, *20*, 1-12.

KNBS, M., KEMRI, NACC and NCPD. (2014). Kenya Demographic and Health Survey (2014 KDHS).

Koch, C. M. C.-C. a. S. F. (2013). Utilization of focused antenatal care in Zambia: examining individual- and community-level factors using a multilevel analysis.

Konlan, K. D., Saah, J. A., Amoah, R. M., Doat, A. R., Mohammed, I., Abdulai, J. A., & Konlan, K. D. (2020). Factors influencing the utilization of Focused antenatal care services during pregnancy, a study among postnatal women in a tertiary healthcare facility, Ghana. *Nursing Open*, *7*(6), 1822-1832.

Konlan, K. D., Saah, J. A., Amoah, R. M., Doat, A. R., Mohammed, I., Abdulai, J. A., & Konlan, K. D. (2020). Factors influencing the utilization of Focused antenatal care services during pregnancy, a study among postnatal women in a tertiary healthcare facility, Ghana. *Nursing Open*, *7*(6), 1822-1832.

Kyakimwa, M. (2023). Evaluation of Antenatal Clinic among Post-Natal women at Bwera Hospital, Uganda. *INOSR Experimental Sciences*, *11*(1), 77-86.

Liu, D. (2014). Determinants of Infant Mortality in Kenya-Analysis of Kenya DHS 2003 and 2008/9.

Liu, J., Li, H., Xie, Y., Zhao, Y., Zhao, Q., Xiao, M., ... & Huang, H. (2023). Acquisition behaviours for nutrition-related information based on a health promotion model for older adults in a long-term care facility. *Nursing Open*.

Maghraby, R. A., Elgibaly, O., & El-Gazzar, A. F. (2020). Workplace sexual harassment among nurses of a university hospital in Egypt. *Sexual & Reproductive Healthcare*, *25*, 100519.

Marques-Santos, C., Freire, C. M. V., ... & Leal, T. D. C. A. T. (2020). Brazilian Cardiology Society statement for management of pregnancy and family planning in women with heart disease–2020. *Arquivos Brasileiros de Cardiologia*, *114*, 849-942.

Mbai, C. (2015). Factors influencing the utilization of antenatal care services among reproductive women: a case of Kibera, Nairobi County, Kenya.

Mchenga, M., Burger, R., & Von Fintel, D. (2019). Examining the impact of WHO's Focused Antenatal Care policy on early access, underutilization and quality of antenatal care services in Malawi: a retrospective study. *BMC health services research*, *19*, 1-14.

Mgbekem, M. A., Nsemo, A. D., Daufa, C. F., Ojong, I. N., Nwakwue, N., & Andrew-Bassey, P. (2020). Nurses' Role in Birth Preparedness and Complication Readiness among Pregnant Women in University of Calabar Teaching Hospital, Calabar. *Health*, *12*(02), 71.

Moller, A. B., Patten, J. H., Hanson, C., Morgan, A., Say, L., Diaz, T., & Moran, A. C. (2019). Monitoring maternal and newborn health outcomes globally: a brief history of key events and initiatives. *Tropical medicine & international health*, *24*(12), 1342-1368.

Murang'a County Health Department. (2019). Utilization of focused antenatal care among expectant women in Murang'a County, Kenya. *Pan African Medical Journal, 33*(162). https://www.ajol.info/index.php/pamj/article/view/217368

Nasir, S. I., Amarasekara, S., Wickremasinghe, R., Fernando, D., & Udagama, P. (2020). Prevention of re-establishment of malaria: historical perspective and future prospects. *Malaria journal*, *19*, 1-16.

Nassaji, H. (2020). Good qualitative research. *Language Teaching Research*, *24*(4), 427-431.

Nduati, J. N. (2023). *Factors Associated with Severe Maternal Morbidity at Kenyatta National Hospital* (Doctoral dissertation, JKUAT-COHES).

Ngowi, A. F., Mkuwa, S., & Shirima, L. (2023). Determinants of focused antenatal care utilization among women in Simiyu Region. *SAGE Open Nursing, 9*. https://doi.org/10.1177/23779608231170728

Nisbett, N., & Tranchant, J. P. (2020). Bangladesh Initiative to Enhance Nutrition Security and Governance (BIeNGS): Baseline Report.

Nwankwo, S. N., & Ogbalu, A. I. (2020). Prospects and problems of adoption of focused antenatal care (FANC) by pregnant mothers attending antenatal clinics in Anambra State, Southeast Nigeria. *International Journal of Health and Social Inquiry*, *6*(1).

Nyangena, M. D. (2020). Influence Of Provision of Free Maternal Health Care Program on Maternal Mortality Rates in Kisii County, Kenya (Doctoral dissertation, University of Nairobi).

Obse, A. A., & Ataguba, J. E. (2021). The influence of women's education on antenatal care utilization and obstetric outcomes: Evidence from sub-Saharan Africa. *BMC Pregnancy and Childbirth, 21*(1), Article 123. https://doi.org/10.1186/s12884-021-03694-8

Orwa, J., Gatimu, S. M., Mantel, M., Luchters, S., Mugerwa, M. A., Brownie, S., ... & Temmerman, M. (2020). Birth preparedness and complication readiness among women of reproductive age in Kenya and Tanzania: a community-based cross-sectional survey. *BMC pregnancy and childbirth*, *20*, 1-9.

Ousman, S. K. (2023). Social Determinants and Maternal Health Care Utilization in Ethiopia: Risk and Protective Factors.

Presnell, A. (2022). Interpersonal and Social Rhythm Therapy for Perinatal Women at Risk for Bipolar Disorder.

Ran, Z. O. U., Zeb, S., Nisar, F., Yasmin, F., Poulova, P., & Haider, S. A. (2022). The impact of emotional intelligence on career decision-making difficulties and generalized self-efficacy among university students in China. *Psychology Research and Behavior Management*, 865-874.

Rosenfeld, L. G., Malta, D. C., Szwarcwald, C. L., Bacal, N. S., Cuder, M. A. M., Pereira, C. A., ... & Silva, J. B. D. (2019). Reference values for blood count laboratory tests in the Brazilian adult population, National Health Survey. *Revista Brasileira de Epidemiologia*, *22*.

Sarker, B. K., Rahman, M., Rahman, T., Rahman, T., Khalil, J. J., Hasan, M., ... & Rahman, A. (2020). Status of the WHO recommended timing and frequency of antenatal care visits in Northern Bangladesh. *Plos one, 15*(11), e0241185.

Say, L., Chou, D., Gemmill, A., TunÃ§alp, Ã. z., Moller, A.-B., Daniels, J., et al. (2014). Global causes of maternal death: a WHO systematic analysis. The Lancet Global Health, 2(6), e323-e333.

Sema, F. D., Addis, D. G., Melese, E. A., Nassa, D. D., & Kifle, Z. D. (2020). Prevalence and associated factors of self-medication among pregnant women on antenatal care follow-up at university of Gondar comprehensive specialized hospital in Gondar, Northwest Ethiopia: a cross-sectional study. *International journal of reproductive medicine*, *2020*.

Sendo, E. G., Chauke, M. E., & Ganga-Limando, M. (2020). Why some women who attend focused antenatal care fail to deliver in health facilities: a qualitative study of women's perspectives from slums of Addis Ababa, Ethiopia. *BMJ open*, *10*(12), e039189.

Sibiya M. Thembelihle S, Patience N and Thandeka J.B (2018). Access and utilisation of antenatal care services in a rural community of eThekwini district in KwaZulu-Natal.

Sindiani, A., Rawashdeh, H., Obeidat, N., & Zayed, F. (2020). Factors that influenced pregnant women with one previous caesarean section regarding their mode of delivery. *Annals of Medicine and Surgery*, *55*, 124-130.

Stenberg, K., Watts, R., Bertram, M. Y., Engesveen, K., Maliqi, B., Say, L., & Hutubessy, R. (2021). Cost-effectiveness of interventions to improve maternal, newborn and child health outcomes: a WHO-CHOICE analysis for Eastern sub-Saharan Africa and South-East Asia. *International journal of health policy and management*, *10*(11), 706.

Sui, Y., Ahuru, R. R., Huang, K., Anser, M. K., & Osabohien, R. (2021). Household socioeconomic status and antenatal care utilization among women in the reproductive-age. *Frontiers in public health*, *9*, 724337.

Tekelab, T., Chojenta, C., Smith, R., & Loxton, D. (2019). Factors affecting utilization of antenatal care in Ethiopia: a systematic review and meta-analysis. *PloS one*, *14*(4), e0214848.

Tolera, H., Gebre-Egziabher, T., & Kloos, H. (2020). Using Andersen's behavioral model of health care utilization in a decentralized program to examine the use of antenatal care in rural western Ethiopia. *PloS one*, *15*(1), e0228282.

Tufa, G., Tsegaye, R., & Seyoum, D. (2020). Factors associated with timely antenatal care booking among pregnant women in remote area of bule hora district, southern Ethiopia. *International Journal of Women's Health*, 657-666.

UNFPA, U. N. P. F. K. C. o. (2019). Kenya Population Situation Analysis.

UNICEF, (2008) Progress for Children, A World Fit for Children Statistical Review, 2007, New York, December 2007.

UNICEF, (2015) Annual report Kenya.

United Nations Children's Fund. (2019). Healthy Mothers, Healthy Babies: taking stock of maternal health.

Wairoto, K. G., Joseph, N. K., & Macharia, P. M. (2020). Determinants of subnational disparities in antenatal care utilisation in Kenya: A multilevel analysis. *BMC Health Services Research, 20*, Article 665. https://doi.org/10.1186/s12913-020-05531-9

Warri, D., & George, A. (2020). Perceptions of pregnant women of reasons for late initiation of antenatal care: a qualitative interview study. *BMC pregnancy and childbirth*, *20*(1), 1-12.

WHO, & UNFPA, I. c. o. m. (2018). The state of the World's midwifery.

WHO, The World Bank, United Nations Population Division. New York, USA, UNICEF, 2015.Levels and Trends in Child Mortality. Report 2015.

WHO, UNICEF, UNFPA, The World Bank and the United Nations Population Division: Trends in maternal mortality: 1990 to 2015 The Inter-agency Group for Child Mortality Estimation (UN IGME). UNICEF,

WHO, UNICEF, UNFPA, World Bank, United Nations Population Division (2014). Trends in maternal mortality in 1990 to 2013: estimates by WHO, UNICEF, UNFPA,

World Bank and United Nations population division. Geneva, Switzerland: World Health Organization.

WHO. (2015). The state of the World's midwifery report.

World Health Organization. (2018). *WHO recommendations on intrapartum care for a positive childbirth experience*. World Health Organization.

World Health Organization. (2020). Malaria eradication: benefits, future scenarios and feasibility: a report of the Strategic Advisory Group on Malaria Eradication.

World Health Organization. (2021). Action framework for developing and implementing public food procurement and service policies for a healthy diet.

World Health Organization. (2023). Trends in maternal mortality 2000 to 2020: estimates by WHO, UNICEF, UNFPA, World Bank Group and UNDESA/Population Division: executive summary.

Yastica, T. V., Salma, S. A., Caesaron, D., Safrudin, Y. N., & Pramadya, A. R. (2020, December). Application of theory planned behavior (TPB) and health belief model (HBM) in COVID-19 prevention: a literature review. In *2020 6th International Conference on Interactive Digital Media (ICIDM)* (pp. 1-4). IEEE.

APPENDICES

Appendix i: Informed Consent

I am Tobias Makunja, currently pursuing a Master's degree at Mount Kenya University. My academic inquiry revolves around studying the uptake of Focused Antenatal Care services among women of reproductive age in Bungoma County, Kenya. The data gathered will be utilized by the Ministry of Health to enhance the utilization of specialized antenatal services among women of reproductive age not only in Bungoma County but also in other counties across Kenya.

Procedures to be followed

To take part in this study, I will need to pose a few questions. Your responses will be documented either through a questionnaire, a tape recorder, or notes. It is anticipated that the interview would run for roughly fifty minutes. Participation in this study is entirely voluntary. This implies that you will face no repercussions if you decline to participate, decline to answer any questions, or end an interview at any moment. Anytime is a good moment to ask questions about the study.

Discomforts and Risks

There will be delicate issues covered in some of the questions, which can make you uneasy. You might decline to respond to these inquiries if this occurs. The interview can also end at any point. Additionally, I want you to know that the information you provide will not be connected to you, even though your identity will be safeguarded.

Benefits

By taking part in this research, you will help us better understand how to improve the usage of Focused Antenatal Care services in Kenya, which will eventually benefit women's health and lower the risk of unfavorable pregnancy outcomes.

Confidentiality and Anonymity

The interviews will take place in private at your house. There will be no outcome reports or the questionnaire with your name on it. The study team will only have access to a closed cabinet containing your sensitive and secure information. Throughout the entire process, your privacy will be completely secured.

Contact Information

If you have any inquiries, feel free to reach out to any of the following contacts:

1. Dr. John Kariuki: Cell 0722495458

2. Dr. Ndwiga Taratisio: Cell 0733854152

3. The Mount Kenyatta University Ethical Review Committee Secretariat at chairman.mkuerc@mku.ac.ke, secretary.mkuerc@mku.ac.ke, or ercmku2023@gmail.com.

Participant's statement:

I fully understand the details provided about my participation in the study. I have had the opportunity to ask questions, and they have been answered to my satisfaction. My involvement in this study is entirely voluntary. I acknowledge that my information will be kept confidential, and I retain the right to withdraw from the study at any point.

Name of Participant……

Signature or Thumb print_____Date_____

I have fully and intelligibly communicated to the volunteer, as the study's investigator, the methods, dangers, and advantages of participating in this research in a manner that she can comprehend.

Name of Interviewer…….

Signature or Thumbprint_____ Date_____

Appendix ii: Questionnaire

DETERMINANTS OF FOCUSED ANTENATAL CARE SERVICE UPTAKE AMONG WOMEN OF REPRODUCTIVE AGE, A CASE OF SIRISIA SUB COUNTY, BUNGOMA COUNTY, KENYA

Age…….

Questionnaire Number:: .....

Date: .....

Location .....

Interviewer's Name: .....

INSTRUCTIONS

(a) Clearly explain the purpose of the interview to the mother.

(b) Obtain consent before commencing the interview.

(c) Ensure all questions are responded to.

(d) Mark the appropriate response.

Section A: Participant Demographics

1. What is your age?

(a) 11-20 [ ]

(b) 21-30 [ ]

(c) 31-40 [ ]

(d) 41-50 [ ]

2. What is your marital status?

(a) Married [ ]

(b) Single [ ]

(c) Divorced [ ]

(d) Widowed. [ ]

(e) Separated [ ]

3. What is your religious affiliation or denomination?

(a) Christian []

(b) Muslim []

(c) None

(d) Other (Specify).....

4. Have you received formal education?

(a) Yes [ ]

(b) No [ ]

5. If yes, what is the highest level of education you've attained?

(a) Primary []

(b) Secondary []

(c) Tertiary []

6. What is your current employment status?

(a) Self-employed []

(b) Employed []

(c) Casual labor []

(d) Not working []

7. How many births have you undergone?

(a) None []

(b) One [ ]

(c) Two [ ]

(d) Three [ ]

(e) Four [ ]

(f) More than four [ ]

8. How many living children do you have?

(a) None []

(b) One []

(c) Two []

(d) Three []

(e) Four []

(f) More than four []

9. At what stage of your pregnancy did you begin attending prenatal clinics?

(a) 0 to 3 months []

(b) Four to six months []

(c) 7 to 9 months []

10. During which months of your pregnancy did you seek antenatal care? (Select all that apply.)

(a) 0 to 4 months (0-16 weeks) []

(b) >4–7 months (17–28 weeks) []

(c) >7 to 8 months (29-32 weeks) []

(d) > 8 months (more than 33 weeks) []

(e) I don't know []

SECTION B: QUESTIONS REGARDING MOTHER'S VIEWS ON FOCUSED ANTENATAL CARE (FANC).

The subsequent questions inquire about your familiarity and engagement with Focused Antenatal Care (FANC) services. There are no right or wrong answers, and it's not

necessary to have utilized FANC services to participate in the survey. Please choose the number corresponding to your sentiment toward each statement:

1=Strongly Disagree (SD), 2=Disagree (D), 3=Neutral (N), 4=Agree (A), and 5=Strongly Agree (SA).

a) Questions on perceived susceptibility		1	2	3	4	5
11	I am likely to encounter challenges related to pregnancy.					
12	I am anxious about-facing challenges during pregnancy.					
13	It is likely that I will encounter challenges related to childbirth and the postpartum period.					
14	I have a good chance of having pregnancy-related issues.					
15	I have a higher likelihood than the average woman of experiencing adverse pregnancy outcomes.					
16	Even without receiving FANC treatments, I feel confident in my health and believe I am unlikely to experience any pregnancy, delivery, or postpartum complications.					
17	I worry that I might have problems during my pregnancy, during delivery, or after delivery if I don't receive FANC services.					
b) Questions on perceived Severity		1	2	3	4	5
18	The challenges I might face during pregnancy and delivery would have long-lasting effects.					
19	Pregnancy complications could strain my relationship with my partner.					
20	Pregnancy-related issues could result in permanent life changes.					
21	If I were to become pregnant, I fear the pregnancy would not progress to full term.					
22	If I got pregnant I am scared my baby would not survive the pressure that comes with labour and delivery.					
23	I'm afraid that my baby wouldn't withstand the pressures of labor and delivery if I were to become pregnant.					
24	I am concerned that if I were to become pregnant, my baby might be born prematurely.					
c) Questions on perceived benefits		1	2	3	4	5

25	When I attend FANC clinics, I experience a sense of well-being.					
26	Attending my FANC clinics enables me to monitor the progress of my pregnancy					
27	Timely attendance at my FANC visits alleviates worries about my pregnancy and its outcome.					
28	Completing my FANC visits reduces my risk of pregnancy-related complications.					
29	Completing my FANC visits allows me to learn about individual birth preparedness and reduces the likelihood of delaying seeking care during labor.					
30	Completing my FANC visits enables me to access a wide range of services (such as PMTCT, TTV immunizations, iron and vitamin A supplementation, SP, ITNs, and hookworm treatment) for a favorable pregnancy outcome					
31	Attending FANC clinic enhances the chances of early detection of risk conditions associated with pregnancy.					
d) Questions on perceived barriers.		1	2	3	4	5
32	I struggle to make it to FANC clinics.					
33	The idea of interacting with doctors and nurses at the FANC clinic unsettles me.					
34	The considerable distance to the health facility during pregnancy hinders my access to FANC services.					
35	The poor terrain makes traveling to the FANC clinic uncomfortable.					
36	I find it awkward to get my examination by male workers at the FANC facility.					
37	The fatigue from attending every FANC visit is intense.					
38	In order to visit the FANC clinic, I must obtain permission first.					
39	When it comes to using FANC services, transportation is an issue.					
40	One of the main obstacles to obtaining FANC services is money.					
41	lack of privacy in the FANC clinic					
42	I am uneasy waiting in such a huge line at the FANC clinic.					
43	I have to skip some of the clinics because of the FANC clinic's staffing shortage.					
PART C: QUESTIONS ON MOTHERS CUES TO ACTION TOWARDS UPTAKE OF FANC						

	Mothers Cues to Action Towards Uptake Of FANC	1	2	3	4	5
44	I want to identify pregnancy issues early on.					
45	To me, it's crucial to stay healthy throughout pregnancy.					
46	I go to FANC so that I can learn new things about my health while I'm pregnant.					
47	I think it's critical to engage in pregnancy-related activities that will enhance my health and pregnancy result.					
48	I go to the FANC clinic to learn about dietary choices to make while pregnant.					
49	From my prior pregnancy, I knew the importance of getting frequent checkups during my pregnancy.					
50	Through the media, I became aware of the significance of Iron Folic Acid Supplementation (IFAS) for a healthy pregnancy.					
51	I began FANC clinics after hearing from friends or family that they are crucial.					
52	I made sure to attend FANC throughout my most recent pregnancy because of the difficulties I had experienced with a previous pregnancy.					
53	Unlike my close family or acquaintance, I did not have pregnancy complications while attending FANC clinics.					
SECTION D: INQUIRIES REGARDING MOTHERS' SELF-EFFICACY LEVELS REGARDING THE ADOPTION OF FOCUSED ANTENATAL CARE (FANC).						
	Maternal Self-Efficacy Levels Regarding the Adoption of Focused Antenatal Care (FANC).	1	2	3	4	5
54	I know there are four FANC clinics that must be attended during pregnancy.					
55	I am sure I can make it to all of the FANC visits that are necessary.					
56	I plan to attend every FANC visit during my upcoming pregnancies.					
57	I am aware of the warning indicators to look out for when pregnant.					
58	I can make a plan for preparing for my own birth.					
59	I am certain of the services I require at the FANC clinic in order to have a healthy pregnancy and a successful pregnancy result.					
60	Regarding the dates and times of the FANC visits, I am positive.					
61	I have faith that I can get past such obstacles in order to get FANC services during my pregnancy.					

62	The advantages of receiving FANC are thought to exceed the drawbacks of doing so.					
63	I am able to distinguish between genuine labor pains and fake labor.					
64	By the end of the antenatal period, I had received all of the services listed in table four.					
65	I was quite pleased with all of the services mentioned above.					

Appendix iii: Focus Group Discussion Guide For Focused Antenatal Care

DETERMINANTS OF FOCUSED ANTENATAL CARE SERVICE UPTAKE AMONG WOMEN OF REPRODUCTIVE AGE, A CASE OF SIRISIA SUB COUNTY, BUNGOMA COUNTY, KENYA.

Introduction

Salutations

My colleague is _____, and I am _____. We would want to hear your thoughts on the usage of focused antenatal care (FANC) programs. We hope that this discussion will help us improve the services we offer and increase the number of women who use FANC services.

We sincerely hope that you will aid us in this endeavor. The format we have arranged for this activity is akin to a discussion, which will facilitate us in obtaining the information we require. We encourage you to contribute as much as you can recall. Please remember that there are no right or wrong answers. All discussions here will be kept confidential and solely utilized for research purposes.

My colleague will endeavor to document all our discussions to the best of their ability. However, as a backup, we have a recorder available in case you speak faster than we can write. I hope you're comfortable with this arrangement. This discussion is anticipated to last at least 45 minutes. If there are no questions, let us commence...

QUESTIONS.

25. 25. What do you understand by focused antenatal care?

Probe:

26. How many visits does one make in FANC?

27. At what gestation should one start FANC?

28. How frequent does one attend the FANC visits?

29. What services are offered during each FANC visit?

30. Who should use FANC services?

31. What do you believe could potentially occur if you do not attend FANC services?

Probe:

32. Have you attended FANC during a previous pregnancy?

33. Could you explain the reasons behind your answer?

34. What are your primary concerns regarding the implications of not attending FANC?

35. Do you perceive any risks associated with not attending FANC?

36. Could you elaborate on your answer?

37. What do you think are some of the significant consequences you might face if you were to skip FANC?

Probe:

38. Have you witnessed any instances where women encountered serious issues after failing to attend FANC?

39. If so, what were the specific problems they experienced?

40. What do you perceive as the advantages of attending FANC?

Probe:

Assess whether a mother received health education on:

41. Nutrition and breastfeeding [ ]

42. Personal hygiene [ ]

43. Recognition of danger signs in pregnancy [ ]

44. Promotion of exclusive breastfeeding [ ]

45. Awareness of harmful habits such as drug abuse and smoking [ ]

46. Understanding of the use of traditional medicine [ ]

47. Planning for delivery [ ]

48. Arrangement for the next visit [ ]

49. Preparation for the postpartum period [ ]

50. Awareness of the effects of sexually transmitted infections (STIs) [ ]

51. What do you perceive as the obstacles preventing you from utilizing FANC services?

Probe:

52. Identify personal, social, cultural, and any other barriers to the adoption of FANC.

53. What are some of the factors that might deter a pregnant woman from attending the FANC clinic?

54. What incentives would encourage you to attend FANC services?

Probe:

55. What motivators might prompt a pregnant woman to attend the FANC clinic?

56. Who within your community holds influence over men and women regarding the uptake of FANC?

57. What are the prevailing community attitudes towards attendance at FANC clinics?

58. Are you content with the services provided at the FANC clinic? Please explain your response.

59. Who plays a role in influencing the uptake of FANC services within your community?

60. How can mothers be supported in enhancing their attendance at FANC clinics?

61. On a scale of 1 to 5, how would you assess your confidence level in practicing FANC, and what factors contribute to your rating?

1. Very confident

2. Confident

3. Uncertain

4. Not confident

5. Extremely not confident

Probe for reasons behind the self-rating.

62. Have you managed to attend all four FANC visits during your pregnancy? If not, could you please explain why?

Appendix iv: Graduate School Research Approval

Mount Kenya University

DIRECTORATE OF GRADUATE STUDIES

MPH/2022/46678

4th April, 2024

National Commission for Science Technology & Innovation (NACOSTI)
Off Waiyaki Way, Upper Kabete,
P.O Box 30623- 00100
NAIROBI, KENYA

Dear Sir/Madam,

RE: TOBIAS MAKUNJA – REGISTRATION NO. MPH/2022/46678

The purpose of this letter is to introduce the above named student who is pursuing **Master of Public Health** in the department of **Community Health, Epidemiology and Biostatistics** in the school of **Public Health.**

The title of the research is **"Determinants of Focused Antenatal Care Service Uptake Among Pregnant Women, A Case of Sirisia Sub County, Bungoma County, Kenya."** It has been cleared by the University's Ethics Review Committee (Certificate attached) and now has to proceed to the field to collect data between **April, 2024 and June, 2024.**

Any assistance accorded to the student will be highly appreciated.

Thank you.

Mount Kenya University
P. O. Box 342 - 01000, THIKA
Office of the Director
Graduate Studies

Dr. Samuel M. Karenga, Ph.D
Director, Graduate Studies
Enc

Appendix v: MKU Ethical Review Committee

Mount Kenya University

REF: **MKU/ISERC/3574**
TO: **TOBIAS MAKUNJA**

Date: 04 April 2024

REG: **MPH/2022/46678**

Dear Sir/Madam,

RE: DETERMINANTS OF FOCUSED ANTENATAL CARE SERVICE UPTAKE AMONG PREGNANT WOMEN, A CASE OF SIRISIA SUB COUNTY, BUNGOMA COUNTY, KENYA

This is to inform you that **Mount Kenya University** has reviewed and approved your above research proposal. Your application approval number is **2618.** The approval period is **04/04/2024 - 03/04/2025.**

This approval is subject to compliance with the following requirements;

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

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

Yours sincerely,

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

Dr. Alfred Owino, PhD
Chairman, Mount Kenya University ISERC

Appendix vi: NACOSTI License

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **260889**

Date of Issue: **03/May/2024**

RESEARCH LICENSE

This is to Certify that Mr.. TOBIAS MAKUNJA of Mount Kenya University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Bungoma on the topic: Determinants of Focused Antenatal Care Service Uptake Among Pregnant Women, A Case of Sirisia Sub County, Bungoma County, Kenya. for the period ending : 03/May/2025.

License No: **NACOSTI/P/24/34780**

260889

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

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

See overleaf for conditions

Appendix vii: Bungoma County Research Authorization

REPUBLIC OF KENYA

COUNTY GOVERNMENT OF BUNGOMA
MINISTRY OF HEALTH
OFFICE OF THE COUNTY DIRECTOR
HEALTH

Telephone: 0725393939
E-mail: heallth@bungoma.go.ke
When replaying please quote

COUNTY DIRECTOR OF HEALTH
BUNGOMA COUNTY
P. O. BOX 18-50200
BUNGOMA

OUR REF: CG/BGM/CDH/RESRC/VOL.1

DATE: 3rd May,2024

MR. TOBIAS MAKUNJA
MOUNT KENYA UNIVERSITY
THIKA

RE: RESEARCH AUTHORIZATION.

Following your request for authority to carry out research on **"DETERMINANTS OF FOCUSED ANTENATAL CARE SERVICE UPTAKE AMONG PREGNANT WOMEN," In Bungoma County Sirisia Sub- County.** I am pleased to inform you that you have been authorized to undertake the research for the period ending 3rd May , 2025.

Kindly note that you shall deposit **a copy** of the final research report to the County Director of Health. The soft copy of the same should be submitted through the online Research Information System.

Thank you.

COUNTY DIRECTOR OF HEALTH
BUNGOMA COUNTY
P. O. Box 18-50200,
BUNGOMA

Dr. Caleb Wanambisi Watta
County Director of Health
Bungoma

Appendix ix: Similarity Index

DETERMINANTS OF FOCUSED ANTENATAL CARE SERVICE UPTAKE AMONG WOMEN OF REPRODUCTIVE AGE IN SIRISIA SUB COUNTY, BUNGOMA COUNTY, KENYA

by Tobias MAKUNJA

Submission date: 14-Mar-2025 11:14AM (UTC+0300)
Submission ID: 2612483577
File name: Tobias_Makunja_FINAL_THESIS_2025.docx (5.16M)
Word count: 22588
Character count: 126461

DETERMINANTS OF FOCUSED ANTENATAL CARE SERVICE UPTAKE AMONG WOMEN OF REPRODUCTIVE AGE IN SIRISIA SUB COUNTY, BUNGOMA COUNTY, KENYA

ORIGINALITY REPORT

18%	17%	10%	14%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	ir-library.ku.ac.ke Internet Source	3%
2	bmcpregnancychildbirth.biomedcentral.com Internet Source	1%
3	www.ncbi.nlm.nih.gov Internet Source	1%
4	www.panafrican-med-journal.com Internet Source	1%
5	Submitted to Kenyatta University Student Paper	1%
6	erepository.mku.ac.ke Internet Source	1%
7	ir.jkuat.ac.ke Internet Source	1%
8	aquila.usm.edu Internet Source	1%
9	salford-repository.worktribe.com Internet Source	1%
	repository.kemu.ac.ke:8080 Internet Source	1%
	erepository.uonbi.ac.ke Internet Source	1%
	etd.aau.edu.et Internet Source	1%

Exclude quotes	Off	Exclude matches	Off
Exclude bibliography	Off		

Appendix x: Map of Sirisia Sub County