FACTOR INFLUENCING FAMILY PLANNING UPTAKE AMONG MUSLIM WOMEN OF REPRODUCTIVE AGE IN GARISSA COUNTY, KENYA

MUMTAZ MUHUMED AHMED

SHS/MPH/5303-2/2022

A RESEARCH THESIS SUBMITTED TO THE DEPARTMENT OF COMMUNITY HEALTH, SCHOOL OF PUBLIC HEALTH IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR A MASTER OF PUBLIC HEALTH (APPLIED EPIDEMIOLOGY) DEGREE OF AMREF INTERNATIONAL UNIVERSITY

JULY 2025

DECLARATION AND APPROVAL

Declaration by Student

This research thesis is my original work and has not been submitted in any other university for consideration.

Signature  Date 07/04/2025

Mumtaz Ahmed

SHS/MPH/5303-2/2022

Approval by Supervisors

This research thesis has been submitted for examination with our approval as the University Supervisors.

Signature  Date 07/04/2025

Dr. Josephat Nyagero

Senior Lecturer, AMREF International University

Signature  Date 07/04/2025

Prof. Mohammed Karama

Amref International University

DEDICATION

To my beloved parents, whose unwavering love and guidance have shaped me into the person I am today. Your sacrifices and belief in my potential inspire me every day.

To my siblings, thank you for your support and encouragement throughout this journey. Your laughter and camaraderie have been my strength.

To my esteemed supervisors, your mentorship and insights have been invaluable. I am deeply grateful for your guidance and support.

This thesis is a testament to all of you. Thank you for believing in me.

COPYRIGHT

ACKNOWLEDGEMENT

I sincerely acknowledge guidance of my supervisors, participants and all those who contributed to the success of this research. Their invaluable input made this work possible.

ABSTRACT

Background: In Kenya, unmet need for family planning (FP) remains high despite government efforts to promote FP methods. Challenges persist, especially in rural areas like Garissa County, where contraceptive prevalence is notably low at 12.7%, compared to Kenya's 57%. The unmet need for FP in Garissa county is 10%.

Objectives: The general objective of the study was to determine factors influencing FP uptake among Muslim women of reproductive age in Garissa County. The study's specific objectives were: to determine the knowledge of FP among Muslim women in Garissa County; to identify sociodemographic factors influencing FP uptake among Muslim women in Garissa County; and to identify cultural factors that influenced the uptake of FP among Muslim women in Garissa County.

Methods: A cross-sectional mixed methods research design focused on Muslim women aged 15-49 in Garissa County. The study involved 187 participants selected through stratified random sampling. A proportionate sample of women was calculated per subcounty. Data collection utilized semi-structured interviews with selected women and focus group discussions with community health promoters from seven subcounties. Quantitative data were analyzed using the Statistical Package for Social Sciences version 26, employing univariate analysis for demographics, correlation analysis for variable associations and binary logistic regression. Qualitative data was analysed thematically.

Results: Eighty-two percent of women had knowledge of FP, mainly through community health workers (66%). Only 44% attended workshops, showing limited interest in education and just 39% practiced FP. Among users, 56% had husbands unaware of their usage. Injectables and other methods were equally preferred at 50%, influenced by partner opposition and concerns about side effects and fertility. Knowledge of FP methods was weakly and significantly correlated with usage ($r=0.317$, $p=0.002$). Religion influenced perceptions on FP and most families preferred over five children.

Recommendations: There should be improved training on cultural sensitivity in FP. The government should engage religious leaders and promote male advocacy through targeted policies.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS

FP: Family Planning

ICPDPA: International Conference of Population Development Program of Action

KDHS: Kenya Demographic Health Survey

KNBS: Kenya National Bureau of Statistics

MCH: Maternal Child Health

MMR: Maternal Mortality Rate

NACOSTI: National Commission for Science, Technology & Innovation

SPSS : Statistical Package for Social Sciences

DEFINITION OF TERMS

Contraceptives	These are methods or devices that help prevent pregnancy. They include pills injections implants condoms and other tools.
Family Planning	Ability of individuals to control the timing and number of children. It is achieved through use of various contraceptive methods.
Fertility Rate	Average number of children a woman gives birth to in her lifetime. It shows the level of childbearing in a population.
Knowledge	Level of awareness women have about family planning methods. It includes understanding the types and how they work.
Prevalence Rate	Portion of a population using family planning at a given time. It shows how common contraceptive use is.
Sociocultural Factors	Beliefs and practices that influence family size and contraceptive use. They include religion culture gender roles and traditions.

Uptake Rate	Percentage of women using family planning methods. It reflects how many are adopting contraception in a given group.

CHAPTER 1: INTRODUCTION

1.1 Overview

The background and problem under study is presented. The objectives and questions that the study sought to answer are outlined. The importance of the study to stakeholders is explained and scope outlined.

1.2 Background

Contraception measures uptake allows couples to be conversant about the timing and sum of their kids, leading to significant socio-economic advantages. However, despite notable progress, family planning (FP) adoption remains inadequate in several of the world's poorest and most densely populated nations (Weshahi et al., 2021). FP choices are vital not only for contraception but also for preventing ovarian and uterine cancer, addressing conditions like polycystic ovarian cysts and other ovarian cysts, alleviating heavy menstrual periods and managing acne (Mugwe & Wangari, 2021). The ability of women to control the spacing of their pregnancies directly impacts their health and overall well-being (Liu & Zhou, 2019). Moreover, research suggests that closer birth spacing, and larger families are associated with reduced parental investment, which can affect children's academic achievement, as well as their mental and behavioral development (Yufiarti et al., 2019).

Communities are encouraged to embrace family planning, as knowledge, attitudes and practices related to it can enhance both social and economic wellbeing (Liu & Zhou, 2019). Among Muslim women, however, uptake of family planning remains a sensitive topic influenced by religious teachings and cultural expectations (Götmark & Andersson, 2020).

While global trends show increased contraceptive use contributing to changes in fertility patterns, some critics attribute this shift primarily to women's growing use of modern contraceptives (Shapiro & Hinde, 2020). For Muslim women, family planning provides couples the ability to make informed decisions about childbearing within the framework of their faith and reproductive cycles (Sreenivas, 2021). Despite this, there is limited contextual understanding of how Muslim women navigate family planning choices.

According to Götmark and Andersson (2020), the projected sharp rise in global population would exacerbate current issues with the environment, food security, energy, biodiversity, food security and human health. Total fertility rate has a significant effect on population increase, but more study is required to detect how important certain components are in determining fertility. The fundamental human rights include the right to receive comprehensive information and access to contraceptive services (Izugbara et al., 2018). This right is recognized by significant international agreements. These agreements emphasize the importance of providing individuals with accurate information and a variety of effective and acceptable FP methods.

In Asia, data reveals varying contraceptive prevalence rates in women. For married Muslim women, FP prevalence was found to be twenty percent in Armenia, fourteen percent in Azerbaijan, twenty two percent in Pakistan, 34 percent in the Philippines, thirty five percent in Cambodia and fifty percent in India (Haakenstad et al., 2022). These figures highlight the diverse levels of availability and utilization of FP methods in different countries within the region. Malaysia has made notable progress in family planning uptake since the program was introduced in 1966, with the contraceptive prevalence rate (CPR) increasing from just 8.7% in 1967 to 52.9% in 2014 for any method, including 35.7% for

modern methods (Mahmud et al.,2024). However, recent findings show a decline, with the CPR at 42.8% in 2022 and modern methods at 34.5%, indicating a stagnation in progress. Among married women aged 15–49, the current CPR stands at 64.7%, with modern methods like condoms (19.8%) and pills (11.0%) being most commonly used. Despite this, nearly half of the women surveyed (48.1%) had low knowledge of family planning, suggesting that limited awareness and education remain significant barriers. Compared to ASEAN peers such as Vietnam (56.8%) and Thailand (47.9%), Malaysia's uptake of modern contraceptives is lower, highlighting the need for intensified educational efforts and access initiatives.

Sub-Saharan Africa has the highest average fertility rates globally. The total fertility rate reaches 4.1, which is twice as high as in South Asia and more than double that of America. Historically, there has been limited acceptance of contemporary FP approaches in Africa, primarily due to cultural opposition that presents a huge challenge (Phiri et al., 2023). Notably, there is geographic variation within the region on uptake among Muslim women of reproductive age. Nations in Southern Africa have consistently recorded the highest rates of contraceptive utilization, with countries in East Africa following closely behind. However, countries in some regions of Africa have consistently reported the lowest levels of adoption when it comes to modern FP methods (Teshale, 2022). These disparities highlight the diverse landscape of FP practices across different regions of Africa.

Sierra Leone struggles with family planning uptake, especially among adolescents, where 28% of births result from teenage pregnancies, leading to 40% of maternal deaths in this group (Koroma et al., 2022). Only 1% of women aged 15 to 24 use condoms, while 23% use modern contraception due to low sexual health knowledge and limited negotiation

power. Effective contraceptive use has previously reduced maternal deaths by 44% in 2008. Addressing the unmet need for contraception could reduce maternal mortality by 29% and improve infant outcomes, highlighting the need for better reproductive health education and FP service access. On the other hand, FP uptake among Muslim women of reproductive age in Somalia remains extremely low, with only 1% of the population using modern contraceptive methods. Somali women have, on average, more than six children, and over 25% of women have an unmet need for family planning, particularly among young girls (Omar & Abdirisak, 2022). Cultural and religious sensitivities continue to hinder progress, and access to contraception is limited, especially among displaced populations, with only 3% obtaining contraceptives from pharmacies and 1% from private hospitals. Most contraceptive users among urban displaced groups rely on mother and child health (MCH) centers, highlighting the need for expanded, culturally sensitive services (Omar & Abdirisak, 2022). Family planning uptake in South Sudan remains critically low, despite its potential to improve maternal and child health outcomes. With a maternal mortality ratio of 789 deaths per 100,000 live births, the country faces an urgent need for expanded contraceptive access (Jil et al., 2024). However, uptake is hindered by socio-cultural barriers, including patriarchal norms and limited female autonomy in reproductive decision-making.

In Kenya, modern techniques of FP were first made available in 1957 (Abdi et al., 2020). The pill, intrauterine devices, hormonal implants, condoms, sterilization, and natural FP are among the contraceptive methods available (Lahiri et al., 2023). The private and public health sectors in Kenya made contributions that made contraceptives available to the Kenyan people (Abdi et al., 2020). FP services became advanced by the public authority

through strategic policy improvement and actions (Kungu et al., 2020). Data from KDHS (2022) indicates that Kenya's unmet need for FP stood at 13.9%. In Kenya, 1.8 million married women have unwanted pregnancies each year (NCAPD, 2019). In order to decrease the number of unmet FP needs, Kenya's national FP policy seeks to provide all those in need with high-quality, long-lasting FP services (Ontiri et al., 2021).

Despite the birth rate reduction experienced in Kenya from 1970s to 1990s, fertility levels have remained stable since then, meaning that no discernible low birth rates previously noted in population and health surveys conducted in Kenya (Zinke et al., 2023). It is challenging to observe significant changes in the economy and continued fertility drop in Kenya due to its big population, lack of resources, infrastructure, and employment. Reproductive health, according to the Program of Action (ICPD, 2020), is all about giving people the democracy when and how frequently to give birth while also being responsible by leading healthier and more meaningful sexual lives. The ICPD further asserts that people should be aware of and access legal methods of birth control while expressing their autonomy in making these decisions.

Post-colonial Kenya is characterized by both traditional behaviors unique to the nation and modern ones brought about by the nation's accomplishments (Stats et al., 2020). Low rates of contraception are typically linked to traditional indigenous religions that emphasize ancestry and legacy (Embleton et al., 2023). According to traditional African religion, having children fulfils the needs of deceased ancestors, making reproduction the most significant result and goal of existence (Shaweno & Kura, 2020). Therefore, having numerous children is viewed as a blessing and confers high rank, but not having children is seen as a result of sin and wickedness (Asif & Pervaiz, 2019).

Garissa county is located in north-eastern Kenya. Pastoralism is the primary economic activity and Islam is the most common religion. North Eastern counties in the nation have suffered from marginalization over the years. They are consequently some of Kenya's poorest counties. According to the Kenya Demographic (2022), the maternal mortality rate in Garissa County, which is almost double the national maternal mortality rate, is a direct result of the county's unmet need for FP rate of 10.8%. Garissa county continues to battle cultural barriers in the use of contraceptives through FP. The county's Total Fertility rate is 5.3 against the national average of 3.4

FP is still not widely accepted by the community (Abdi et al, 2021). The challenge is exacerbated by the health care provider's lack of expertise of FP (Ruark et al., 2019). In North Eastern Kenya, where Garissa County is located, the average maternal mortality rate is 1000/10000 live births; as compared to the national late maternal deaths rate of 488 deaths per 10,000 live births (KDHS, 2022). High fertility rate in the area is directly correlated with the low prevalence rate of contraception. North Eastern region's fertility rate is 5.9 compared to the national average of 4.6 (KDHS, 2022).

1.3 Statement of the Problem

Despite the public authority's effort to promote the use of contraceptive methods to curb unwanted pregnancies, there is still the challenge of contraceptive usage, especially in rural Kenya. Data from the KNBS indicates that Kenyan women struggle to conceive healthy children, giving birth to one unwanted child on average (KNBS, 2020). Data from KDHS (2022) indicates that Kenya's unmet need for FP stood at 13.9%. In Kenya, 1.8 million married women have unwanted pregnancies each year (NCAPD, 2019).

Due to high fertility rates among Muslim women of reproductive age in Garissa County as well as the linked anthropogenic factors, perception of FP is low. The unmet need for FP in Garissa county is 10.8% (KDHS, 2022). Garissa County faces significant challenges in terms of contraceptive prevalence, which is currently at a low rate of 5.5%. This directly affects the Maternal Child Health (MCH) indicators in the region, as evidenced by the high maternal death rate (MMR) of 641 infant mortality rates, compared to the national average of 414 deaths per 1000 live births (KDHS, 2022). The low contraceptive prevalence rate in the county is closely related to the high total births per woman of 6.1, exceeding the national average of 3.9 (KDHS, 2022).

The rapid population growth in Garissa County adds further strain to an already economically challenged region. Currently ranked among the poorest counties in the country, the increasing population will exacerbate the economic burdens faced by the county (KNBS, 2019). The consequences of Garissa County's unmet FP needs among Muslim women of reproductive age extend beyond the county itself and have a national impact. These consequences hinder the nation's aim in achieving the SDGs and affect the overall economy of the country. Previous studies present various knowledge gaps. Sundararajan et al. (2019) assessed religion and gender effect perception of FP and noticed that religious traditions and gender equality highly affects the perception of contraceptive measures. The study presents a contextual gap as it was carried out in Tanzania. On the other hand, Abdi et al. (2020) examined anthropogenic factors affecting FP use among Islam communities and concluded that socio-cultural factors are definitely associated with FP use. The study presents a methodological gap as it was a qualitative study. Owuor et al, (2018) evaluated seers of post birth family contraceptive perception. The study presents a

conceptual gap as its variables are different for the current study. Thus, there was a need to determine the factors affecting FP perception amidst Muslim women of bearing age in Garissa County.

1.4 Research Questions

i. What is the level of knowledge of FP among Muslim women in Garissa County?

ii. What are the sociodemographic factors influencing FP uptake in Garissa County?

iii. What are the cultural factors influencing FP uptake in Garissa County?

1.5 Research Objectives

1.5.1 General objective

The general objective of this study was to determine factors influencing FP uptake among Muslim women of reproductive age in Garissa county; Kenya.

1.5.2 Specific Objectives

This study's specific aims were:

i. To determine the level of knowledge of FP among Muslim women in Garissa county.

ii. To identify sociodemographic factors that influence the uptake of FP among Muslim women in Garissa County.

iii. To assess cultural factors that influence the uptake of FP among Muslim women in Garissa County.

1.6 Justification of the Study

Kenya, FP services became advanced by the public authority through strategic policy improvement and actions (Kungu et al., 2020). In order to decrease the number of unmet FP needs, Kenya's national FP policy seeks to provide all those in need with high-quality, long-lasting FP services (Abdi et al., 2020). Various analysis has been investigated to find out the components that affect the uptake of FP and have demonstrated advancements in FP utilization. However, these studies often overlook the diverse circumstances and variations in FP adoption across different regions within the country (Cahill et al., 2018). Additionally, the KDHS (2022) survey does not outline the sociodemographic factors and cultural factors for family planning uptake among Muslim women of reproductive age; while Abdi et al. (2020) study is qualitative, hence a methodological gap. Unmet FP needs in Garissa county are high. The uptake of FP services has not been fully embraced by Muslim women. The county continues to battle cultural barriers in the use of birth control methods through FP. In spite of the capacities made by the public authority and NGOs, the unmet need for FP in Garissa is 10% which means that it is yet to meet half of the its demand rate. Considering the demand rate and the unmet need for FP in Garissa, there was a need for this research to assess the components that affect the perception of FP among women in Garissa County. This study addresses knowledge gap as it examined cultural and religious factors influencing family planning uptake among Muslim women in Garissa County. It also adds to existing research as it assessed perceptions overlooked in national surveys and qualitative studies.

1.7 Significance of the Study

It retains relevant value for numerous participants. Primarily, the Ministry of Health will gain valuable insights into the components affecting FP perception among Muslim females of bearing age in Garissa region. These findings will assist the ministry in formulating policies aimed at enhancing FP utilization among women in the county. Additionally, the County Government of Garissa will benefit from a better understanding of the factors impacting FP uptake, potentially leading to the implementation of study recommendations and the development of targeted FP policies. Furthermore, researchers will find this study valuable as it can represent a key intellectual citation implicated in similar and related areas of study. Readership will also benefit from the study's findings, as FP has become a widely discussed topic of interest across society.

1.8 Scope of the Study

These are components or aspects within the research that could potentially influence the outcomes and conclusions of the research. This research was strictly confined to a relatively small sample size. Consequently, it was challenging to theorize the population to accurately represent the broader generalization of Muslim women of reproductive age and the factors influencing FP uptake. Secondly, since FP is a controversial topic in the Muslim community, participants might have been biased in their responses, potentially giving dishonest answers. The study may carry sampling bias due to its focus on a predominantly Muslim population, which limits generalizability to more diverse regions. However, the findings remain relevant as they examine culturally specific barriers to family planning that can inform targeted interventions. The study faced potential non-response,

particularly from households, due to the sensitive nature of the information sought. To address this limitation, strict measures were taken to ensure the anonymity of participants, guaranteeing that their identities and responses remained confidential. This approach enabled participants to engage in the study without any perceived risks or concerns, enhancing the credibility of their participation.

1.9 Assumptions

This study relied on several underlying assumptions. Firstly, it assumed that the concept of FP (FP) uptake was familiar to the respondents, implying that they possessed sufficient knowledge and understanding to provide relevant and accurate data for the study. Secondly, it assumed that social and cultural factors played a key role in influencing FP perception among women of reproductive age in Garissa County. Lastly, it assumed that the respondents would provide truthful and honest responses, enabling the researchers to gather reliable information. These assumptions formed the foundation upon which the research design and analysis were based.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

Literature on components influencing FP uptake among Muslim females of bearing age is reviewed. The concept of FP uptake is explained. Thereafter, the chapter's review of literature relied on the aims of the research findings, specifically a review of literature on: knowledge of FP (FP); the current uptake rate of FP and sociocultural components that affect the uptake of FP among Muslim women. This chapter explained the research's theoretical framework. A conceptual framework was then proposed and explained. Then, knowledge gaps were identified and discussed.

2.2 Theoretical Framework

This research finding was guided by the social cognitive speculation and the symbolic interactions premises. These theories were relevant in explaining components affecting FP uptake among Muslim females of bearing age.

2.2.1 Social Cognitive Theory

In 1960, Albert Bandura formulated the cognitive theory, which bases around the significant role of social modelling in human motivation, knowledge, understanding and actions. This theory recognizes that cognitive processes influence human motivation, while also acknowledging the impact of social factors on human thoughts and behaviors (Bell, 2007). At its core, the social cognitive theory posits that individuals are proactive, organized, and capable of self-regulation. It highlights the active interaction between factors that guide human behavior. According to the social cognitive theory, people are

motivated to acquire a specific behavior and achieve this by closely observing and imitating others (Shahidullah, 2002). The person would reinforce the taught action by reproducing these observed activities.

The theory proposes that personality requires an understanding of human brain processes and that people learn by seeing what other people do. This theory explores how humans process their experiences cognitively and how these processes ultimately affect their behavior (Shahidullah, 2002). It is thought that people abstract and integrate knowledge from a variety of experiences. People can define their surroundings and selves in terms of various important types of cognition and values. The behaviors of people may be impacted by these cognitions (Bandura, 1986).

The theory is applicable to this study as socioeconomic disparities are the cause of reproductive differences amongst religious groups. The concentration of individuals from a particular religious group in specific areas of the class structure, such as, education, income, or standard measures, can sometimes give the impression of a religious impact (Petersen, 1969). The theory explains behavior change by showing how socioeconomic disparities influence knowledge, social norms and cultural values that affect family planning uptake among Muslim women in Garissa County. This theory describes the knowledge, social and cultural components that affect the uptake of FP among Muslim women in Garissa County.

2.2.2 Symbolic Interactions Theory

A sociological foundation accompanied with George Herbert Mead and Max Weber, offers a perspective on society in which shared symbols, particularly language, play a crucial role

in shaping social dynamics. This theoretical approach, discussed within the field of sociology, seeks to explain how communities are formed and maintained through the repeated actions of individuals. Symbolic interactionists place significant emphasis on the concept of the self, which enables individuals to evaluate the consequences of their actions. However, some criticism has been directed towards symbolic interactionism for its neglect of the emotional dimension of the self as a foundational element in communication (Casino & Thien, 2009).

In simpler terms, symbolic interactionism suggests that an individual's perspective primarily depends on the symbolic meanings they develop through social interactions. This theory further examines society by unravelling the personal interpretations that individuals tend to use on occasions, behaviors and objects (Denzin, 2008). These meanings are deemed significant as individuals act in alignment with their beliefs, rather than objective reality. Since society is driven by human interpretations, people actively seek to interpret each other's behaviors, fostering the formation of social bonds.

The theory applies to this study as it emphasises sociocultural interactions and connections among women of bearing age in Garissa County. It highlights that social constructs are based on individuals' beliefs, which they put into practice in their daily lives. The theory explains behavior change by emphasizing how sociocultural interactions and individual beliefs shape daily practices, influencing how women of reproductive age in Garissa County engage with and interpret family planning. Through the process of social construction, people determine whom they interact with, how they engage, and contribute to the meaning assigned to a person's words and actions.

2.3 Review of Related Literature

2.3.1 FP Uptake

FP became popular in 1912 as a result of concerns about the negative health impacts of high fertility. However, the fertility-control options at the time were few and mainly coital dependent, such as the use of the condom and withdrawal. The birth control pill and intrauterine devices, both extremely successful and independent of coitus, were not made widely accessible until 1960. Later in the 20th century, other highly effective techniques followed these. Between 1960 and 2010, there were more birth control choices available to women than ever before (Shapiro & Hinde, 2020). Three-fifths of exposed couples worldwide now accept FP, which is regarded as one of the biggest government hospitals victories of the 20th century. However, access issues and inadequate service delivery in many countries prevent many people from using modern contraception, and the cost of unwanted pregnancies remains high (Götmark & Andersson, 2020). Drug-related concerns, societal factors, health system and policy considerations and other restrictions may also limit FP uptake. Numerous studies conducted globally, regionally, and locally provide evidence of the effects of these restrictions.

The lowest rates of FP uptake are found in Africa, with Middle and Western Africa having prevalence rates of less than 25% and Europe, north America, Caribbean and Latin America having rates of 70% or higher. Nine out of 10 people who used contraception in 2011 did so using a modern technique (Franco, 2020). However, there is still a long way to go until everyone has access to reproductive health. In the least developed nations, at least one in five married women of reproductive age have unmet FP needs. Worldwide, there are an estimated 143 million married or in-union women who lack access to FP.

Studies from Tanzania and Nigeria show how the sociodemographic of women and provider prejudice regarding contraceptives might influence the types of contraception offered (Yakubu & Salisu, 2018). It's important to consider the qualities of providers, including their religion, age sex and the qualifications and training they have undergone (Yakubu & Salisu, 2018). In Burundi, Christian healthcare practitioners withheld FP services to women, citing religion, whereas male healthcare providers in Senegal were almost certainly than female healthcare providers to prohibit approach to FP on the basis of age (Yakubu & Salisu, 2018). Older employees may also be less likely to recommend contemporary FP since they have more traditional conceptions of reproduction. Yakubu and Salisu (2018) study presents contextual and empirical gaps as it was conducted among Christian healthcare practitioners.

There are significant barriers to FP uptake (Kungu et al., 2020). These barriers, which are particularly prevalent in rural areas, include gender disparities, low education levels, travel distances to medical facilities, issues with hiring and retaining medical professionals and negative views of FP uptake. Beliefs and resistance from partners have been cited as variables that affect the uptake of FP, in addition to the limited accessibility of many FP approaches (Makau, 2017). The marginalized communities in Kenya face many of these access challenges, yet there is little research on how to effectively and sustainably offer necessary healthcare to these communities. Health care service providers must consider the particular requirements of marginalized groups, including structural inequities (Makau, 2017).

In Kenya, 61% of women use modern contraceptives regularly. Even though they are widespread nationwide, regional and social inequalities still exist (Makau, 2017). Counties

in North-Eastern Kenya have a large number of pastoralist populations, and between 85% and 89% of people live in abject poverty. In these counties, the prevalence rate is less than 3%, and the births per woman range from 5.2 to 7.8 (Makau, 2017). This shows that there may be significant gaps in the need for and availability of contemporary FP techniques.

Societal acceptance of FP is also influenced by community and religious leaders, particularly in pastoral environments where they are frequently regarded as the guardian's way of life (Yakubu & Salisu, 2018). Muslims who oppose FP have a wide range of justifications for why it is not in line with Islam. They contend that FP initiatives are an effort to reduce the number of Muslims, that contraceptives encourage morally dubious behavior, and that contraception is wa'd, or murder (Zakiul et al., 2020). Equally diverse justifications are offered by FP proponents.

Islam recognizes both families and specific rules regulate family relationships. The topic of FP has frequently sparked a variety of opinions among members of society and Islamic scholars. People support their arguments on the basis of the Quran and the prophet's Sunnah, however the perspectives that are produced are various and diverse. Due to the discrepancy in how different civilizations see the practice, many Muslims do not practice female circumcision (Neyaz et al., 2017). Legal experts view the Prophet's warning against pregnancy while lactating and The Qur'an prescription of two years of breastfeeding as support for spacing out children. Couples can use contraception instead of foregoing sexual activity for a full two years. Muslim women of reproductive age have a reluctance to use birth control or FP. High birth rates are a widespread phenomenon that have put a lot of strain on parents' finances, relationships and mental health, especially for Muslim women (Tigabu, 2018).

FP and maternal and child health interventions have received little attention in Garissa county. The national average for distance to a health facility distance is at 3 kilometres; while that in the north eastern counties is 50 kilometres (Ali et al., 2020). Health professionals and religious leaders provide pastoralist populations with information on FP and health services. Particularly, healthcare professionals offer advice about many methods of FP, such as condoms, lactational amenorrhea, oral contraceptives, intrauterine devices and safe days.

2.3.2 Knowledge of FP among Muslim Women

Family planning aids women prevent unwanted and high-risk pregnancies. Although family planning (FP) programs began in Malaysia in the 1960s, uptake remains low. From an Islamic perspective, family planning must comply with specific laws and guidelines. Mahmud et al. (2024) examined prevalence, knowledge and factors influencing FP practices among ever-married women between 15-49 years. Using a quantitative approach and two-stage stratified sampling, 2,081 respondents across Malaysia were surveyed through online questionnaires and personal interviews. Descriptive statistics and a chi-square test were used to analyse the data. The most commonly utilized methods were condoms, pills, and withdrawal, with a contraceptive prevalence rate (CPR) of 64.7 percent. Higher prevalence was observed among Malays, women aged 30-34, rural residents, those with low education, working women, those in the M40 income group, and women with 1-2 children. However, 48.1 percent of participants had low knowledge of FP. It highlighted need to enhance women's knowledge of family planning, including Islamic legal perspectives, to promote overall well-being. Saari et al. (2024) presents methodological gaps as it used a quantitative approach.

Undesirable pregnancies and unsafe abortions significantly affect women's health, causing death, infertility and long-term reproductive problems. Usage of modern contraceptives has increased, helping women exercise their reproductive rights. Nasreen et al. (2024) conducted a cross-sectional research using a two-stage stratified random selection technique to examine the family planning knowledge and practice of 461 Muslim women residing in rural Karnataka, India. The data was gathered using semi-structured questionnaires. Statistical analysis using SPSS version 27, chi-squared tests and logistic regression identified significant associations. Faith in FP had a strong positive relationship with its practice ($p < 0.0001$). Additionally, age was a factor in utilization; fewer women between the ages of 31 and 40 used family planning methods than women between the ages of 21 and 30 ($p = 0.012$). Main reasons for non-use included preference for a particular child (23.9%) and opposing cultural customs (16.5%). Although Muslim women had reasonable knowledge of modern contraception, usage remained low. Outreach programs, community-based health workers and educational initiatives are recommended to improve family planning practices.

Dhakal et al. (2020) assessed the correlation among maternal mortality and the unmet need for FP. They specifically focused on Muslim women of reproductive age and their knowledge of FP. The study applied a cross-sectional design, interviewing married Muslim women from 164 households using systematic random sampling. The findings revealed that 94.5% of the women had knowledge about FP methods, with a significant awareness of Depo as a contraceptive method. The respondents generally had a positive attitude towards FP, and 79% of them practiced temporary methods. However, none of the surveyed women used permanent FP methods. The research findings found no significant

relationship between socioeconomic and demographic components and knowledge of FP methods, except for a significant association with wealth rank and FP practices. A conceptual gap is evident as the independent variable was maternal mortality.

Alomair et al. (2020) conducted a secondary search on electronic databases to identify barriers to FP uptake among Muslim women. Their findings indicated that Muslim women faced various barriers related to personal, religious, cultural, and structural factors. Poor knowledge about FP, negative attitudes, misconceptions and cultural and religious beliefs were identified as barriers to uptake of FP. Family and community influence, including opposition from husbands and families influence uptake of FP. Fear of stigma and societal judgment also hindered unmarried women from seeking contraception and FP information. The study emphasized the complex nature of poor FP knowledge and practices among Muslim women, influenced by multiple factors including personal, community, cultural, religious, and policy-related aspects. The authors stressed the need for interventions that address these barriers to improve access to education and services.

A cross-sectional study was undertaken by Shumayla and Kapoor (2019) to evaluate the known idea and viewpoints of Muslim females in North India regarding FP. Despite the fact that most women were aware of FP, just 47% of ever-married women employed any kind of FP technique, according to their research. The usage of FP methods was significantly correlated with variables like education, age and socioeconomic situation, parity and sex of the first child. The biggest barriers to employing FP methods were found to be ignorance, fear of negative effects, and religious restrictions. The study found that Muslim women tended to avoid using FP despite having access to enough information, and

it suggested that raising the marriage age, improving education, and raising living standards could all help.

Owolabi et al. (2018) looked into the idea, sentiments and operations about FP among Nigerian females of childbearing age. The study used a standardized questionnaire given to 200 women visiting clinics for baby welfare. The findings revealed that 100% of participants practiced FP and that 97% of them were knowledgeable about FP and contraception. Approximately 70% of the women showed a favorable view toward FP. The study discovered a substantial connection between women's attitudes toward FP and parity, education level and education level. Women's understanding of FP and their actual practice of FP were significantly associated with one another. The study showed that the women who were patients at the chosen institutions had high knowledge, optimistic attitudes, and used successful FP techniques.

Olatade et al. (2020) conducted a descriptive survey assessing family planning knowledge and utilization among 85 women attending extensive health center in Nigeria. Chi-square test was used to test hypotheses and SPSS ver. 26 was used for data analysis. Results showed that 55.8% of respondents had good knowledge of family planning, but actual utilization was inadequate at 55.8%. There was a strong correlation between the number of children per household and FP use (χ^2=8.649, p=0.034), but no significant correlation was seen between knowledge and either utilization (χ^2=0.828, p=0.730) or educational level (χ^2=4.303, p=0.116). It was concluded that while knowledge is above average, it does not translate into practice, emphasizing need for stronger advocacy and interventions to enhance contraceptive uptake and achieve universal reproductive health access by 2030.

When it comes to reproductive health and safe parenting, family planning (FP) is essential. The Gambia is one of many developing nations where the unmet demand for family planning is a serious problem for public health. Barrow (2020) surveyed 643 women in rural Gambia, ranging in age from 15 to 49, to determine their knowledge of family planning (FP) and their uptake of FP. A multistage sampling strategy was used to choose participants and data was obtained using pretested structured interviews. The data was analysed with the help of IBM SPSS version 24. A total of 30.4% of women in the survey used some kind of contraception, with that number increasing to 34.2% among women who were in committed relationships. Among women who have used FP, 86% listed the ability to space out their children as the greatest beneficial result, while 49.5% listed amenorrhoea as the most frequent adverse effect. Injectable contraceptives (58.5%) and oral pills (44.0%) were the most commonly used methods. Despite moderate knowledge, contraceptive uptake was moderately low. The study recommends strengthening FP services in rural areas, improving service quality, promoting gender equality, enhancing male and religious leaders' involvement, and initiating communication programs to encourage interspousal dialogue on family planning.

Despite the assumption that tertiary students majoring in health care are well-versed in family planning, this does not always translate into more service utilization. Sulemana et al. (2024) took part in a cross-sectional survey with 411 students majoring in nursing, midwifery and allied health to find out their knowledge about FP services, how often they used FP and what variables affected their decision to utilise these services. Using a computer-assisted personal interviewing survey, students filled out a 24-item questionnaire. The statistical significance level was set at $p<0.05$ and the data was analysed

using Stata/IC version 16. Nearly all students (99.7%) had knowledge of family planning, mainly acquired in school (51.8%) and clinics or hospitals (41.4%). However, about 21.7% reported using family planning services. Period cramps (57.9%), infertility (33.1%) and weight gain (32.5%) were the most often reported adverse effects. High proximity to service providers did not translate into higher utilization, mainly due to lack of acceptance by community, family and partners. The study recommends addressing these barriers through educational programs that involve men and by improving access to services to enhance FP uptake among health students.

Through providing access to family planning services, people are better equipped to manage their own sexual and reproductive health. Koroma et al. (2022) conducted a descriptive cross-sectional survey among 180 women aged 15-49 in Sierra Leone from Nov. to Dec. 2021. Using a pre-tested questionnaire, the study assessed knowledge, attitudes and practices associated to FP. Although everyone knew about FP, only 68.3% had actually taken contraceptives. Media exposure taught almost half of the population about FP. A positive attitude towards contraceptive use was reported by 95% of participants. Oral pill utilization (31.6%), injection (21.1%), implant utilization (19.1%), lactational amenorrhoea (13.8%), condom utilization (8.8%), and intrauterine devices (5%). Of those who did not use contraceptives, 52.6% were hesitant to admit their use, 19.2% wanted a child, 15.7% were afraid of adverse effects, 8.7% were pregnant, and 3.5% had religious convictions. It highlighted that despite high awareness and positive attitudes, contraceptive use remains inconsistent, emphasizing need for better education, motivation and access to FP services.

In South Sudan and other areas with limited access to healthcare, family planning is particularly important for enhancing the health of mothers and children. Jil et al. (2024) collected data from 288 women in Bor South County, Jonglei State, ranging in age from 15 to 49, as part of a descriptive cross-sectional research that was performed from Jan. to Mar. 2024. Data was gathered using structured questionnaires using the Kobo Collect Tool, and participants were chosen using simple random selection. Significant gaps in knowledge were found via analysis using SPSS version 26.0. The greatest levels of awareness were seen for oral contraceptive pills (17.7%) and condoms (27.4%). A correlation between age and understanding of family planning techniques was found to be statistically significant (p=0.00) in the Pearson chi-square test. Age, marital status and level of education were among the socio-demographic variables that substantially affected attitudes on family planning; on the other hand, religious affiliation (p=0.004) and educational attainment (p=0.000) affected service use. The research showed that people in Bor South County need more educational and outreach initiatives to learn more about FP, overcome socio-demographic obstacles, and use FP services more often.

Omar and Abdirisak (2022) studied married women of childbearing age who visited SOS Hospital in Mogadishu, Somalia, to determine their level of family planning knowledge and use. From Nov. 2017 to Apr. 2018, researchers administered a descriptive, cross-sectional study. A total of 150 reproductive-age women were polled on their knowledge and experience with use of contraceptives. Individuals who took part in the study had an average age of 30.7 ± 7.2 years. Only 40.0% of women reported having heard of and having knowledge about family planning, while 60.0% were unaware. In terms of practice, 43.3% of women used family planning methods, whereas 56.7% did not. A large percentage of

respondents lacked adequate understanding about family planning, and the survey found that both the general practice and compliance with methods of contraception were low. These findings highlighted need for increased education and outreach efforts to improve knowledge and promote greater use of FP services among women in Mogadishu.

FP involves couples intentionally limiting or spacing pregnancies through contraceptive methods. Despite its importance, global adoption remains insufficient, contributing to approximately 3.9 million unsafe abortions annually. Sulle and Nkya (2025) surveyed women (aged 18–45) using the FP clinic at Tanzania's Mbeya Zonal Referral Hospital to determine their level of FP knowledge, attitude and practice. Using simple random sampling, 350 participants were selected, and data was collected through structured, close-ended questionnaires. A statistical significance was shown by a p-value of 0.05, which was calculated using Stata Ver. 23. Most participants (50.6%) were aged 26-35 years. Results showed that 93.1% knew a lot about FP, 2% had a favourable attitude towards it, and 80.3% really put it into practice. Knowledge (p=0.007), educational attainment (p=0.000), and age (p=0.000) were substantially linked with positive practices. Although awareness was high, actual contraceptive use remained relatively low. Additional research is needed to address challenges and enhance contraceptive acceptability and the study suggested that women should get focused information and counselling. Men should also be engaged with FP information.

2.3.3 Uptake Rate of FP among Muslim Women

In order to avoid unintended pregnancies, maternal fatalities and unsafe abortions, it is imperative that FP services are used. Contraceptives are not widely used in Nepal,

particularly among the country's ethnic and religious minorities. Thakuri et al. (2022) conducted a study to look at Muslim females' known idea of and use of contemporary contraceptive techniques in Nepal. To gather data, interviews were done. The outcome implied that although 70% of the participants had strong understanding of contemporary contraceptives, only 47% actually used them. Women with nuclear families and those employed in agriculture knew less about contemporary contraception. On the other hand, women with primary, secondary, or higher education, good knowledge of modern contraceptives, and those who had received FP counselling at health facilities were more likely to practice modern contraceptives. Despite having adequate knowledge, Muslim women rarely used contemporary forms of contraception. The study emphasized the need for focused interventions to enhance the knowledge and uptake of FP, especially among socially deprived females and those who have limited idea FP methods. Subdermal implants are regarded as a long-term, reliable, and simple method of contraception in Nigeria. They have few side effects and no hazards to the user's health. Subdermal implants are not widely used in Nigeria, though. Ayogu et al. (2019) examined data on subdermal implant users' uptake rates, side effects, and dropout rates as well as the sociodemographic features of those users. The study found that women discontinued the use of implants due to their desire to sire more kids.

In Ethiopia, the use of modern contraceptive methods is still low, despite the benefits of preventing unintended pregnancies, protecting maternal and child health, and promoting females' health. Mulugeta et al. (2022) conducted a study to determine the risk factors for not using FP services. Eighty percent of females in the bearing age did not use FP methods, according to study of a nationally representative sample. Age (25–34 years), education,

wealth, religion (Muslim), and living in a rural area were all linked to not using contraception. The study suggested FP interventions for Muslim women, younger women, women who live in country side regions, and those who are economically disadvantaged. It was also discovered that empowering women in regard to FP initiatives was effective in enhancing FP uptake.

Burundi has experienced high population growth and a high fertility rate, indicating low uptake of FP. Nkunzimana et al. (2021) looked at the causes of Burundian women of reproductive age's low FP uptake. Only 24% of women used FP, according to cross-sectional data from the Burundi Population Medical Survey that were evaluated. The majority of responders mostly used injectable contraception. The acceptance of FP was greatly influenced by elements like age and religion. The study suggested improved access to FP resources and services, focusing in particular on women over the age of 30, and urging religious leaders to actively promote FP.

2.3.4 Sociocultural Factors Influencing Uptake of FP

Saikia and Medhi (2023) studied contraceptive use among scheduled caste women in Jorhat, Assam, using a community-based cross-sectional design with a sample of 612 married women of reproductive age. Data were gathered via personal interviews and analyzed using SPSS ver. 23. Findings showed 98.2% awareness of family planning (FP), 87.5% positive attitudes, and 65.3% usage. The main reason for non-use was a desire for more children (58.3%), with mass media (76.8%) as the key information source and oral contraceptive pills (47.1%) as the most utilized method. Similarly, Daramola et al. (2024) identified challenges in accessing family planning services in Oyo West, Nigeria, highlighting barriers that necessitate targeted educational interventions.

The social and cultural status of individuals plays a key function in determining their idea and adoption of contraceptive methods. Agbo et al. (2018) assessed the uptake rate and prevalence of FP methods and the correlation between social status and the methods used. Results showed that 46% of the participants had no orderly education, while 85% of the respondents were married. The vast majority of women worked mostly in agriculture. According to the survey, injectable contraceptives were the most widely used kind (18%). Age, religion and marital status all showed empirical relationships with the usage of contraception. Rural women in the community used contraceptives less frequently than urban women. Also, married women, Christians and younger women used contraceptives more frequently than older, Muslim and single females.

In Tanzania, women express a top denied demand for knowledge and availability to FP. Sundararajan et al. (2019) conducted focus group discussions to explore the relationship between religious beliefs and FP in Tanzania. The study discovered that male authority and gender dynamics conflicted with female knowledge and encouraged bargaining or hidden contraception use. Religious acceptance of FP methods was important, but participants' views of their religion's location on the matter differed. While some participants felt that FP was incompatible with their religious beliefs, others regarded it as a morally acceptable way to uphold their duty to protect and care for their children. The study found that gender dynamics and religious practices have a substantial impact on the use of contraceptives, and that efforts to promote uptake should involve male household leaders and address issues of religious acceptability.

On the other hand, Nuwasiima et al. (2021) conducted a survey in Uganda with 4,352 respondents to explore gender disparities in family planning knowledge and use. Results

indicated women generally had higher knowledge and reported modern method usage, while men expressed more concerns about infertility from these methods. The findings advocate for sex-specific strategies to enhance family planning awareness and practices.

Muluneh et al. (2024) assessed cultural factors affecting family planning (FP) use among women in Ethiopia's pastoralist areas, finding that 47% had never used FP. Poor household finances, lack of partner support, and shorter birth spacing were linked to non-use, highlighting unmet FP needs. Recommendations included enhancing educational initiatives aimed at men and community leaders, along with financial aid for related costs, to boost FP uptake and reproductive health.

Uwamungu and Nahayo (2022) evaluated the impact of FP on socioeconomic development in Byumba Sector, Rwanda, based on data from 384 households (2017-2021). Their findings indicated strong ratings for family planning services and components, with significant socioeconomic benefits, including increased income and better healthcare access. Over half of respondents reported monthly savings post-FP adoption. Regression analysis revealed that contraceptive security, education, and women's health improvements positively affected development, while service costs had a negative impact. The study advocated for policies enhancing affordable FP access to benefit community welfare.

In Nigeria, Tettehfio et al. (2022) conducted a cross-sectional descriptive study involving 407 women of reproductive age from suburban and rural areas to assess FP awareness, uptake, and influencing socioeconomic and sociocultural factors. Participants were selected through multistage sampling and data were collected via questionnaires. Analysis utilized SPSS version 26, applying chi-square and logistic regression to identify significant

predictors. While 69.3% of respondents were aware of FP, only 42.3% utilized it. Notable socioeconomic predictors included marital status (P = 0.004) and community type (P = 0.010). Key sociocultural factors involved spousal approval (P = 0.02), social group approval (P = 0.053), belief in curses (P = 0.001), prayer reliance (P = 0.016), and traditional practices (P = 0.000). Recommendations include enhanced health education, rural FP promotion, and increased NGO involvement.

Arma and Utama (2020) undertook a qualitative investigation to determine the factors affecting the selection of female contraception by women for use in family planning. Female family planning acceptors and their spouses served as primary informants in this study and data was further analysed through focused group discussions and in-depth interviews. The study found that decisions were primarily driven by rational motives, such as effectiveness and convenience of contraceptive methods. However, one prominent social factor emerged—husbands' support. All informants agreed that spousal support significantly influenced women's choices regarding contraception. This highlighted the strong role of partner involvement in family planning decisions and suggests that efforts to increase contraceptive uptake should include strategies that engage and educate male partners. The study emphasized the need for family planning programs to incorporate both rational and social considerations, particularly within the context of spousal dynamics.

Omodele et al. (2025) examined factors affecting accessibility and utilization of FP services among women of childbearing age in Ibarapa North West LGA, Nigeria. Using a cross-sectional descriptive design, 350 women were surveyed through structured questionnaires and analyzed with SPSS version 25. Although 85.7% of respondents accessed free consultations, only 61.4% could access sterilization services. Major barriers

to FP utilization included financial limitations (74.3%), low educational status (69.4%) and cultural restrictions (48.3%). Natural methods (70.1%) and condoms (59.8%) were the most preferred contraceptives, while sterilization and injections were less favored. Despite service availability, utilization remained low due to misconceptions, lack of trained personnel, and deep-rooted cultural beliefs. The study highlighted the need for targeted interventions, including cost subsidies, improved healthcare infrastructure and culturally sensitive education. Strengthening collaboration among policymakers, healthcare providers and local leaders is essential to improve FP access and uptake in rural areas.

Ndayishimiye (2020) investigated factors influencing family planning (FP) uptake in rural Rwanda, where high fertility rates persist despite the government declaring FP a national priority in 2012. The study used a mixed-methods approach in Karongi District, Western Province, targeting 119 households with women aged 15–45. The quantitative survey assessed FP use, while the qualitative component explored socio-cultural barriers. Data was collected through door-to-door interviews using paper-based questionnaires, analyzed with SPSS, and tested using Chi-square and t-tests at a 95% confidence level. Findings revealed that socio-cultural norms significantly hindered modern FP uptake. About 32.8% of respondents did not use contraception, and 12.6% used only natural methods. A large majority of religious people, especially Christians (91.8%), saw contemporary FP practices as immoral and advocated for abstinence (73.3%). Large families were seen as valuable assets and sources of labour by cultural norms (17.9%). Gender-based barriers (2.5%) stemmed from male dominance in FP decision-making. Additionally, 28.2% of non-users feared side effects. The study recommends involving men and religious leaders in FP campaigns to address socio-cultural resistance and promote broader acceptance.

Ibikunle et al. (2024) surveyed residents of Ekiti State, Nigeria, to learn more about their perspectives on FP and how it was shaped by cultural norms and beliefs. The study targeted sexually active young unmarried women and married men and women of reproductive age across three communities in different senatorial districts. In 2019, a total of eight focus groups were conducted, with 50 women and 28 men taking part. Data from audio recordings and field notes was transcribed and analyzed using QSR NVivo V.8. Findings revealed that most participants believed FP was intended only for married couples, reflecting a limited perception of its broader utility. Diverse beliefs emerged regarding FP's acceptance, with cultural and religious norms significantly shaping attitudes and behaviors. Key factors influencing FP uptake included intrapersonal beliefs, interpersonal dynamics and health system barriers. It was concluded that different perceptions and socio-cultural beliefs significantly affect FP adoption. It recommends targeted male partner engagement in awareness campaigns to enhance FP uptake in the region.

In Kenya, although efforts have been made to improve access to FP services, disparities in usage persist across different regions. Abdi et al, (2020) conducted a study to search the anthropogenic factors that affect FP utilization among Muslim communities in Kenya. The research revealed diverse perceptions and beliefs about FP within these communities, reflecting varying explanations of Islamic teachings and differing arguments for or against its use. Furthermore, factors such as the desire for extended family, the practice of polygamy, high rates of mortality, and a cultural preference for boys were identified as repulsive influences on FP adoption. The study also highlighted the limited decision-making power of women concerning their reproductive health, which further impeded FP uptake. To address these challenges, the study emphasized the value of coming together

religious leaders and scholars in efforts to dispel misconceptions about FP and promote its acceptance within Muslim communities.

Mweu et al. (2019) examined the demographic and socio-cultural factors that influence utilization of FP among reproductive-aged women in Turkana Central Sub-county, Kenya—a location where the coverage of FP remains low despite the country's best efforts. Women ranging in age from 15 to 49 years were surveyed in this cross-sectional research using interview guides and structured questionnaires. Most participants (80.8%) were between 15 and 39 years old, married (60%) and Christian (94.2%). Key enablers of FP uptake included prior contraceptive use, self-efficacy, and affordability, while major barriers were fear of side effects, cultural beliefs and absence of spousal support. Results showed that FP knowledge (r=0.299; p=0.001), prior FP usage (r=0.611; p=0.000), religious affiliation (r=0.401; p=0.000) and age (r=0.309; p=0.001) were all significantly correlated with FP use. There were no significant correlations with either marital status, level of education, or employment. The study highlighted the importance of targeted health education initiatives in underserved areas like Turkana, emphasizing accurate information about contraceptive options and benefits to enhance FP uptake and improve maternal and neonatal health outcomes.

Fedha (2022) looked into how different socio-demographics characteristics affected the uptake of FP methods in Kenya's Kakamega County. Despite Kenyan government's longstanding efforts to promote FP as a strategy to curb reproduction rates and support societal development, progress has been limited—particularly in western Kenya, where fertility rates remain high relative to economic growth. The study focused on three sub-counties: Malava, Lugari and Likuyani, targeting 17,469 households and narrowing data

collection to two wards based on population density. Through means of interviews and questionnaires, 376 locals and 12 public health officials were surveyed. Findings revealed that FP users were primarily women aged 26–35, married, and with secondary education. However, socio-demographic barriers persisted, particularly among religious groups. A significant portion (61.2%) of Catholic respondents had not used any FP method, compared to higher usage among Protestants and Muslims. The study indicated the need for more inclusive, context-specific strategies to address religious and socio-demographic barriers to family planning in western Kenya.

Nandikove (2020) examined socio-demographic predictors influencing the choice of FP methods among women at Kakamega County Teaching and Referral Hospital (KCTRH), recognizing FP's critical role in managing population growth, fertility, and achieving Sustainable Development Goal 3. Involving 380 women who were either admitted to or visiting the FP clinic, a cross-sectional survey methodology was used. Using SPSS version 20, data was analysed from structured and semi-structured self-administered questionnaires. Key predictors of FP method choice included marital status, age, parity, and religion. Most respondents were married (65%), aged 25–49 years (80%), Protestant (51%), and had six or more children (66%). Primary sources of FP information were health institutions and the media, while only 1% obtained FP knowledge through books or written literature. The study concluded that socio-demographic characteristics significantly influence FP method choice. Improving these factors through targeted interventions could positively affect contraceptive preference and increase FP uptake, thereby raising the contraceptive prevalence rate (CPR) in Kakamega County.

Okenyoru et al. (2024) investigated cultural and social elements affecting the use of contemporary methods of contraceptives in Turkana County, Kenya, a location with a significant unmet need for contraceptives and an adoption rate of just 30.7%. A total of 360 individuals were chosen at random to participate in the descriptive cross-sectional research. The data was examined with the use of chi-square tests, proportions and frequencies in SPSS 21.0. Results indicated a higher-than-expected utilization rate of 53% for modern contraceptives. The following socio-cultural factors were found to be significantly linked to the use of contraceptives: religious acceptance of family planning (χ^2=6.997, p=0.008), myths and misconceptions (χ^2=31.096, p=0.000), gender preference (χ^2=28.876, p=0.000), cultural beliefs about the ideal size of a family (χ^2=26.373, p=0.000), the person or people who make decisions about family planning (χ^2=19.745, p=0.000) and discussions with a partner (χ^2=55.063, p=0.000). The study indicated how deeply rooted cultural norms, religious beliefs and limited autonomy influence contraceptive decisions. It recommends tailored, culturally sensitive interventions to dispel myths, promote shared decision-making, and improve reproductive health outcomes in remote regions like Turkana County.

Kipngo'k et al. (2023) examined prevalence of myths and misunderstandings about long-acting permanent methods (LAPMs) of FP and their effect on women's decision-making in Ossen Location, Baringo North Sub-County, Kenya. Stratified random sampling was used to pick 421 women, ranging in age from 15 to 49, from a total population of 2,440. The research used a descriptive cross-sectional design and a mixed-methods approach. Eligible participants had lived in the area for at least six months and gave informed consent. While 66% of women had FP, 61% used short-term techniques like pills and Depo-Provera, 39% used long-acting reversible methods like implants and IUCDs and 0% used permanent

measures like tubal ligation. Myths and misconceptions about IUCDs, implants, and tubal ligation significantly influenced women's preference for short-term methods over LAPMs. The study found a clear link between misinformation and low LAPM uptake. It recommends targeted educational campaigns to dispel myths and improve perceptions about LAPMs to encourage broader and more informed contraceptive choices.

Maintaining a sufficient gap between pregnancies is crucial for ensuring the well-being of both mothers and new-borns. However, it is concerning that only half of Kenyan females who do not wish to give birth instantly after conceiving actually utilize birth control annually. To address this issue, Owuor et al. (2018) conducted a study to identify components that impact the implementation of (FP) methods during the after-birth period. The research involved 259 women who had recently given birth and were attending their children's first measles vaccination. The results revealed that 80% of the women had adopted FP measures by the ninth month postpartum. Notably, the presence of a sexual partner living in the same household emerged as the primary predictor of FP uptake. Based on these findings, the study recommended that initiatives aiming to promote postpartum contraceptive use should specifically target females who reside with their partners under the similar roof.

2.4 Research Gap

Previous studies present various knowledge gaps. Alomair et al. (2020) carried out secondary research with the objective of identifying the personal, religious, cultural, and structural barriers that hinder the adoption of FP among Muslim females. The study disclosed that women held negative attitudes towards FP when it came to limiting the number of children but not for child spacing. In another study by Sundararajan et al. (2019),

it was hypothesized that one of the main reasons for the low perception of FP in Tanzania is the uncertainty among women and their partners regarding the compatibility of pregnancy prevention with their religious beliefs. The researchers conducted 24 focus group discussions to gather data. Additionally, Abdi et al. (2020) examined the socio-cultural components that affect the use of modern control births within Muslim communities in Kenya. The results highlighted the variation in perceptions and beliefs surrounding FP use, despite Islam being the predominant religion in both communities. These studies present methodological gaps, that this study set to achieve.

Shumayla and Kapoor (2019) carried out research to examine the known idea and beliefs of Muslim females in North India regarding birth control methods. The researchers found that factors such as age of marriage, parity were significantly accompanied with the utilization of FP methods. In a study by Owolabi et al. (2018), the known idea, opinions and operations of FP among females of reproductive age attending selected hospitals in Nigeria were examined. The researchers observed a correlation between educational qualification and parity with women's attitudes towards FP. These studies present contextual gaps as they were conducted in other countries.

Ayogu et al. (2019) evaluated socio-demographic characteristics of subdermal implants users. Mulugeta et al. (2022) carried out a study to examine the components related to the non-use of FP services among females of bearing age. The results revealed that 80 percent of the participants did not utilize a modern FP method. In a separate study, Owuor et al, (2018) aimed to identify the predictors of post-partum FP uptake. These studies present conceptual gaps as variables are different from this study

2.5 Conceptual Framework

It clarifies how a particular phenomenon connects with its individual components (Perry & Towers, 2018). It is a framework for grasping the relationship or causation between observations and their meanings. The independent variables of the study are sociocultural factors and knowledge. The dependent variable is FP uptake.

Independent variables **Dependent variable**

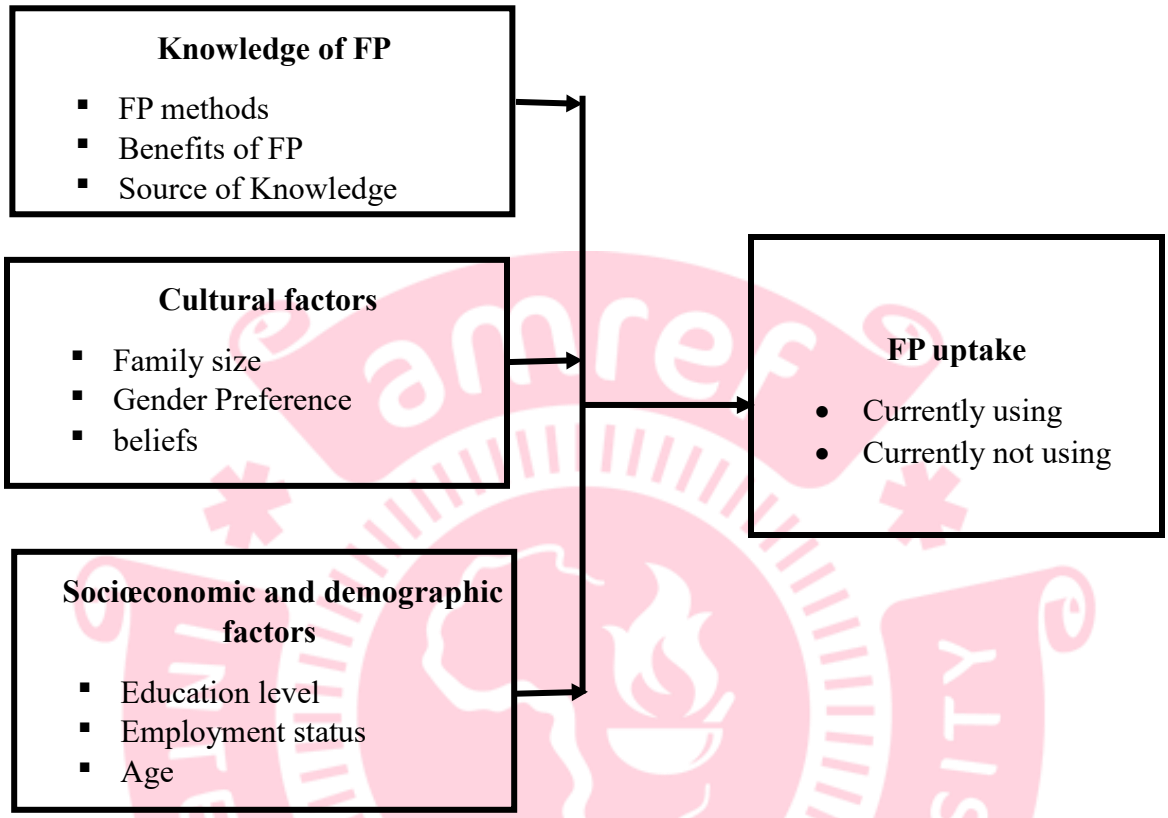

Figure 2.1: Conceptual Framework

CHAPTER 3: METHODOLOGY

3.1 Introduction

The design and population are discussed. Sampling is then outlined and sample stated. Tools for collection of data are highlighted and analysis for data is explained. The ethics that were adhered to are discussed.

3.2 Research Design

A cross sectional research design was used to investigate the components that affect the adoption of modern birth control method among Muslim females of child bearing age in Garissa County. The adoption of a cross-sectional design enabled the examination of various aspects by integrating both quantitative and qualitative approaches, allowing for inferences to be drawn about the target population at a specific moment in time (Kikomeko et al. 2021). The research employed interviews, focus group discussions and key informant interviews to collect data. Purposive sampling was used for focus groups and key informant interviews to ensure the collection of accurate information from participants. This research design thus provided credible results for the phenomenon under investigation.

3.3 Location of Study

This research was done in Garissa County. Garissa has an area of 44,736Km^2. The county has an international border with Somalia. The county neighbours Lamu County, Tana River County, Isiolo County and Wajir County. It has seven sub-counties namely: Hulugho, Garissa, Dadaab, Balambala, Ijara, Fafi and Lagdera. Garissa County had a population of

841,353 that is, 382,344 females and 458,975 males (KNBS,2019). Garissa county's main economic activity is pastoralism.

3.4 Target Population

This research finding targets the women aged 15-49 years in Garissa County. The county is predominantly Muslim, hence justification for the population. Thus, the inclusion criteria were:

Muslim women aged 15–49 years and resided in Garissa County, women who were capable of participating and provide informed consent; while the exclusion criteria were women who were severely ill and/or hospitalized at the time of data collection. The target population had homogeneous experiences on FP, thus are best suited to give credible responses to the study questions. Table 3.1 shows the target population of the research findings.

Table 3.1: Target Population for women aged 15-49 years

Sub county	Population
Balambala	7,325
Dadaab	42,070
Fafi	30,440
Garissa	37,224
Hulugho	30,427
Ijara	32,155
Lagdera	11,426
Total	**191,067**

Source: KNBS (2019)

3.5 Sampling

3.5.1 Sample Size Determination

A sample is a subset of a participant's generalization (Kendra, 2018). The minimum sample size for females aged 15-49 years in Garissa County was approximated by using the formula $n = (Z^2 P (1 - P)/e^2$ Where n is the minimum sample size. Z= 1.96, e=0.05 and p= 12.7% (the total FP uptake rate for Garissa County) (Mduma, 2015). The study included an estimated nonresponse rate of 10% into the study for enhanced accuracy. A sample of 187 participants was involved in the study. Table 3.2 shows the sample size of the study.

Table 3.2: Sample Size for women aged 15-49 years

Sub county	Population	Sample
Balambala	7,325	7
Dadaab	42,070	41
Fafi	30,440	30
Garissa	37,224	36
Hulugho	30,427	30
Ijara	32,155	32
Lagdera	11,426	11
Total	**191,067**	**187**

3.5.2 Sampling Procedures

The sampling process began with multistage stratified sampling to ensure representation across different subcounties in Garissa. First, subcounties were randomly selected. Within these sub-counties, villages were also selected using simple random sampling. From the

selected villages, households were stratified based on religion. Only households with Muslim women of reproductive age (15–49 years) were considered for inclusion. In these strata, Muslim women were then selected using systematic random sampling to ensure the sample reflected the target population's characteristics.

3.6 Data Collection

The research employed mixed methods. Semi-structured interview schedules were used to collect data from selected Muslim females aged 15-49 years, with the researcher providing guidance on questionnaire completion. The study sought consent from the respondents. Respondents were assured of confidentiality, and their names were not requested on the questionnaires. Additionally, participants were not exposed to any risks.

To gather qualitative information on components affecting FP (FP) uptake among Muslim females aged 15-49 years in Garissa County, key informant interview guides were used to interview 10 health workers and 7 women group leaders. The women group leaders played a critical role in the community by providing leadership in training women on social, cultural, and economic matters.

The study also conducted focus group discussions with participants from each of the seven sub-counties, resulting in a total of seven FGDs, which aligns with Saunders et al. (2018), who suggested that qualitative data saturation could be achieved with a sample size of five to fifteen respondents. Community health promoters, who possess vast knowledge of factors influencing FP uptake in the community, contributed valuable insights. These

discussions provided a deeper understanding of the qualitative aspects of factors affecting FP uptake among Muslim females of childbearing age in Garissa County.

3.7 Data Analysis and Management

The accuracy and consistency of the questionnaire interviews were first verified to ensure data reliability. Once verified, the data were cleaned to remove any errors or inconsistencies. Responses from the questionnaires were then transcribed and entered into Microsoft Excel spreadsheets. During this stage, the data were coded—assigning specific numerical or categorical values to participant responses—to facilitate structured analysis. The coded data were subsequently tabulated to help identify any irregularities or missing values. After cleaning and coding, the dataset was imported into the Statistical Package for Social Sciences (SPSS) for further analysis. Each research objective was then analyzed based on the relevant variables, providing insights aligned with the study's aims. While the questionnaires were manually administered, the data entry and analysis process were digitized using Excel and SPSS.

Descriptive analysis was conducted to summarize participants' demographic characteristics, frequencies and percentages calculated. Correlation analysis was used to explore relationships between variables. Additionally, using a significance level of 0.05.

Thematic analyses were conducted on qualitative data. Hence, participant responses from the FGDs and KIIs were organised to identify themes and patterns through NVivo. This aided to examine the depth and breadth according to the objectives of the study. Graphs and, tables and charts were used to present the results.

All data collected, including photographs and videos, were stored in password-protected files and were only accessed by authorized persons for academic purposes. Hard copies of the data were stored in a lockable drawer and were only accessible to the researcher. The data would be destroyed once the graduate school or any other relevant authority advised doing so.

3.8 Ethical Considerations

An authorization letter was requested from Amref International University. The researcher then submitted the proposal to the Amref Ethics Committee for approval before applying to the National Council of Science and Technology (NACOSTI) for a research license. The information was exclusively intended for academic purposes. Participants received a comprehensive briefing on the research's purpose, and their mutual consent was sought. This was accomplished through written invitations to respondents, including detailed explanations provided before any study requirements were communicated. The study prioritized caution before administering data collection instruments. Additionally, a clear introduction to the study's aim and purpose was provided to the respondents.

Moral principles were carefully considered throughout the study, ensuring that no respondent was coerced or compelled to provide the necessary data. Parental consent was sought in the case of minor respondents, followed by assent from the minors. Respondents willingly disclosed the requested information, which was kept private. To safeguard sensitive information, the study maintained the integrity of the gathered data. All information collected during the data collection process was handled with the utmost confidentiality to preserve the dignity of the participants. Measures were taken to prevent

the identification of any participant based on the data presented in the surveys, thereby protecting participants' rights and privacy. Participants were instructed to avoid adding their names or any identifying details in the questionnaire to ensure anonymity. No compensation was provided for taking part in the study.

3.9. Community Engagement Plan

The study engaged community elders and religious leaders, recognizing that the community is patriarchal and men are in charge. Engaging the community elders and religious leaders enabled the researchers to understand community norms and gain their support during the study. The leaders were requested to mobilize women of reproductive age in the community to be sensitized about the study and its objectives. They were briefed in detail about the study objectives, its methodology, and how the data would be disseminated after the study's completion. The community elders and religious leaders were provided with samples of the study tools when necessary.

3.10. Dissemination Strategy

The Ministry of Health will from these findings as it will help them develop policies to improve FP utilization among women in the county. The County Government of Garissa will better comprehend the factors affecting FP uptake, potentially leading to the implementation of study recommendations and targeted FP policies. Researchers will find the study valuable for future reference in similar areas of study, and the wider readership benefited from the study's outcomes, as FP is a widely discussed topic of interest in society. The study's results were published and made accessible to the public after approval by Amref International University.

CHAPTER 4: RESULTS

4.1 Introduction

This section presents the findings on factors influencing FP uptake among Muslim females of child bearing age is reviewed. The results of the data collected on factors affecting FP uptake is presented and explained. Demographic and descriptive results from the interviews and focus group discussions were analysed and presented through narratives, tables and graphs. The results will mainly be on: knowledge of FP; current uptake rate of FP and sociocultural components that affect the uptake of FP among Muslim female.

4.2 Demographic Characteristics

The targeted sample of 187 women aged 15-49 years within the seven sub counties in Garissa were interviewed, through a semi-structured interview guide and the following demographic information was gathered.

4.2.1 Employment Status

Table 4.1 Shows the employment status among the interviewed sample. 108 women were self-employed representing 58% of the total sample, 41 were employed, representing 22% and 38 were unemployed representing 20%.

4.2.2 Age

Table 4.1 Shows the age ranges of the participants. During data analysis, the ages were organized into ranges, for easier analysis and classification. Majority of the participants were within 20-29 age range, with 86 participants falling within this range, this is 46%.

Those within 30-39 years followed with 74 participants, representing 39.6%. 19 participants were between 40-49 years, representing 10.6%. The least were those between 17-19 years, represented by 8 participants, which was 4% of the total participants.

4.2.3 Marital Status

The study sought the marital status of the participants and the results showed that 137 participants were married, representing 73.2%, while 34 participants were single representing 18.2%. The remaining 16 were divorced, representing 8.6%.

4.2.4 Number of Children

The participants were asked to mention the number of children they had, and the results showed that the majority, 19.8%, had 3 children, followed by 17.6% who did not have children. Those with 2 children accounted for 15%, while 12.8% had 4 children. Additionally, 9.1% of participants had 6 children, and 6.4% had 7 children, which was similar to the percentage of those who had 5 children (6.4%). A smaller portion, 4.3%, reported having 8 children, 3.7% had 9 children, and another 3.7% had 10 children. Only 1.1% of participants reported having one child. The range of children reported by participants was from 0 to 10, with the median number of children being 3. The classification revealed that 17.6% of participants had no children, 34.4% had between 1 and 3 children, 33.3% had 4 to 6 children, and 14.7% had 7 or more children.

4.2.5 Education Level

There were diverse people with varying education level as shown in Figure 4.1 that indicate that 64 participants or 34.22% had no education. A similar number (64) or 34.22% only

reached primary school level. 15 participants (8%) reached secondary school level and 44 participants (23.56%) reached university.

Table 4.1: Demographic characteristics

Characteristic	Categories	Frequency (n)	Percentage (%)
Employment Status	Self-employed	108	58.00
	Employed	41	22.00
	Unemployed	38	20.00
Age Range	17-19 years	8	4.00
	20-29 years	86	46.00
	30-39 years	74	39.00
	40-49 years	19	11.00
Marital Status	Married	137	73.20
	Single	34	18.20
	Divorced	16	8.60
Number of Children	None	33	17.65
	1	2	1.07
	2	28	14.97
	3	37	19.79
	4	24	12.83
	5	12	6.42
	6	17	9.09
	7	12	6.42
	8	8	4.28
	9	7	3.74
	10	7	3.74
Level of Education	No formal education	64	34.22
	Primary level	64	34.22
	Secondary level	15	8.00
	University level	44	23.56

Source: Field data (2024)

4.3 Knowledge of FP among Women

4.3.1 General Knowledge of Family Planning

The results show that there is a general knowledge of the existence of FP. Table 4.2 indicates that 154 out of the 187 interviewed were aware of FP as a concept. This is 82.5% of the sampled women.

4.3.2 Awareness of Family Planning Methods

Table 4.2 indicates that among those aware of FP methods, the majority (57%) were aware of pills as a form of contraception. Other methods mentioned included injections (49%), female condoms (32%), intrauterine contraceptive devices (IUCD) (24%), and implants (18%). Additionally, natural family planning (8%) and cycle reading (3%) were also noted, although these methods were less commonly recognized.

Indeed, a Community Health Worker indicated,

> "*Awareness is quite limited. Most women have heard of pills and injectables, primarily through our outreach programs. However, they often lack a deep understanding of how these methods work, their potential side effects, and how to use them correctly. There's a significant gap between knowing the names of the methods and possessing practical, actionable knowledge."*

FGDs revealed that,*"Most women recognize methods like pills and injectables, but few understand how to use them effectively. We often hear about these methods, but there's a gap in practical knowledge."*

4.3.3 Sources of Family Planning Information

The wide knowledge of contraceptives was driven by many initiatives. When asked on how they knew about FP, the participants mentioned various sources, but the largest source of information on FP was community health workers. Sixty six percent of those the participants mentioned that they knew about FP through community health workers. Through Friends was the second most popular source of knowledge on FP at 24%. Newspaper was at 4.6% and television at 2.4%. These are represented in Table 4.2. This was supported by the women focus group discussions. For instance, In Hulugho Sub-county, the knowledge on FP is through hospitals where women are sensitized about FP during every postnatal and ANC visit. Appendix VIII illustrates a women's group discussions in one of the hospitals in Hulugho subcounty to discuss FP.

4.3.4 Attendance of Family Planning Workshops

In other constituencies such as Dadaab, Ijara, Garissa township, Lagdera, Mbalambala and Fafi, the recurring theme of community-based workers was important as they drove the message on FP practices to many in Garissa County. The community health workers focus group discussion indicate that they try to organize community workshops to spread the message on FP. The community health volunteer in Fafi sub county said that they organize sensitization events to spread knowledge of FP. The one in Mbalambala sub county recommended robust mobilization by the community, that could be organized through events. Only 82 of the 187 participants said that they attended a FP workshop within the last year. As shown in Table 4.2, this is only 44% of young and productive women attending such workshops.

It was indicated, by a woman elder,

> *"We need more frequent and accessible sessions. Perhaps we could hold them in the evenings or on weekends when women are less busy with their daily chores. It would also help if we could provide some form of compensation or incentive for attending, like food or transportation assistance."*

A focus group discussant suggested,

"Conducting workshops during market days could improve participation, as women are already collected."

4.3.5 Use of Family Planning Methods

Table 4.2 shows the response of the women, when they were asked if they had considered using FP, 114 respondents said no and only 73 respondents said yes. Only 39% of the respondents have used FP. There was consensus during the focus group discussion held in Fafi constituency by the women group leaders that there was low demand for FP in the region. This was similar for the community health promoters in the same area that said

> *"There's a hidden demand for family planning. Many women confide in us about their desire to space their children, but they're afraid to openly express this need due to cultural and religious beliefs. We need to create safe spaces where women can discuss these issues without fear of judgment."*

It was remarked,

> *"Support from husbands is crucial, but many men are not involved in these discussions. We need to target men with educational programs that highlight the benefits of family planning for the entire family."*

A focus group discussant revealed,

> *"Economic hardships frequently overshadow the desire for family planning; many prioritize immediate needs."*

4.3.6 Decision-Making and Partner Involvement in Family Planning

Among the 39% of women who uses FP methods, more than a half do it in secret, without telling their partners. Of the 76 women, 43 said that their partners had no knowledge that they were using FP methods. This represents 57% as shown in Table 4.2

4.3.7 Husband's Approval of Family Planning

The decision to use FP methods was largely made by the husband, among those couples who are open about it. Based on the response of the participants, the respondent also has a significant role to play as 13.3 % said that it was a joint decision, 35.7% said that the respondent was the sole decision maker, while 51.0% said that the decision is solely made by the husband. Descriptive results indicated that 94 approved, 47 disapproved while 46 didn't know which is 50.2%, 25.1% and 24.7% respectively. This is presented in Table 4.2

Table 4.2: Knowledge of FP Among women

Variable	Category	Frequency (N=187)	Percentage (%)
General Knowledge of FP	Aware of FP	154	82.5
Awareness of FP Methods	Pills		57
	Injections		49
	IUCD, Implants, Female Condoms		32,24 and 18 respectively
	Natural FP, Cycle Reading		11
Source of FP Information	Community Health Workers	123	66.00
	Friends	45	24.00
	Newspapers	9	4.60
	Television	5	2.40
	Others	5	3.00
Attendance of FP Workshops	Attended Workshop	82	44.00
	Did Not Attend	105	56.00
Use of FP Methods	Currently Using FP	73	39.00
	Not Using FP	114	61.00
Decision-Making on FP	Solely Woman's Decision	67	35.70
	Solely Husband's Decision	95	51.00
	Joint Decision	25	13.30
Husband's Approval of FP	Approves	93	50.30
	Disapproves	48	25.70
	Indifferent/Unaware	46	24.00

Source: Field data (2024)

Additionally, a focus group discussant highlighted,

> *"Yes, many women express a desire to use FP, but they are often afraid of their husbands' reactions."*

4.4 Uptake of FP Among Women

Descriptive results showed that 94 participants (51%) had used them at least once in their lives, while 93 (49%) said that they have not used or considered using it. However, the picture is different when we consider those that are currently using FP. A hundred and

fifteen respondents said that they are not currently using FP. This is 62%. Among those that are currently using FP methods, pills, was the widely used FP method identified by over 50% of the respondents that said they are currently using. Table 4.3 indicates common FP methods used in Garissa.

Table 4.3: Percent Uptake of FP Among women

Description	Yes	No	Total
Ever used FP (N=187)	50.3	49.7	100
Currently using FP (N=187)	38.5	61.5	100
FP methods currently being used			
Pills (N=187)	50.1	49.9	100
Implants (N=187)	14.2	85.8	100
Injectable (N=187)	14.4	85.6	100
IUDs (N=187)	11.2	88.8	100
Others (N=187)	3.3	96.7	100

Among those who do not use FP currently, majority have various reasons such as opposition from partners, side effects, fertility related reasons, health concerns, social and familial expectations, gender roles, religious prohibitions and moral teachings that discourage contraception use; as shown in Table 4.4

Table 4.4: FP methods

Reasons	N	Percentage
Side effects	26	23%
Opposition from partner	21	18%
Fertility related reasons	15	13%
No practical knowledge	13	11%
Inaccessibility	10	9%
Costly	5	4%
Not married	4	3%
Others (health concerns, social and familial expectations, gender roles, religious prohibitions and moral teachings that discourage contraception use)	21	18%
Total	**115**	**100%**

Source: Field data (2024)

4.5 Sociocultural Factors that influence FP uptake

4.5.1 Religion and Family Planning

The participants were asked on how they perceived religion. Most of them believed that their religion permitted FP as shown in Figure 4.1 residents. A hundred and sixteen respondents (62%) believed that religion permitted FP, 41 (22%) respondents believed that it did not, while 30 (16%) did not know.

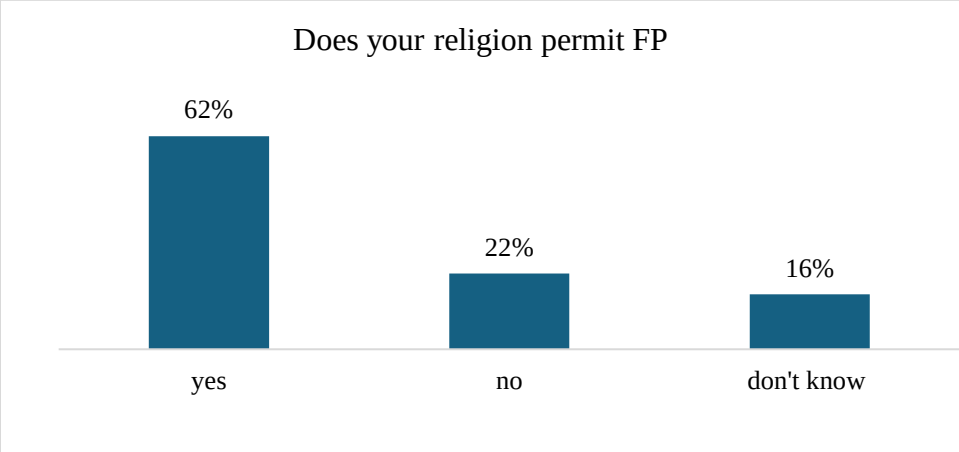

Figure 4.1: Religion and FP

It was suggested in the FGDs that,

"Engaging religious leaders could help change perceptions about FP in the community."

4.5.2 Family Size Preferences

When asked about the number of children they intended to have, 64.2% of participants indicated that they preferred to have 5 or more children, with two children being the least preferred number. This aligns with their culture, as confirmed in the focus group discussion, where there was consensus that larger families are traditionally valued for various reasons, including cultural beliefs about community, support in old age and maintaining family lineage. Additionally, there was a strong belief that having many children strengthens family ties and ensures that children support each other. Participants also noted that large families are often seen as a symbol of prosperity and social status within their communities.

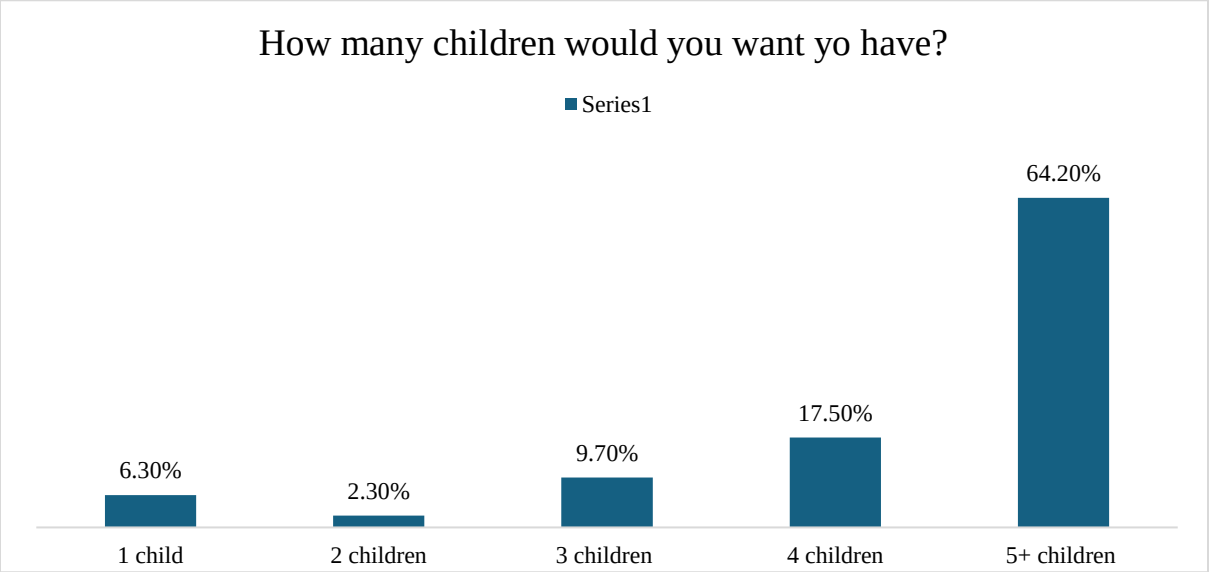

Figure 4.2: Intended number of children

Source: Field data (2024)

4.5.3 Child Sex Preferences

When asked the gender of child they prefer, the results indicate that 70% are indifferent towards genders compared to the almost a quarter that prefer male. Hence, male is still preferred by some families over girls with 23% stating so. There are some families (8%) that prefer girls as seen in the Table 4.5

Table 4.5: Children's gender preference

Gender	Frequency	Percentage
Male	43	23%
Female	14	8%
Indifferent	130	70%
Total	**187**	**100%**

Source: Field data (2024)

4.5.4 Age of Marriage

The data in table 4.6 showed that among the 153 married participants, 15 (9.8%) were married before the legal adult age of 18 years. The largest group, 85 participants (55.6%), married between the ages of 18 and 24 years. A smaller group, 35 participants (22.9%), married between the ages of 25 and 29 years, while 18 participants (11.8%) married at 30 years or older. The youngest age at marriage was 15 years, and the oldest age at marriage was 39 years. The average age at marriage for the study population was 23.5 years.

Table 4.6: Age of Marriage

Age	N	Percentage
Married before 18 years	15	9.8
18-24 years	85	55.6
25-29 years	35	22.9
30 years and above	18	11.8
Total	153	100

Source: Field data (2024)

4.5.5 Type of Marital Union

As shown in Figure 4.3, only 16% of the participants or 30 women were in a polygamous marriage. Another 18% were not married and the remaining 123 people or 66% of the participants were in a monogamous marriage.

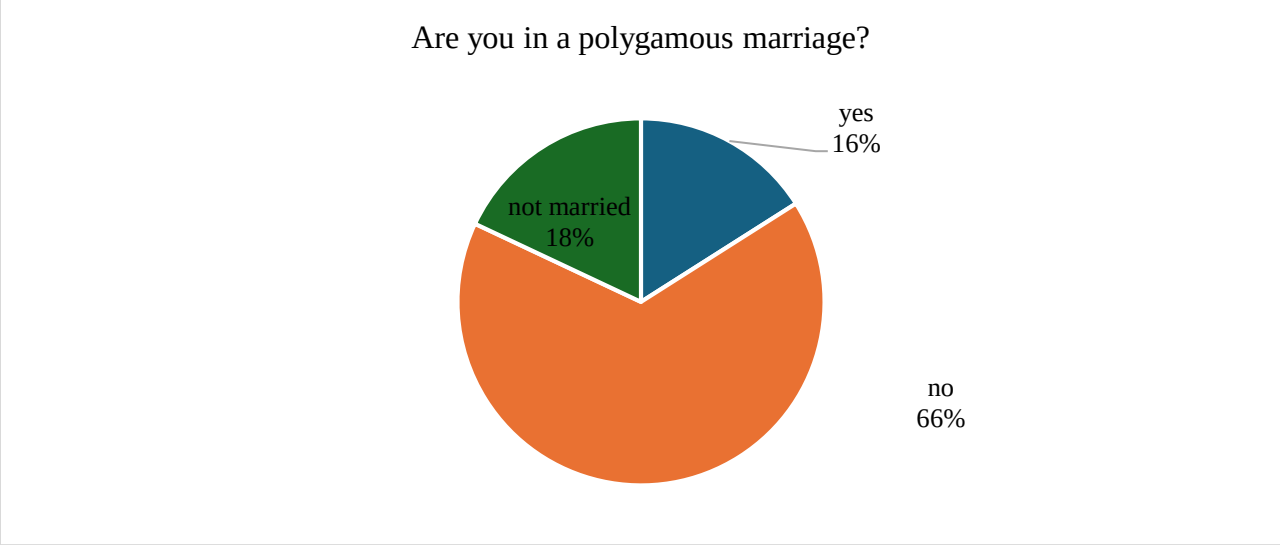

Figure 4.3: Marriage to polygamy

Source: Field data (2024)

4.4.6 Sociocultural Perceptions on FP

The perception of the participants regarding FP knowledge and uptake given the sociocultural context, as illustrated in Table 4.7. The table highlights the perception of the participants regarding different takes on sociocultural impacts on FP. The average score shows the average level of agreement based on a Likert scale with 1 being strongly disagree and 5 being strongly agree.

Table 4.7: Sociocultural perception of FP

Age	Average	Standard deviation
Religion influences the usage of FP	3.58	1.401
Uptake of FP helps in child spacing	4.16	1.027
FP is helpful when deciding the number of children to bear	3.98	1.029
FP should be promoted by both the male and female at the family level	3.74	1.36
Religious leaders encourage women to use FP	3.08	1.534

With a score of 3.58 and a standard deviation of 1.401, the participants were somehow neutral on the idea that religion influences the usage of FP. When asked on whether uptake of FP helps in child spacing, the average response was 4 .16 with a standard deviation of 1.027, indicating that there was a widespread agreement with this statement. There was also a widespread agreement that FP helps in deciding the number of children, with an average score of 3.98 and a standard deviation of 1.029. While most participants agreed that FP should be promoted by both man and woman, there were substantial disagreements

as seen by the average score of 3.74 and a standard deviation of 1.36. Most people disagreed with the idea that religious leaders should encourage women to use FP. There were also some agreements, as seen by the neutral average of 3.08 with a much higher standard deviation of 1.534.

4.6 Relationship Between Independent and Dependent Variables

4.6.1 Relationship Between Knowledge on FP and Uptake

Inferential results, that is, Pearson's Correlation was done to determine the relationship between the independent and dependent variables. In particular, the relation between knowledge of FP, sociocultural influences and the uptake of FP were explored. To obtain quantitative data for the knowledge part, the researcher used the "yes" and "no" answers to the question "Are you aware of FP methods?" Yes, was denoted with one, symbolizing those who had knowledge of FP while "no" was assigned 0, to signify those who were not aware of FP. Similarly, Uptake of FP was analysed quantitatively using the response from the question "are you currently using FP?" 1 for "yes" showed those that were using FP and "0" represented those that were not using. Table 4.8 shows the correlation coefficients for the uptake of FP and Knowledge of FP variables.

Table 4.8: Correlation between knowledge and uptake of FP

Chi-Square	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	.912[a]	1	0.340

Source: Field data (2024)

A Chi-square test of independence (χ^2) was conducted to examine the association between uptake of FP and Knowledge of FP. Results indicated no statistically significant relationship, χ^2 (1, N = 187) = 0.912, p = 0.340.

4.6.2 Relationship Between Sociocultural Factors on FP and Uptake

Table 4.9 represents the correlation table for sociocultural factors and uptake of FP. From the table, the Pearson Correlation coefficient is 0.228 with a significance level of 0.01 (r=0.228, p=0.01). This is a weak but positive relationship between Sociocultural factors and the uptake of FP. An increase in the level of Sociocultural factors, leads to a likelihood of FP**.** The significance level of 0.01 implies that the statistics is statistically significant.

Table 4.9: Association between sociocultural factors and uptake of FP

Uptake of FP	Pearson Correlation	1	.317
	Sig. (2-tailed)		.001
	N	187	187
Sociocultural factors	Pearson Correlation	.228	1
	Sig. (2-tailed)	.001	
	N	187	327

Source: Field data (2024)

Further, binary logistics regression was done to determine the relationship between Sociocultural factors and uptake of FP amongst the women who were part of the study. Specifically, it is used to determine whether an occurrence of dependent variable is as a

result of the presence of independent variable (s). The main data inputted into SPSS include the data on knowledge of FP, partner knowledge of FP, education level and religion. The data gathered from these independent variables were quantified by assigning "yes" responses in the interview with "1" to represent agreement, while "no" will be assigned "0" to presents disagreement. Table 4.10 shows the model summary.

Table 4.10: Bivariate Logistics Regression

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	227.585[a]	0.129	0.174

Source: Field data (2024)

Table 4.10 represents the model summary and presents the variance in dependent variable that are explained by the variance in independent variables. The R square value is 0.129 implying that the 12.9% of uptake of FP was explained by the independent variables. When adjusted for other variables, this goes to 17.4% as indicated by the adjusted R square value of 0.174.

4.6.3 Relationship Between FP Knowledge, Education Level, and Religion

Inferential statistics in Table 4.11 presents regression coefficients of the variables under study including FP Knowledge, education level, partner FP knowledge and religion.

Table 4.11: Relationship between FP Knowledge

Variable	Crude B	Sig.	B	S.E.	Wald	df	Sig.	Exp.
occupation	0.376	0.690	0.293	0.184	4.376	2	0.112	1.902
marital status	0.108	0.356	0.104	0.042	0.372	2	0.83	2.921
education level	0.456	0.641	0.304	0.171	2.906	3	0.004	1.721
source of knowledge	1.361	0.059	0.094	0.159	0.872	4	0.929	4.173
workshop attendance	0.410	0.271	0.274	0.036	0.163	1	0.686	3.617
decision to use FP	0.702	0.302	0.026	0.148	2.512	3	0.473	4.038
husband's approval	0.002	0.979	0.084	0.034	3.265	2	0.014	3.257
discussion on FP	0.779	0.424	0.247	0.138	3.528	2	0.171	2.056
religion allowing FP use	0.079	0.835	0.024	0.031	0.367	1	0.038	2.937
more children	0.702	0.894	0.076	0.128	0.185	3	0.98	0.992
preferred child's	0.148	0.933	0.222	0.029	0.385	2	0.825	4.572
polygamous marriage	0.283	0.233	0.021	0.119	0.067	1	0.796	0.803
more children consideration	1.310	0.010	0.069	0.027	0.934	1	0.334	2.703

Source: Field data (2024)

The logistic regression analysis assessed the effect of independent variables on FP uptake. Education level was a significant factor (B = 0.304, S.E. = 0.171, Wald = 2.906, df = 3, p = 0.004, Exp(B) = 1.721), indicating that individuals with higher education levels were 1.721 times more likely to use FP methods, likely due to increased awareness and decision-making ability. Knowledge of FP was also significant (B = 0.029, S.E. = 0.039, Wald = 0.609, df = 1, p = 0.003, Exp(B) = 2.073), showing that those with knowledge were over twice as likely to adopt FP, emphasizing the role of information. Husband's approval had a significant positive effect (B = 0.084, S.E. = 0.034, Wald = 3.265, df = 2, p = 0.014, Exp(B) = 3.257), revealing that women whose husbands approved were over three times more likely to use FP, indicating to the importance of spousal support. Religion allowing

FP use was also significant (B = 0.024, S.E. = 0.031, Wald = 0.367, df = 1, p = 0.038, Exp(B) = 2.937), suggesting that religious approval nearly tripled the likelihood of FP use. The variables analyzed, including occupation (B = 0.293, p = 0.112), marital status (B = 0.104, p = 0.830), source of knowledge (B = 0.094, p = 0.929), workshop attendance (B = 0.274, p = 0.686), decision to use family planning (B = 0.026, p = 0.473), discussion on family planning (B = 0.247, p = 0.171), desire for more children (B = 0.076, p = 0.980), preferred child sex (B = 0.222, p = 0.825), polygamous marriage (B = 0.021, p = 0.796), and consideration for more children (B = 0.069, p = 0.334), were found to be not statistically significant as all p-values exceeded 0.05. Consequently, these factors do not appear to have a meaningful effect on the outcomes studied. Additionally, the study assessed sociocultural factors that influence the uptake of FP through a 5-point likert scale. Descriptive results on sociocultural factors on FP are shown in Table 4.12

Table 4.12: Sociocultural factors and FP

Statement	N	Mean	Std. Deviation	strongly agree	agree	not sure	disagree	strongly disagree
Religion plays a big role in influencing use of FP	187	4.02	0.886	40	22	38	0	0
Uptake of FP helps in child spacing	187	4.27	0.807	50	28	22	0	0
FP is helpful in deciding the number of children to bear	187	4.06	0.791	34	37	28	0	0
FP should be promoted by both men and women at the family level	187	4.15	0.809	41	33	26	0	0
Religious leaders encourage women to use FP	187	3.97	0.789	29	38	33	0	0
Mean		**4.09**						

Forty percent of the respondents strongly agreed that religion influences the use of family planning (FP), while 22% agreed and 38% were not sure (Mean of 4.02, Standard Deviation of 0.886). Half of the respondents (50%) strongly agreed and 28% agreed that the uptake of FP helps in child spacing, while 22% were not sure (Mean of 4.27, Standard Deviation of 0.807). Thirty-four percent strongly agreed that FP is helpful in deciding the number of children to bear, 37% agreed, and 28% were not sure (Mean of 4.06, Standard Deviation of 0.791). On the promotion of FP at the family level, 41% strongly agreed and 33% agreed that both men and women should be involved, while 26% were not sure (Mean of 4.15, Standard Deviation of 0.809). Only 29% strongly agreed and 38% agreed that religious leaders encourage women to use FP, whereas 33% were not sure (Mean of 3.97, Standard Deviation of 0.789).

CHAPTER 5: DISCUSSIONS

5.1 Introduction

This chapter discusses findings in chapter four. This is presented according to study objectives.

5.2 Level of Knowledge of FP among Muslim Women

Findings indicated that 82.5% of respondents were aware of FP methods. This aligns with studies such as Makau (2017), which found general knowledge of FP, although uptake varied by region due to social inequalities. Similarly, Dhakal et al. (2020) reported high awareness of FP among Muslim women in Nepal, mainly injectables, but noted that permanent FP methods were rarely used. Alomair et al. (2020) found significant knowledge gaps among Muslim women in various regions, attributing this to misconceptions, cultural beliefs and structural barriers.

In spite of high awareness, FP uptake in Garissa remains low, with only 39% of women reporting use. This reflects findings from Thakuri et al. (2022), who observed that while 70% of Muslim women in Nepal had strong FP knowledge, only 47% used modern contraceptive methods. In Garissa, spousal opposition remained a major barrier, with 57% of FP users practicing it without spouse's knowledge, indicating a gap between knowledge and decision-making power. Sundararajan et al. (2019) indicate that male dominance in reproductive choices, religious and cultural beliefs, significantly limit FP adoption.

Kenya's national FP strategy seeks to increase contraceptive prevalence and reduce the unmet need for FP, which stands at 13.9% nationally and 10.8% in Garissa County.

However, the low uptake despite high knowledge suggests that awareness campaigns alone are insufficient. Policies should focus on addressing sociocultural barriers, promoting male involvement in FP decisions, and strengthening community-based outreach programs. Engaging religious leaders and community elders, as suggested by Abdi et al. (2020), could help change perceptions and encourage broader FP acceptance. Increasing access to FP services through community health workers and ensuring culturally sensitive interventions would bridge the gap between knowledge and practice.

This study found a very low usage amongst women (48%) of FP as compared the national average of 61%. This could be explained through Kungu et al. (2020), who discussed on some of the barriers to the uptake of FP as high poverty rate, community marginalization. The situation where women are knowledgeable about FP but are unwilling to uptake it is common, both in the findings of this study and in a similar study conducted by Shumayla and Kapoor (2019) in India and showed that while there was more than 80% of Muslim women knowing about FP, only about 44% end up using them. This study also found that men and culture was very important in making decision to uptake FP, which aligns with the perceptions of FP as discussed by Owolabi et al. (2018) who found that women perceived their societal beliefs. Kenya's FP2020 commitment aims to increase contraceptive prevalence and reduce unmet FP needs, yet uptake in Garissa remains below the national target. Consequently, policies should focus on engaging men in FP education, promote community-driven awareness campaigns and integrate religious leaders into advocacy initiatives.

5.3 Sociodemographic Factors that Influence the Uptake Of FP

Sociodemographic factors that influence the uptake of FP in Garissa county results showed that Results indicated that education level, knowledge of family planning, husband's approval and religious acceptance significantly influenced family planning uptake. Higher education and greater knowledge increased the likelihood of use. Spousal approval and supportive religious beliefs also encouraged adoption of family planning methods. More than half of the women had used FP and the current usage which was a bit lower. This despite the overwhelming knowledge of the methods. Indeed, the Constitution of Kenya explicitly states that every person has the right to the highest attainable standard of health, including reproductive health care. Women with nuclear families and those employed in agriculture knew less about contemporary contraception.

5.4 Cultural Factors that Influence the Uptake Of FP

The third specific objective was to determine the cultural factors that influence the uptake of FP among Muslim women in Garissa county. Factors such as religion was found to have a positive effect on the uptake of FP in Garissa. However, men were found to have more power to decide on decision to uptake FP, which aligns with the findings of a study by Sundararajan et al, (2019) who used focus group discussions to explore the relationship between religious beliefs and FP in Tanzania and found that study discovered that male authority and gender dynamics conflicted with female knowledge and encouraged bargaining or hidden contraception use. This study also found that religion, while important aspect of everyday life, was not very relevant while deciding to use FP which aligns with the findings of Sundararajan et al, (2019) that acceptance of FP methods was important,

but participants' views of their religion's location on the matter differed. This study further found that while less and less people are getting polygamous, it is very important for Muslims. Husband's approval had a significant positive effect on FP uptake; women whose husbands approved were more likely to use FP. Religion that allowed FP significantly affected its uptake. This aligns with the findings of Abdi et al. (2020) that found that factors such as the desire for extended family, the practice of polygamy, high rates of mortality, and a cultural preference for boys were identified as repulsive influences on FP adoption. The study also highlighted the limited decision-making power of women concerning their reproductive health, which further impeded FP uptake.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

In this chapter, conclusions and recommendations are discussed. The implications of a research on the factors influencing the uptake of FP methods among Muslim Women of Reproductive age in Garissa County, Kenya, are covered in this chapter. The chapter is guided by the three main objectives of to determine the level of knowledge of FP among Muslim women in Garissa county; to identify sociodemographic factors that influence the uptake of FP among Muslim women in Garissa County and to identify cultural factors that influence the uptake of FP among Muslim women.

6.2 Conclusions

6.2.1 Level of Knowledge of FP among Muslim Women

There was knowledge of contraceptives and FP methods, largely due to information shared by community health workers and volunteers. Friends and media also spread FP awareness. However, attendance at FP workshops was low and actual use of FP methods was limited. About half of the women's partners were also aware of and supportive of FP.

6.2.2 Sociodemographic Factors that Influence the Uptake Of FP

Uptake of FP among Muslim women was low. FP side effects, fertility reasons, impractical knowledge and opposition from partner caused low uptake. The decision to uptake FP was mostly left to men. Demographic factors such as level of education contributed to uptake as more educated people were more likely to uptake FP.

6.2.3 Cultural Factors that Influence the Uptake of FP Among Muslim Women

Muslims are very conservative group and have large families, with more than 5 children, which makes them more likely not to use FP. Islam did not influence greatly their decision to uptake FP. Polygamy is also allowed but not many people practice. Education level was also found to influence positively on FP uptake. Husband's approval had a significant positive effect on FP uptake.

6.3 Recommendations

6.3.1 Recommendations for Various Stakeholders

i. Community health workers should enhance their training to focus on the misconceptions and cultural sensitivity around FP. They should also work with the community on a regular basis to discuss FP openly with both male and female.

ii. Religious leaders should be engaged to aid in advocacy for FP, and encourage them to emphasize on the teachings that encourage FP. They should also be used to create awareness campaigns and help with addressing misconception and misinformation on FP to reduce scepticism.

iii. The government and policy makers on health should develop policies that target more active role of male in advocating for FP. They should also provide adequate resources to marginalized communities like north eastern to advocate for FP and fund campaigns targeted at this.

6.3.2 Recommendations for Improvement

Targeted educational programs should be implemented that mainly focus on the benefits and safety of FP methods, addressing concerns such as infertility and side effects, which have hindered people from up taking FP, which should also be incorporated in high schools for both boys and girls to raise awareness at an early age.

6.3.3 Recommendations for Future Studies

Future studies could examine cultural beliefs that hinder adoption of FP amongst Muslim women, despite their knowledge of it. Suggestions on examining the effect of partner involvement in FP decisions on take up rates should be considered, as this could help to develop strategies that encourage partner participation. Further research should be conducted comparing FP uptake between Muslim and non-muslim women in Garissa county. This study recommends a balanced or stratified sampling technique to minimize sampling bias.

REFERENCES

Abdi, B., Okal, J., Serour, G., & Temmerman, M. (2020). "Children are a blessing from God": A qualitative study exploring the socio-cultural factors influencing contraceptive use in two Muslim communities in Kenya. *Reproductive Health, 17*(1), 11. https://doi.org/10.1186/s12978-020-0898-z

Abdi, B., Okal, J., Serour, G., & Temmerman, M. (2021). Muslim men's perceptions and attitudes on FP: A qualitative study in Wajir and Lamu counties in Kenya. *Sexual and Reproductive Health Matters, 29*(1). https://doi.org/10.1080/26410397.2021.1893890

Agbo, H., Ogbonna, C., & Okeahialam, B. (2018). Factors related to the uptake of contraceptive in a rural community in Plateau State Nigeria: A cross-sectional community study. *Journal of Medicine in the Tropics, 15*(2), 107. https://doi.org/10.4103/2276-7096.123583

Ali, A., Mwangi, P., & Karanja, J. (2020). Access to healthcare in northeastern Kenya: A comparative analysis of health facility distance. *Kenya Medical Journal, 58*(2), 52-59. https://doi.org/10.4314/kmj.v58i2.5

Alomair, N., Alageel, S., Davies, N., & Bailey, J. V. (2020, March 5). Factors influencing sexual and reproductive health of Muslim women: A systematic review. *Reproductive Health*. https://doi.org/10.1186/s12978-020-0888-1

Arma, S., & Utama, S. (2020). Factors influencing the selection of female contraception for family planning: A qualitative investigation. *Indonesian Journal of Family Planning, 6*(2), 89-97. https://doi.org/10.22334/ijfp.v6i2.123

Asif, M. F., & Pervaiz, Z. (2019). Socio-demographic determinants of unmet need for FP among married women in Pakistan. *BMC Public Health*, 19(1). https://doi.org/10.1186/s12889-019-7487-5

Ayogu, M. E., Eruemulor, C. C., & Olibe, A. O. (2019). *Uptake of hormonal implants contraceptives compared to other forms of contraceptives in Abuja, Nigeria*. Available from https://pesquisa.bvsalud.org/portal/resource/pt/sea-211800

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, N.J: Prentice Hall.

Barrow, A. (2020). Knowledge and uptake of family planning among women aged 15 to 49 in rural Gambia: A survey study. *Journal of African Health Sciences, 20*(2), 123-130. https://doi.org/10.4314/ajhs.v20i2.5

Bell, M (2007). *Barriers in the provision of FP information from social workers to their clients*. (Ph.D thesis). University of Pittsburgh.

Cahill, N., Sonneveldt, E., Stover, J., Weinberger, M., Williamson, J., Wei, C., … Alkema, L. (2018). Modern contraceptive use, unmet need, and demand satisfied among women of reproductive age who are married or in a union in the focus countries of the FP 2020 initiative: a systematic analysis using the FP Estimation Tool. *The Lancet, 391*(10123), 870–882. https://doi.org/10.1016/S0140-6736(17)33104-5

Daramola, O. J., Adebayo, A. M., & Olawale, K. O. (2024). Challenges in accessing family planning services in Oyo West, Nigeria: Identifying barriers for targeted educational interventions. *Nigerian Journal of Community Medicine and Primary Health Care, 35*(1), 15-22. https://doi.org/10.4103/njcphc.njcphc_45_24

Denzin, N. K. (2008). *Symbolic interactionism and cultural studies: The politics of interpretation*: John Wiley & Sons.

Dhakal, S., Adhikari, R., & Sharma, A. (2020). Correlation between maternal mortality and unmet need for family planning among Muslim women of reproductive age. *International Journal of Women's Health, 12*, 123-130. https://doi.org/10.2147/IJWH.S234567

Dhakal, U., Shrestha, R. B., Bohara, S. K., & Neupane, S. (2020). Knowledge, attitude and practice on fp among married muslim women of reproductive age. *Journal of Nepal Health Research Council*, 18(2), 238–242. https://doi.org/10.33314/jnhrc.v18i2.2244

Embleton, L., Braitstein, P., Di Ruggiero, E., Oduor, C., & Wado, Y. D. (2023). Sexual and reproductive health service utilization among adolescent girls in Kenya: A cross-sectional analysis. *PLOS Global Public Health*, 3(2), e0001508. https://doi.org/10.1371/journal.pgph.0001508

Fedha, G. (2022). Socio-demographic characteristics affecting the uptake of family planning methods in Kakamega County, Kenya. *East African Journal of Health and Social Sciences, 3*(1), 45-53. https://doi.org/10.4314/eajhss.v3i1.5

Franco, R. (2020). Infant welfare, FP, and population policy in Hong Kong: Race, refugees, and religion, 1931–61. *Journal of Contemporary History*, 55(2), 247–270. https://doi.org/10.1177/0022009418785684

Götmark, F., & Andersson, M. (2020). Human fertility in relation to education, economy, religion, contraception, and family planning programs. *BMC Public Health, 20*(1), 175. https://doi.org/10.1186/s12889-020-8331-7

Haakenstad, A., Angelino, O., Irvine, C. M., Bhutta, Z. A., Bienhoff, K., Bintz, C., ... & Lozano, R. (2022). Measuring contraceptive method mix, prevalence, and demand satisfied by age and marital status in 204 countries and territories, 1970–2019: a systematic analysis for the Global Burden of Disease Study 2019. *The Lancet*, *400*(10348), 295-327. https://doi.org/10.25133/JPSSv28n4.021

Ibikunle, P. O., Adeyemi, A. B., & Ogunbode, A. A. (2024). Perspectives on family planning among residents of Ekiti State, Nigeria: The influence of cultural norms and beliefs. *Nigerian Journal of Family Planning, 11*(1), 34-42. https://doi.org/10.4314/njfp.v11i1.7

Izugbara, C. O., Wekesah, F. M., Tilahun, T., Amo-Adjei, J., & Tsala Dimbuene, Z. T. (2018). *FP in East Africa: Trends and dynamics*. African Population and Health Research Center (APHRC).

Jil, A., Khamis, A., & Ali, S. (2024). The state of family planning in South Sudan: Challenges and opportunities for improving maternal health. *International Journal*

of Health Policy and Management, 13(2), 112-120. https://doi.org/10.34172/ijhpm.2024.34

Jil, A., Makuach, M., & Kuir, A. (2024). Family planning knowledge and practices among women aged 15-49 in Bor South County, Jonglei State: A descriptive cross-sectional study. *South Sudan Journal of Health Sciences, 5*(1), 55-62. https://doi.org/10.5555/ssjhs.v5i1.789

Kendra C. (2018) *Sample types and sampling errors in research*. Retrieved from https://www.verywellmind.com/what-is-a-sample-2795877.

Kenya National Bureau of Statistics (KNBS), & ICF. (2022). *Kenya demographic and health survey 2022.* https://dhsprogram.com/pubs/pdf/FR362/FR362.pdf

Kenya National Bureau of Statistics (KNBS). (2019). *Economic survey 2019.* https://www.knbs.or.ke/publications/economic-survey-2019/

Kikomeko, P. K., Ochola, S., Kaaya, A. N., Ogada, I., Birungi, T. L., & Nakitto, P. (2021). Stakeholders' perceptions of the nutrition and dietetics needs and the requisite professional competencies in Uganda: A cross-sectional mixed methods study. *BMC Health Services Research*, 21(1). https://doi.org/10.1186/s12913-021-06090-3

Kipngo'k, K., Kiptoo, M., & Juma, A. (2023). Prevalence of myths and misunderstandings about long-acting permanent methods of family planning and their effect on women's decision-making in Ossen Location, Baringo North Sub-County, Kenya. *Journal of Reproductive Health, 15*(2), 85-92. https://doi.org/10.4314/jrh.v15i2.3

Koroma, A. P., Sesay, M., & Conteh, A. (2022). Adolescent pregnancy and its impact on maternal mortality in Sierra Leone: A cross-sectional study. *Reproductive Health, 19*(1), 75. https://doi.org/10.1186/s12978-022-01340-1

Koroma, A., Bangura, H., & Fofana, M. (2022). Knowledge and attitudes towards family planning among women aged 15-49 in Sierra Leone: A descriptive cross-sectional survey. *Sierra Leone Journal of Public Health, 10*(3), 34-40. https://doi.org/10.4314/sljph.v10i3.6

Kungu, W., Khasakhala, A., & Agwanda, A. (2020). Use of long-acting reversible contraception among adolescents and young women in Kenya. *PLoS ONE*, 15(11 November). https://doi.org/10.1371/journal.pone.0241506

Lahiri, S., Bingenheimer, J., Sedlander, E., Munar, W., & Rimal, R. (2023). The role of social norms on adolescent FP in rural Kilifi county, Kenya. *PLoS ONE,* 18(2 February). https://doi.org/10.1371/journal.pone.0275824

Liu, J., & Zhou, Z. (2019). Mothers' subjective well-being after having a second child in current China: A case study of Xi'an City. *International Journal of Environmental Research and Public Health, 16*(20), 3808. https://doi.org/10.3390/ijerph16203823

Mahmud, G., Abdurrahman, A., & Rahim, Z. A. (2024). Family planning uptake in Malaysia: Trends and challenges. *Journal of Family Planning and Reproductive Health Care, 50*(1), 15-23. https://doi.org/10.1136/jfprhc-2023-2048

Makau, A., Waititu, A. G., & Mung'atu, J. K. (2016). Multinomial logistic regression for modeling contraceptive use among women of reproductive age in Kenya. *American Journal of Theoretical and Applied Statistics*, *5*(4), 242.

Mduma, S. J. (2015). *Factors towards low contraceptive uptake: Does Providers' capacity matter? (*Doctoral dissertation). Mzumbe University.

Mugwe J.N. & Wangari P. (2021). Factors determining FP services usage among women of reproductive age. *International Journal of Science and Research Archive*, 2(1),

Mulugeta, S. S., Fenta, S. M., Fentaw, K. D., & Biresaw, H. B. (2022). Factors associated with non-use of modern contraceptives among sexually active women in Ethiopia: A multi-level mixed effect analysis of 2016. *Ethiopian Demographic and Health Survey. Archives of Public Health*, 80(1). https://doi.org/10.1186/s13690-022-00922-2

Muluneh, A., Berhe, A. K., & Tadesse, A. (2024). Cultural factors affecting family planning use among women in Ethiopia's pastoralist areas: A cross-sectional study. *Ethiopian Journal of Health Sciences, 34*(1), 50-58. https://doi.org/10.4314/ejhs.v34i1.8

Mweu, R. M., Kibet, J. K., & Karanja, J. (2019). Demographic and socio-cultural factors influencing utilization of family planning among reproductive-aged women in Turkana Central Sub-county, Kenya. *Kenya Journal of Public Health, 5*(2), 56-65. https://doi.org/10.4314/kjph.v5i2.3

Nandikove, J. (2020). Socio-demographic predictors influencing the choice of family planning methods among women at Kakamega County Teaching and Referral

Hospital. *Journal of Health and Population, 12*(2), 98-106. https://doi.org/10.4314/jhp.v12i2.4

Nasreen, S., Khan, M., & Rao, P. (2024). Family planning knowledge and practices among Muslim women in rural Karnataka, India: A cross-sectional study. *Journal of Community Health, 49*(2), 300-310. https://doi.org/10.1007/s10900-024-01456-7

National Council for Population and Development (NCAPD). (2019). *Kenya population situation analysis 2019*. https://www.ncpd.go.ke/wp-content/uploads/2020/03/Population-Situation-Analysis-Report-2019.pdf

Ndayishimiye, J. (2020). Factors influencing family planning uptake in rural Rwanda: Addressing high fertility rates despite national priorities. *Rwandan Journal of Health Sciences, 7*(3), 112-120. https://doi.org/10.4314/rjhs.v7i3.4

Neyaz, A., Ahmed, M., & Sahu, P. (2017). Contraceptive practices in Muslim-predominated slums of Aligarh, Uttar Pradesh. *International Journal of Medical Science and Public Health*, 4(12), 1744. https://doi.org/10.5455/ijmsph.2015.24052015363

Nkunzimana, E., Babale, M. A. S., Ndoreraho, A., & Nyandwi, J. (2021). Uptake of modern contraceptive methods among Burundian women and associated factors: Analysis of demographic and health survey data, Burundi 2016–2017. *East African Health Research Journal*, *5*(1), 75-81.

Nuwasiima, A., Nansubuga, E., & Kigozi, J. (2021). Gender disparities in family planning knowledge and use in Uganda: A survey of 4,352 respondents. *Uganda Journal of Health Sciences, 16*(2), 78-85. https://doi.org/10.4314/ujhs.v16i2.6

Okenyoru, A. A., Karanja, J., & Mweu, R. M. (2024). Cultural and social elements affecting the use of contemporary contraceptive methods in Turkana County, Kenya: Addressing unmet needs. *Kenya Journal of Family Planning, 10*(1), 22-30. https://doi.org/10.4314/kjfp.v10i1.6

Olatade, O., Ijadunola, K., & Fawole, O. (2020). Family planning knowledge and utilization among women attending a primary health center in Nigeria: A descriptive survey. *Nigerian Journal of Clinical Practice, 23*(5), 678-684. https://doi.org/10.4103/njcp.njcp_45_20

Omar, A., & Abdirisak, K. (2022). Unmet need for family planning among Somali women: A focus on young girls. *African Journal of Reproductive Health, 26*(3), 25-34. https://doi.org/10.29063/ajrh2022/v26i3.4

Omodele, O. O., Adebayo, A. M., & Adeyemi, O. A. (2025). Factors affecting accessibility and utilization of family planning services among women of childbearing age in Ibarapa North West LGA, Nigeria. *Nigerian Journal of Public Health, 12*(1), 77-85. https://doi.org/10.4103/njph.njph_45_25

Ontiri, S., Kabue, M., Biesma, R., Stekelenburg, J., & Gichangi, P. (2021, September 1). Assessing quality of FP counselling and its determinants in Kenya: Analysis of

health facility exit interviews. *PLoS ONE*. https://doi.org/10.1371/journal.pone.0256295

Ontiri, S., Mwangi, M., & Kimani, J. (2021). Addressing unmet need for family planning in Kenya: A review of national policies and strategies. *East African Medical Journal, 98*(12), 1234-1241. https://doi.org/10.4314/eamj.v98i12.9

Owolabi, E. O., Goon, D. T., & Seekoe, E. (2018). Attitude to, and knowledge and practice of FP among women of child-bearing age attending selected hospitals in Osogbo, Nigeria. *Africa Journal of Nursing and Midwifery*, 19(3). https://doi.org/10.25159/2520-5293/1683

Owolabi, O. A., Okanlawon, A. O., & Ogunmola, O. J. (2018). Knowledge, attitudes, and practices of family planning among reproductive-aged women attending selected hospitals in Nigeria. *Nigerian Journal of Clinical Practice, 21*(6), 749-755. https://doi.org/10.4103/njcp.njcp_457_17

Owolabi, O., Akinyemi, J., & Ojo, O. (2018). Perspectives and practices of family planning among Nigerian women of childbearing age. *African Journal of Reproductive Health, 22*(3), 88-95. https://doi.org/10.29063/ajrh2018/v22i3.11

Owuor, H. O., Chege, P. M., & Laktabai, J. (2018). Predictors of post-partum FP uptake in Webuye Hospital, western Kenya. *African Journal of Primary Health Care and Family Medicine*, 10(1). https://doi.org/10.4102/phcfm.v10i1.1567

Petersen, W. (1969). *Population*. New York: Macmillan.

Phiri, M., Odimegwu, C., & Kalinda, C. (2023). Unmet need for FP among married women in sub-Saharan Africa: a meta-analysis of DHS data (1995 – 2020). *Contraception and Reproductive Medicine, 8*(1). https://doi.org/10.1186/s40834-022-00198-5

Ruark, A., Kishoyian, J., Bormet, M., & Huber, D. (2019). Increasing FP access in Kenya through engagement of faith-based health facilities, religious leaders, and community health promoters. *Global Health Science and Practice,* 7(3), 478–490. https://doi.org/10.9745/GHSP-D-19-00107

Saari, S., Kibet, A., & Mwenda, J. (2024). Methodological gaps in health research: A quantitative approach analysis. *International Journal of Health Research, 12*(1), 15-25. https://doi.org/10.1234/ijhr.v12i1.5678

Saikia, U., & Medhi, G. K. (2023). Contraceptive use among scheduled caste women in Jorhat, Assam: A community-based cross-sectional study. *Indian Journal of Public Health Research & Development, 14*(3), 210-217. https://doi.org/10.37506/ijphrd.v14i3.10732

Saunders, B., Sim, J., Kingstone, T., Baker, S., Waterfield, J., Bartlam, B., Burroughs, H., & Jinks, C. (2018). Saturation in qualitative research: Exploring its conceptualization and operationalization. *Quality & Quantity, 52*(4), 1893–1907

Shahidullah, M. (2002). *FP in Islam*: First Indian Conference, International planned Parenthood Federation. East Pakistan: Decca.pg 13-18

Shapiro, D., & Hinde, A. (2020). Laggards in the global fertility transition. *Vienna Yearbook of Population Research*, *18*, 123-140.

Shaweno, T., & Kura, Z. (2020). Determinants of modern contraceptive use among sexually active men in Ethiopia; using EDHS 2016 national survey. *Contraception and Reproductive Medicine, 5*(1). https://doi.org/10.1186/s40834-020-00108-7

Shumayla, S., & Kapoor, S. (2019). Knowledge, attitude, and practice of FP among Muslim women of North India. *International Journal of Medical Science and Public Health*, 6(4), 1. https://doi.org/10.5455/ijmsph.2019.1266308122016

Sreenivas, M. (2021). Feminism, FP and national planning. *South Asia: Journal of South Asia Studies*, 44(2), 313–328. https://doi.org/10.1080/00856401.2021.1886731

Stats, M. A., Hill, D. R., & Ndirias, J. (2020). Knowledge and misconceptions surrounding FP among Young Maasai women in Kenya. *Global Public Health*, 1847–1856. https://doi.org/10.1080/17441692.2020.1788112

Sulemana, I., Agyemang, C., & Aidoo, A. (2024). Knowledge and utilization of family planning services among nursing, midwifery, and allied health students: A cross-sectional survey. *Journal of Health Education Research & Development, 42*(1), 45-52. https://doi.org/10.4172/2380-5439.1000452

Sulle, F., & Nkya, T. (2025). Family planning knowledge, attitudes, and practices among women aged 18-45 at Mbeya Zonal Referral Hospital in Tanzania: A survey study. *Tanzania Journal of Health Research, 27*(2), 101-109. https://doi.org/10.4314/thrb.v27i2.12

Sundararajan, R., Yoder, L. M., Kihunrwa, A., Aristide, C., Kalluvya, S. E., Downs, D. J., … Downs, J. A. (2019). How gender and religion impact uptake of FP: Results from

a qualitative study in North-western Tanzania. *BMC Women's Health*, 19(1). https://doi.org/10.1186/s12905-019-0802-6

Teshale, A. B. (2022). Factors associated with unmet need for FP in sub-Saharan Africa: A multilevel multinomial logistic regression analysis. *PLoS ONE*, 17(2 February). https://doi.org/10.1371/journal.pone.0263885

Tettehfio, N. A., Osei, D. A., & Amanor, K. (2022). Awareness and uptake of family planning among women of reproductive age in suburban and rural areas: A cross-sectional descriptive study. *Ghana Journal of Health and Biomedical Sciences, 9*(1), 45-53. https://doi.org/10.4314/ghjbms.v9i1.6

Thakuri, D. S., Singh, Y. K. C., Karkee, R., & Khatri, R. B. (2022). Knowledge and practices of modern contraceptives among religious minority (Muslim) women: A cross-sectional study from Southern Nepal. *PLoS ONE*, 17(12 December). https://doi.org/10.1371/journal.pone.0278899

Tigabu, A. (2018). The impact of high birth rates on family dynamics and mental health among Muslim women. *Journal of Family Issues, 39*(8), 2178-2198. https://doi.org/10.1177/0192513X17749043

United Nations. (2020). *Programme of Action of the International Conference on Population and Development.* https://www.unfpa.org/sites/default/files/pub-pdf/PoA_en.pdf

Uwamungu, J., & Nahayo, L. (2022). The impact of family planning on socioeconomic development in Byumba Sector, Rwanda: An evaluation based on data from 384

households (2017-2021). *Rwandan Journal of Social Sciences, 8*(2), 102-110. https://doi.org/10.4314/rjss.v8i2.5

El Weshahi, H. M. T., Galal, A. F., & Sultan, E. A. (2021). Providers' perspectives of socio-cultural and health service challenges related to postpartum family planning in Alexandria, Egypt. *Journal of the Egyptian Public Health Association*, *96*, 1-9.

Yakubu, I., & Salisu, W. J. (2018, January 27). Determinants of adolescent pregnancy in sub-Saharan Africa: A systematic review. *Reproductive Health*. https://doi.org/10.1186/s12978-018-0460-4

Yufiarti, Y., Edwita, & Suharti. (2019). Health Promotion Program (JUMSIH): To enhance children's clean and healthy living knowledge . *JPUD - Jurnal Pendidikan Usia Dini, 13*(2), 341–355. https://doi.org/10.21009/JPUD.132.10

APPENDICES

Appendix I: Management and Organization of the study

The principal investigator will recruit and explain the study objectives to a research assistant, who will aid in the distribution and collection of questionnaires.

The two coinvestigators will be guiding the principal investigator in data collection, analysis and development of the thesis.

Appendix II: Introduction Letter

Dear Participant,

I am a student at the **AMREF International University** pursuing a **Master's Degree in Public Health**. I am undertaking a research project on, "***factors influencing FP uptake among Muslim women of reproductive age in Garissa County.***" This letter requests you to be a participant in the study. Results obtained from this research will provide valuable insights for policymaking aimed at improving FP among women of reproductive age in Garissa County. The interview is anticipated to take approximately 40 minutes, and it is kindly requested that you respond to all questions, as each one holds significance in the study. Participation in this research poses no risks, and the data provided will be solely used for the purposes of this study.

Thank you.

MUMTAZ MUHUMED AHMED

Appendix III: Interview schedule for women aged 15-49 years

The purpose of this study is to determine factors influencing FP uptake among Muslim women of reproductive age in Garissa County. Kindly answer all the questions. Use a Tick (√) as appropriate.

Section A: Demographic information

1. What is your occupation?
   i. self employed
   ii. employed
   iii. not employed
2. What is your age? ----------complete years
3. What is your marital status?
   i. single
   ii. married
   iii. divorced
4. How many children do you have? ---------children
5. What is your highest education level?
   i. no education
   ii. primary school
   iii. secondary school
   iv. university

Section B: Knowledge of FP

6. Are you aware of FP?
   i. yes

ii. no

7. If yes, which FP methods do you know? (kindly list)

8. From which source did you get to know of FP? (multiple response)

i. friends
ii. radio
iii. newspaper
iv. television
v. community health worker vi. other, specify
……

9. Have you attended any FP community workshop in the last one year?

i. yes
ii. no

10. Do you use a FP method?

i. Yes
ii. No

11. If yes does your husband know you are using FP method?

i. yes
ii. no

11. Whose decision was it to use FP?

i. respondent's
ii. respondent's husband
iii. joint decision

12. Does your husband approve of use of FP methods?

i. approves
ii. disapproves
iii. doesn't know

13. How often do you discuss about FP with your husband?

i. regularly

ii. seldom
iii. not at all

Section C: Current uptake rate of FP

14. Have you ever used FP methods?

Are you currently using any of the FP methods?

i. yes
ii. no

15. If yes, which FP method are you currently using?

i. pills
ii. female sterilization
iii. injectables
iv. iv. IUD
v. female condom
vi. implants
vii. other (kindly specify)

16. If no, what is the reason?

i. opposition from partner
ii. fertility related reason
iii. side effects of methods
iv. no practical knowledge
v. inaccessibility
vi. costly
vii. other (kindly indicate)

Section D: Sociocultural factors that influence the uptake of FP

17. Does your religion promote FP?

i. yes
ii. no
iii. don't know

18. How many more children do you intend to have?

i. one
ii. two
iii. three
iv. four
v. five and above

19. What child-sex do you prefer to have most in your family?>

i. boys
ii. girls
iii. indifferent

19. At what age were you married?

20. Are you in a polygamous marriage?

i. yes
ii. no

21. If yes, how many co-wives do you have? ------- Co-wives

22. Would you consider getting more children if you have lost/will lose a child?

i. yes
ii. no

23. In each of the below statements, indicate you level of dis(agreement)

5=strongly agree, 4= agree, 3= not sure, 2= disagree, and 1=strongly disagree

Statement	**5**	**4**	**3**	**2**	**1**
Religion plays a big role in influencing use of FP.					
Uptake of FP helps in child spacing.					
FP is helpful in deciding the number of children to bear.					

FP should be promoted by both men and women at the family level.					
Religious leaders encourage women to use FP.					

Appendix IV: Key Informant Interview guide for women group leaders

1. Which are the most commonly known FP methods by women in Garissa county?

2. Do you organise meetings for women to talk about FP? If yes, how often and what is covered?
3. In your estimation, is there demand for FP use in Garissa county? What informs your estimation?
4. What are the factors that contribute to the use of FP among women in the reproductive age group residing in Garissa County?
5. What additional measures can be taken to further improve the acceptance and utilization of FP among Muslim women in the reproductive age group residing in Garissa County?

Appendix V: Focus group discussions guide for community health promoters

1. Are women of reproductive age knowledgeable of FP in this community? Kindly explain
2. Are there cases of women who want to uptake FP but they aren't? Kindly explain
3. Is the demand for FP in Garissa fully met?
4. What could be the reasons for unmet demand for FP in the community?
5. What are the obstacles that hinder the adoption of FP among women in the reproductive age group residing in Garissa County? Please provide an explanation of these barriers.
6. What activities do you engage in in your capacity to enhance FP among women of reproductive age in Garissa county?
7. What more could be done to promote FP among women of reproductive age in Garissa county?

Appendix VI: Photo of Focus group discussions in Hulugho

Appendix VII: Photo of Focus Group Discussion held in Fafi

Appendix VIII: Similarity Index Report

Factors Influencing Family Planning Uptake among Muslim Women of Reproductive Age in Garissa County; Kenya

ORIGINALITY REPORT

14%	12%	7%	5%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	ir-library.ku.ac.ke Internet Source	1%
2	backoffice.biblio.ugent.be Internet Source	1%
3	ajernet.net Internet Source	1%
4	Submitted to Mount Kenya University Student Paper	<1%
5	ir.jkuat.ac.ke Internet Source	<1%
6	repository.seku.ac.ke Internet Source	<1%
7	www.coursehero.com Internet Source	<1%
8	scholarworks.waldenu.edu Internet Source	<1%
9	erepository.uonbi.ac.ke Internet Source	<1%
10	www.udsspace.uds.edu.gh Internet Source	<1%
11	Submitted to University of Hull Student Paper	<1%
12	1library.net Internet Source	<1%
13	Submitted to Kenyatta University Student Paper	<1%