UTILIZATION OF MALE CONTRACEPTIVES IN BUNGOMA COUNTY KENYA

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A RESEARCH THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF PUBLIC HEALTH, REPRODUCTIVE HEALTH IN THE SCHOOL OF HEALTH SCIENCES OF KENYATTA UNIVERSITY.

NOVEMBER,2025

DECLARATION

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

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DEDICATION

I dedicate this thesis to my beloved Wife Irene, and children Michael, Esther and Peter for the support during the study.

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ABBREVIATIONS AND ACRONYMS

APHRC: African Population and Health Research Centre.

GDP: Gross Domestic Product.

HIV/AIDS: Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome

ICPD: International Conference for Population and Development.

KDHIS: Kenya Demographic Health Survey

KNBS: Kenya National Bureau of Statistics

KII: Key Interview Informant

MCI: Male Contraceptive Initiative.

MCIS: Multiple Cluster Indicator Survey.

MOH: Ministry of Health

TFR: Total Fertility Rate

UHC: Universal Health Coverage.

UNFPA: United Nations Population Fund

WHO: World Health Organization.

DEFINITION OF OPERATIONAL TERMS

1. Total Fertility Rate TFR: Total number of children that will be born of a woman or (per 1000 women) birth to during her reproductive age.
2. Contraception: Process of intentionally preventing a pregnancy from occurring.
3. Contraceptive: Device, chemical, surgical, or natural method of preventing pregnancy.
4. Ligate: To tie, Constrict or blind surgically.
5. Contraceptive prevalence: The percentage of women who are currently using, or whose sexual partner is currently using, at least one method of contraception, regardless of the method used. It is usually reported for married or in-union women aged 15 to 49.
6. Non-surgical vasectomy: A procedure that involves injection of a substance into male reproductive system Vas-deferens to prevent movement of spermatozoa from testis to the urethra.

ABSTRACT

Despite Kenya putting in place several policies to promote male participation in family planning, data on male contraceptive use by male respondents is scanty, yet literature indicate that up to 80% utilization of contraceptives among couples is determined by males. Male contraceptive utilization has been reported to be low (<1.5%) in Bungoma County. Coupled with high contraceptive unmet needs among women, it contributes to the high teenage and unplanned or unwanted pregnancies contributing to the high maternal mortality of 382/100,000 live births in the County. Limited male contraceptive choices and utilization calls for more research to facilitate development and rollout of new male contraceptives. This study was to determine utilization of male contraceptives among male adults in Bungoma county. Findings of this study will contribute to the male contraceptive utilization improvement and new contraceptive development databank that will inform future policy and program strategy formulation to accelerate progress towards meeting the sustainable development goal 3.7. This was a Cross-sectional Analytical study that was conducted in Bungoma County targeting males aged 20-69 years in 2022. Sample size was determined by Fisher et al. formula and multistage sampling technique was employed. Key Interview Informant guide and semi structured questionnaire were used. Quantitative data was managed through SPSS version 26 while qualitative data was managed through thematic content analysis. Chi squire and Fishers exact tests were applied for inferential statistics. The study engaged 395 respondents with 99.5% response rate. Majority (80.9%) of males use contraceptives with condom being the most used contraceptive (89.3%) while 5.3% reported to have undergone vasectomy. Commodity related issues (X^2 =40.570, $p <$ 0.001), service delivery point (X^2 = 82.252, $p < 0.001$), staff gender preference (X^2 = 10.013, $p = 0.022$) were found to be statistically significant barriers to utilization. There was a significant association between level of knowledge and male contraceptive utilization ($X^2 = 59.286$, $p < 0.001$). Majority (82.6%) perceived vasectomy as a form of castration, 99% of the males are not aware of any other contraceptive other than condom vasectomy and withdrawal. Majority 89.7% would recommend for condom use while 2.6% would advocate for Vasectomy method. If a new contraceptive would be developed, majority would prefer a pill when required. These findings call for reproductive health stakeholders to invest in targeted health education and sensitization of males on use of surgical vasectomy, continuous health education for service providers to update them on new contraceptives that are under development. There is need for similar research on a larger scale and research on male contraceptive consumer preference to guide development of alternative forms of contraceptives that will be easily embraced by males.

CHAPTER ONE: INTRODUCTION

1.1 Background of the study.

World health organization (WHO) defines Family planning as the ability of individuals and couples to plan and get their desired number of children, through spacing and limiting of their births. This is attained by the correct use of various birth control methods for both male and females to prevent conception or pregnancy. (WHO, 2017).

Maternal mortality in Kenya remains significantly high at 362 deaths per 100,000 livebirth and its reduction to meet the WHO target of 70 deaths per 100,000 livebirths by the year 2030 remains a challenge. Unplanned, unintended pregnancies among teenagers and other women remain a major contributor to these maternal deaths. (National Bureau of Statistics-Kenya and ICF International, 2015).

World Health Organization estimates the current global family planning prevalence to be at 76% with overall 270 million women of reproductive age having unmet needs for family planning. This situation is likely to deteriorate during emergencies due to lack of information hence reducing access to contraceptives especially for young girls and adolescents. This is more compounded in cultures where men are not involved in family planning matters (WHO 2020)

United Nations Population Fund (UNFPA) is coordinating efforts to eliminate these unmet needs by 2030 to ensure universal access to sexual and reproductive health-care services including family planning, information, education, and the integration of reproductive health into national strategies and programs that involve both men and women. However, lack of information, access to FP services and socio-cultural factors remain key barriers to meeting its target for the Sustainable Development Goal number 3.7. (UNFPA 2020). According to African Population and Health Research Centre (APHRC), patterns of contraceptive use vary among other things by age, sex, and other sociocultural factors. On average, women aged 30-39 years are the primary users of contraceptives while adolescents (aged 15-19) have the lowest contraceptive use. (APRH 2018). Since reproductive health is both a male and female affair this could be a proxy indicator for males from the same cohort hence the need for both genders to participate fully in family planning matters for the entire society to achieve better reproductive health status. Previous studies have shown minimal active participation of males despite being main family decision makers. Moreso

data on contraceptive use among males is either HIV focused or outdated (Kriel et al., 2019)

Gender based skewed distribution of health workforce and unwillingness to share tasks among health workers have been cited as a key limitation to access and utilization of contraceptives and other reproductive health services within the health systems. This more often results into long waiting time service consumers, lack of confidence and therefore poor adherence to utilization of contraceptives. (WHO, 2017). According to Sharma et al., 2018, sociocultural and psychological norms, lack of education, misinformation and dominance of female as FP health care providers inhibit optimal male contraceptive utilization while positive attitude in men, literacy and awareness as positive influencers.

Based on the Multi indicator cluster survey, Bungoma county has a contraceptive prevalence of 54.4%, unmet needs of 22.5% and almost 30% of women aged 20-24 years had had their first birth by age of 18 years. The utilization of male condom, withdrawal method, and male sterilization among males all stand below 1%. (KNBS et al., 2016). During the Covid19 lockdown Bungoma county was among the counties that had significant number of teenage pregnancies a proxy indicator of men not optimally using contraceptives. (NCPD et al., 2020) According to the Kenya Demographic Health Survey report 2022, the use of male condom, male sterilization and withdrawal method in Bungoma county was 1.4%, 0.3% and 1.1% respectively

The purpose of this research therefore is to determine male contraceptive utilization among adult males and possible barriers to new male contraceptive roll out that will inform planners and other stakeholders on best approaches to adopt and accelerate uptake in Bungoma county that is geared towards meeting sustainable development goal 3.7.

1.2 Statement of the Problem

Family planning is the most cost-effective way to address challenges of maternal and child mortality and morbidity. However, despite male contraceptives being available at no or low cost, the contraceptive use among males in Bungoma has remained significantly low (< 1.5%) for all male contraceptives (KNBS, 2022). This calls for the need to establish the influencers that will inform future planning and decision making (KNBS et al., 2016).

The maternal mortality ratio for Bungoma County is slightly above the National maternal mortality ratio (382 deaths per 100,000 livebirths vs 362/100,000 livebirths) (KDHIS 2014). Most of these deaths occur due to unplanned or unintended pregnancies especially among the youths and adolescents which are majorly attributed to lack of information and access to contraceptives including male contraceptives (WHO, 2020).

Most African communities including Kenya have a patriarchal family structure where males are the key decision-makers. However male involvement or participation in family planning and utilization of male contraceptives has not been well documented and where data is available, it is outdated or skewed towards HIV prevention (Kriel et al., 2019).

1.3 Justification

The International Conference on Population and Development ICPD25 program of action is tied to SDG 3.7 which seeks to achieve universal access to contraceptives for both males and females by 2030. This can only be achieved through data collection, analysis and interpretation to enable planners to make evidence-based decisions (Butler et al., 2019).

Current review of family planning programs indicate that men are underserved, this calls for more attention and informed strategies to address these challenges. (Hardee et al., 2017).

Several policies and guidelines have been put in place to facilitate increase male participation in family planning, however utilization of male contraceptive in Bungoma is at a low of 1% that calls for the need to identify influencers of utilization (KNBS 2022). According to Male Contraceptive Initiative (MCI, 2022), research into new male contraceptives is at an advanced stage with promising outcomes hence the need to determine level of knowledge and other influencers to inform best approaches to their roll-out and utilization. This study seeks to provide baseline information on utilization of male contraceptives from male respondents as no similar study has been conducted in Bungoma county.

The study is in line with UNFPAs strategic priorities that seeks to monitor progress and identify and address persistent barriers to facilitate the achievement of Universal Access to reproductive health services including male contraceptives. (UNFPA&AFIDEP 2020).

1.4 Research question:

1. What proportion of males in Bungoma County use male contraceptives?
2. What are the barriers to the utilization of male contraceptives?
3. What is the level of knowledge and perception on the new male contraceptives among residents of Bungoma county?
4. What factors are likely to influence acceptability of new male contraceptives?

1.5 Hypothesis

H_0

1. Utilization of male contraceptives in Bungoma county is not above the national average
2. Socio-demographic factors are not associated with use of current contraceptives methods.
3. Level of knowledge may not affect utilization of new contraceptives.

1.6 Objectives

1.6.1 Broad Objective.

To investigate utilization of male contraceptives among males in Bungoma County.

1.6.2 Specific Objectives:

1. To determine the proportion of adult males utilizing male contraceptives in Bungoma county.
2. Determine barriers to current male contraceptive utilization in Bungoma county.
3. To establish the level of knowledge and perceptions on new male contraceptives.
4. To determine factors that may affect acceptability of new male contraceptives.

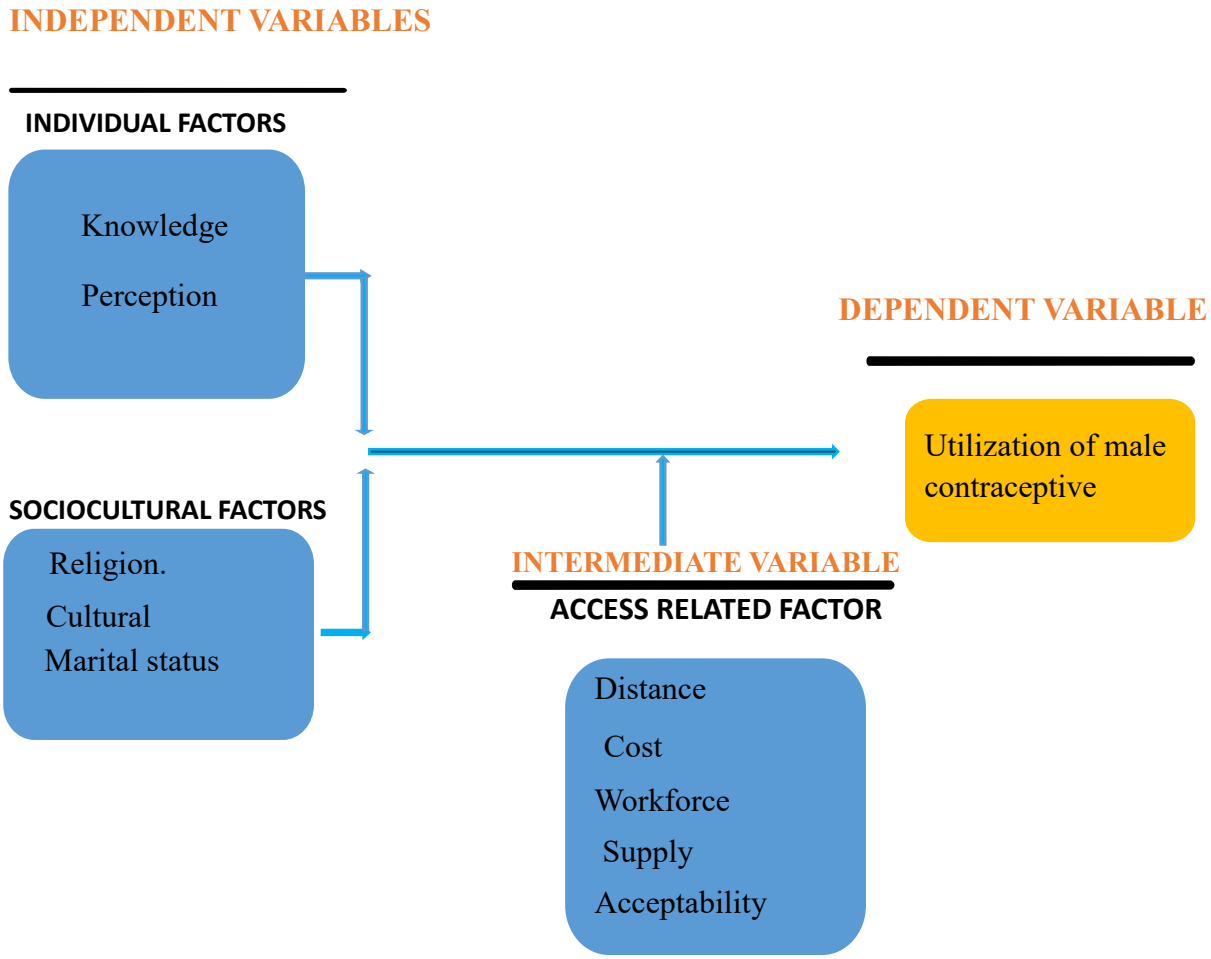
1.7 Significance of the study.

Study findings are useful to the National and County government ministry of health and other related ministries, and stakeholders in reproductive health service provision. It will provide information for planning, policy development and informed strategies in program implementation. It will be also useful to Male Contraceptive Initiative and other research institutions who develop and advocate for new contraceptives development. It will provide a baseline information specifically for Bungoma relating to male contraceptive utilization and therefore inform evidence-based interventions and strategies that will improve service utilization.

1.8 Limitations and Delimitations.

This study targeted adult male only respondents, because matters regarding reproductive health are culturally sensitive among native communities a high nonresponse rate was anticipated. However adult male only enumerators were used that enabled adequate data to be collected. Though the enumerators were from the same ward, they were not allowed to collect data from their home or neighbouring village where they are well known to avoid bias. This study only established if there was an association between variables by use of Chi square and Fisher exact test but did not establish the direction of the association.

1.9 Conceptual Framework



Variables.

Utilization of Male Contraceptives was the outcome of interest or dependent variable that was to determine to what extent men use male contraceptives. This was to be influenced by the independent variables that included Knowledge and Perception. The Knowledge and Perception shape the intent to utilize male contraceptives, hence affecting utilization. The intermediate or Access related variables that included Cost, distance, workforce, supply and acceptability mediate or moderate the relationship between independent and dependant variables because they affect access.

CHAPTER TWO: LITERATURE REVIEW

2.1 Literature Review

2.1.1 Introduction and Contraceptive Utilization

The use of devices, medication or other sexual behaviours to prevent occurrence of a pregnancy is contraception (WHO 2017). It is only through the correct use of the various contraceptives for both men and women that individuals and couples can anticipate and get their desired number of children that are appropriately spaced (WHO, 2017). Prevention of unwanted pregnancy through adequate engagement men and use of contraceptives among men is important for improving maternal and child health. Despite this, progress towards achieving universal access to reproductive health services has been slow and is below the global timelines and targets. (WHO 2019)

Family planning unmet needs remain significantly high within most developing countries and is a key hinderance in achieving the global targets for the vision 2030. UNFPA and other stakeholders are working closely to ensure this gap is bridged. (UNFPA 2017). World Health Organization estimates the current global contraceptive prevalence to be at 76%, with 270 million women having unmet needs for family planning, this situation is likely to deteriorate during emergencies due to lack of information reducing access to contraceptives especially for the young and adolescents. This is likely to be more compounded in cultures where men are not involved in family planning matters (WHO 2020)

Unmet needs for contraceptives remain high (24%) in Sub Saharan and this is projected to increase within the already resource constrained region. This is likely to translate to population explosion, unwanted pregnancies with the associated complication that are more among young adolescent women (Sinai et al., 2018) These high unmet needs have been linked to the high infant mortalities of 45% when spacing is less than 2 years apart. This mortality increases to 60% for spacing of more than 4 years apart (WHO 2020)

In a Nigerian study, more than 80% of utilization of family planning services is dependent on husbands' acceptance. This calls for male education and access to right information on reproductive health to change the negative perceptions, guide on decision making and increase utilization of male contraceptives. Other determinants in the study highlighted the

level of education, religion, culture, service availability and accessibility, attitude of service provider among others (Ekpenyong et al. 2018).

In Malawi, male empowerment through provision of information through peer educators changed male perception on contraceptive use and increased male contraceptive uptake from 32% to 70% and increased indirect use by engaging their partners by 59% (Mwangi et al., 2016).

Conversely, Malawi adolescents perceived contraceptive users as promoters of promiscuity which increases sexually transmitted diseases. They also believed that the only contraceptive for the male adolescent is condom while others are for married couples (Dombola et al., 2021). In Burundi, gender imbalance, side effects of contraceptives, cultural, religious influence and the cost of family planning commodities were found to be main barriers to utilization of family planning services (Hakizimana & Odjidja, 2021)

Whereas contraceptive uptake in Kenya stands at 57% (KNBS, 2022), previous studies indicate the low uptake was attributed to, lack of access, unavailability, lack of information and minimal male participation in reproductive health matters. Socio-cultural, religious, and gender-related power dynamics have also been cited as key contributors to low uptake (Mwangi et al., 2016)

Male sexual desires differ across the different ages and stages in life with priorities varying in adolescents, newly married, those who have children and need spacing, and those who want to stop childbearing. All these therefore this should inform on how to engage and involve each cohort on reproductive health matters and contraceptive method of choice (Abdur-rahman et al., 2018) According to (Mwangi et al., 2016), male perception is a key determinant in the male direct utilization or spouse support to the utilization of contraceptives. In this study, males with positive perception having a higher possibility of using contraceptives than those with negative perception. (Mwangi et al., 2016)

To overcome these challenges, the current UNFPA emphasis is on programmers to adopt the use of gender lens in planning for male engagement in family planning and other reproductive health matters. It calls on male engagement as clients, change agents and partner supporters on matters related to reproductive health and family planning (UNFPA 2017).

The 1995 Cairo ICPD emphasized on male taking responsibilities in reproductive health matters.

including Family planning. In response to this, Kenya as a country has developed several reproductive health policies and guidelines to increase male engagement in the prevention of early and unplanned pregnancies. (MoH, 2015). Despite these efforts, there is limited data on male engagement and utilization of male contraceptives (Mwangi et al., 2016).

2.1.2 Contraceptive methods for males

Although global data indicates an overall increase in the utilization of all contraceptives, there has been a significant drop of up to 30% in the utilization of male sterilization (Contraceptive Use by Method 2019). World Health Organization cites poor access, lack of information and low variety of choices of contraceptive as barriers to meeting the needs of contraceptive users. This situation is worse for males as there are only a handful alternatives of contraceptives to choose from (WHO 2017).

Currently, male condoms and vasectomy are the only two options of modern contraceptives that males can directly use. According to WHO, male condoms physically prevent male sperms from getting into the female reproductive system. It is the only contraceptive that offers protection against sexually transmitted diseases and prevent pregnancy up to 98% if correctly used. The other choice is surgical vasectomy, this is a male sterilization method where the vas deferens are ligated and therefore preventing sperms from the testis reaching the penis. Vasectomy is irreversible though it is 99.9% effective. With advancing technology, more methods are being developed that include Vasageal and male pills that have proved to be 99% effective in mice though not yet approved for use. (Nation.Africa, n.d.). Other methods include the withdrawal method that is most ineffective and unreliable. Fertility awareness and symptom-based methods can also be used but require partner support (Global, 2018).

According to WHO, sexual needs vary based on geographical region, age and social cohorts of the users. This determines preference on the type of contraceptive for every cohort to be able to meet their contraceptive needs (WHO, 2020) In the United States, the prevalence of vasectomy is approximately 557,000 which is the highest in the world and

was seen to decrease between 2007 and 2015. (WHO 2017) According to studies conducted among Men in Northern Ethiopia, only 12.5% use contraceptives with 98% using condoms, 2% use withdrawal with no reported use of vasectomy. (Wondim et al., 2020).

According to Waruguru et al., 2019, 62% of the males were using contraceptive in Kutus central Kenya. Studies among men with HIV in Nyanza Kenya indicated that up to 43% of men were using condoms as the sole method of contraception while 27% were using combined methods. The significant proportion of Condom utilization could be attributed to the health education offered to HIV patients as part of the transmission control. Among the study community, it was believed that if children are not spaced then subsequent, they grow up thin and weak and therefore the need to use contraceptives (Steinfeld et al., 2013) Based on the KNBS 2022 report, Bungoma county has a contraceptive prevalence of 63.7% with unmet needs of 14.6% which is slightly higher than the national. The use of condoms, withdrawal method, male sterilization among males all were reported to be below 1.5% (KNBS et al., 2022).

2.2 Access Related Factors

2.2.1 Cost of Contraceptive

WHO indicates that Condoms are commonly available and affordable and more often given free of charge (Global FP 2018). In Uganda, free of charge, easy access to condoms were found to be drivers to most males utilizing condoms (George K et al., 2020). However, according to the Kenya condom policy, to enable sustain the condom supply, Kenya advised the district health management boards to introduce a differentiated fee (Condom policy, 2001).

In a study conducted in Kenya, 40.3% of the rich were found to use a contraceptive against 20.7% for the poorest. (Mwangi et al., 2016)

According to the MOH report, during the Pilot phase to the Universal Health Coverage (UHC), health facility attendance increased by more than 40% a clear indicator that the cost of healthcare services is a barrier to health service utilization. (Wangia Elizabeth, 2018).

2.2.2 Staffing/Workforce

WHO cites staffing as a key barrier to reproductive health service uptake and therefore a key hindrance to achieving the unmet needs for contraceptives. Lack of adequate staff to provide services continuously and consistently especially among the marginalized, lack of adequate knowledge of staff offering service and staff attitude have kept many clients opt not to seek for these services (WHO, 2017). This was confirmed in a study in Nyanza Kenya which established that staff absence and predominantly female staffing at the family planning clinics were barriers to men's utilization of family planning services. (Steinfeld et al., 2013)

There has been a serious concern about gender imbalance among the service providers. Being a reproductive health matter, males would prefer discussing their concern comfortably with male service providers, however staffing in most of the family planning departments is skewed to female healthcare providers which is a hinderance to male contraceptive utilization. (WHO, 2017). These concerns have been echoed by (George K et al., 2020) who found out that gender skewness, lack of respect for clients, lack of privacy and confidentiality among staff providing the service were perceived as barriers to access and utilization of male contraceptives in Uganda. This was worse for males who perceived vasectomy as the most private affair due to the perceived stigma at the community (George K et al., 2020)

Kenya like most other countries, majority of the healthcare workforce are females, coupled with poor service integration, it makes more men not seek for family planning service at a central place where mostly service provision is by female staff. More so due to infrastructural challenges, such clinics are conducted in the same place with Child welfare, antenatal and postnatal care which make them a predominantly female region (Steinfeld et al., 2013)

2.2.3 Distance from Service Delivery Point, Availability and Accessibility of Contraceptive

Prevention of unwanted pregnancy through adequate use of contraceptives among men is essential for improving maternal and child health and social well-being. Despite this, progress towards achieving universal access to family planning services has been slow and

it is below the global targets and timelines (WHO 2019). This is more compounded by the limited choices of contraceptives for men despite current studies showing increased willingness among men to participate in family planning and other reproductive health matters which has positively impacted uptake of contraceptives (Steinfeld et al., 2013). In Uganda, the limitation of contraceptive choices for men and fear of one of the only two choices being a surgical intervention that is permanent or irreversible was noted to be a key barrier of utilization of male contraceptives (Kabagenyi et al., 2014).

A study among people living with HIV in Nyanza Kenya established that although men were positive about using contraceptives for child spacing and doubling it for partner protection, they only had two options compared to the female counterpart with most of the men being reluctant to go for vasectomy. Most males believed that decentralizing family planning services would improve services so that men can access contraceptives at the HIV clinic instead of the usual family planning clinic which is a predominantly a female staffed clinic (Steinfeld et al., 2013).

In most studies conducted within rural setups globally, distance from service deliver points has been cited as a key barrier to service utilization. This is further compounded by the long waiting time as most of such facilities are understaffed. (George K et al., 2020). Ekipenyong et al advocate for regular and consistent service schedules for static clinics and outreaches which have proved to be key influencers of family planning service uptake especially among the marginalized communities. They have been found to influence uptake to up to 62% (Ekpenyong et al 2018).

In the recent past, global data has shown an increase in contraceptive utilization with several studies indicating high level of willingness and approval by males to fully participate, support their partners and use male contraceptives (WHO 2017). In Northern Nigeria more than double the number of men approved use of contraceptives and more so during extramarital relationships. In Ethiopia, Tigray, Southern Ethiopia regions and Jamma zone, more than 90% of the males approved and were willing to use male contraceptives. (Ochako et al., 2017). Though there has been such high-level of willingness among men to use contraceptives currently there are limited choices (two) vasectomy and male condoms that are approved for use which is a great hindrance to utilization- WHO.

Despite such challenges, studies are currently ongoing on new non and hormonal contraceptive methods that have shown up to 99% effectiveness in animals. (MCI 2021).

In Bungoma county, studies on reproductive health services utilization showed a negative correlation to distance from service delivery point. Distance was seen as a barrier for people living 2 kilometres away from the facility with underutilization doubling at 4 kilometres away. This situation coupled with stigma, lack of knowledge, limited choice and staff related concerns could be worse for non-life-threatening situations like use of male contraceptives and significantly affect utilization (Mwaliko et al., 2014).

2.3 Individual Factors

2.3.1 Age.

Maternal mortality remains high globally and specifically in sub-Saharan Africa with Kenya having a rate of 362 deaths for every 100,000 livebirths. (KDHS 2014). Up to 25% of the causes are attributes to lack of information and access to contraceptive by the adolescents and young people. (WHO 2020). In the US 20% of young males have their sexual debut by age of 15 yrs. increasing up to 77% by age of 20 years. Majority (93%) of older male adolescents use at least a form of contraceptive compared to younger adolescents who were at 78% *(Martinez & Abma, 2020).* This contrasts with Bungoma county in Kenya where women (20-49 years old) and men have their sexual debut at age of 17 years *(Ministry of Health Kenya, 2016). According to the* KDHS 2022 report*,* male condom, Vasectomy and withdrawal method utilization was reported to be 1.4%, 0.3% and 1.1% respectively (KNBS 2022).

In Low-income countries, adolescent girls are unlikely to use contraceptives and therefore have high unmet needs for family planning than the older women 50.8% vs 36.4%. This is a proxy indicator for male contraceptive utilization within these cohorts. *(Li et al., 2020).*

Just like females, men have varied contraceptive needs at different ages of life, young men use it for prevention of pregnancy or delay of pregnancy and protection against infectious diseases including HIV/AIDs (*George K et al., 2020)*. Though there have been concerns around the safety and reversibility of some contraceptive methods, WHO reassures that all

contraceptives are safe for young people and advocates for the need to work on modalities that will increase utilization. *(Global, 2018)*

Sterilization is one of the permanent/irreversible male contraceptive methods. In Indonesia males who underwent sterilization were perceived to be bizarre. The procedure was equated to castration and should be for the elderly men (Haryanto, 2017). Similar findings were reported in Uganda where young people who may require children in future were cautioned against vasectomy. This is further cautioned by the World Health Organization as a serious consideration during family planning service provision to the young *(Global, 2018)*

Though Condoms have been perceived to reduce sexual sensation, pleasure and associated with promiscuity, they are the most commonly used contraceptive across all ages though young people are the greatest users. *(Global, 2018).* Similar perceptions have been reported in studies conducted in Uganda where older men perceived condoms as designed for the young and unmarried and not even for the sexually active older male. In this study the use of male contraceptives especially condom was highly associated with unfaithfulness in the families *(Kabagenyi et al., 2014).* Such perceptions, financial constraints and religious believes have pushed some men to resort to withdrawal method though is one of the most ineffective contraceptive methods. This is more so to the youth as it could be the only available and always accessible method. However, this method is difficult to actualise especially for the young *(Global, 2018).*

Fear of stigma has been one of the barriers that hinder women from purchasing male contraceptives for their partners from local providers which has pushed up to 34% of young males to be the providers of contraceptives in Nairobi Kenya. Such barriers can only be overcome through community sensitization and service provider education (Findings, 2019)

2.3.2 Knowledge & Perceptions

According to the Cambridge university dictionary, knowledge is the understanding about a subject that you get by study or experience either known by one person or general people (Knowledge @ Dictionary.Cambridge.Org, n.d.) In most studies conducted men are significantly knowledgeable in regard to family planning and use of male contraceptive,

however, their involvement in family planning matters directly by using male contraceptive or cooperation with their partner or couples has been minimal (Hakizimana & Odjidja, 2021). This is also confirmed by studies in the Mediterranean which found out that despite the high knowledge among men on family planning, they are more reluctant to approve contraceptive use (Who.Int, n.d.2016).

A comparison between several regions of the world has indicated a negative correlation between number of years in school and Total Fertility Rates (TFR). This comparison found Sub-Saharan Africa which has the lowest school years of 4.2 to be having the highest TFR of 4.95 while western Europe which highest number of school years 11.8 having TFR of 1.5 (Goodman et al.2020).

Several studies conducted have demonstrated that high knowledge on contraceptives among men does not directly translate to utilization. This is confirmed in the Jordanian study where despite the high level of knowledge (90%) on the method of pregnancy prevention, only one third was able to list withdrawal and use of male condom as a contraceptive method. In this study 45% of males were using contraceptives together with their spouses (Who.Int, n.d.2016) Similarly in a rural Burundi community, despite the high level of knowledge on contraceptives (95%) contraceptive uptake stood as low as 22% an indication that knowledge alone does not translate to utilization of contraceptives (Hakizimana & Odjidja, 2021).

Source of information on contraceptives can be a major barrier to male contraceptive utilization, most males have been found to get initial information from peers inform of myths. This has been a major cause of misinformation leading to low knowledge on male contraceptives. This is confirmed in an Indonesian study in which contraception was viewed as a feminine idea and those who underwent vasectomy were stigmatized. (Haryanto, 2017). Similar perceptions were reported in studies done in Uganda where Vasectomy was perceived as mutilation of male genitalia and castration. In this study 59% were not on any contraception, condom use was at 22% while 19% were on partner supported contraception. (Thummalachetty et al., 2017) In a Northern Ethiopian study among males, 25% knew male contraceptives while 12.5% of males were using contraceptives. (Wondim et al., 2020).

Conversely, studies in other countries have shown level of education, knowledge and perception are associated with increased contraceptive uptake. Studies in Nigeria by Ekpenyong et al 2018 and Jordan by (WHO 2016) showed a positive association between level of education and knowledge acquisition that ultimately affects perception and uptake of contraceptives to up to 100% among university graduates. Similarly, Haryanto, 2017 established that empowerment of social support networks including peer influencers with complete and accurate information from reliable sources positively transforms male perception on contraceptive utilization. In a meta-analysis done in 2019, it was found that educational empowerment significantly improved the perception, correct use of contraceptives and therefore effectiveness (Cross, Sarah J. Linker, Kay E. Leslie, 2016) In Malawi male empowerment through peer educators changed male perception of contraceptive use and increased male contraceptive uptake from32% to 70% and indirect use by engaging their partners by 59% (Mwangi et al., 2016).

A significant proportion (90%) of male adolescents in Nairobi Kenya are significantly knowledgeable on male contraceptives (male condoms), and their use. However, despite this level of knowledge Nairobi County reports the highest number of teenage pregnancies in Kenya an indicator of inconsistent and suboptimal use of these contraceptives (Findings, 2019).

2.4 Socio-Cultural Factors

2.4.1 Marital Status

Varied contraceptive needs across population cohorts dictate the consumption of any given contraceptive. The young and unmarried but sexually active may use short-term and reversible contraception methods, and most males within this cohort use condoms (Global, 2018). The same applies to the young married men who still need children and therefore use contraceptives for child spacing. Male condom use among this cohort is still the most prevalent. (Global, 2018)

There are varied perceptions on the use of contraceptives, in Uganda elderly men perceived condom use as being for the young, unmarried, and unfaithful (Li et al; 2018), while in Malawi, adolescents delayed contraceptive use before marriage as they were to prove their fertility immediately after marriage (Dombola et al., 2021).

In Kenya, 34% of male youth are initiators of contraceptive use and they too play a significant

role in decision making on choice and what to use among the married couple (Findings, 2019). On the other hand, studies conducted among married women in Kenya have shown the highest (75%) unmet needs among adolescents, poor and uneducated. This is a proxy indicator of utilization among males of the same cohort. (Gichangi et al., 2021).

2.4.2 Religion, Culture & Contraceptive Associated Myths

Culture refers to a set of values, beliefs & traditions that are held by a specific social group and handed down from generation to generation. Such beliefs are what identifies such communities, and some are known to significantly affect modern contraceptive uptake. Gender roles are clearly defined in most conservative communities with men being key decision makers including the decision on how many children to have (Mochache et al., 2020).

In most cultures in Uganda, a man's social status is measured by the number of children, and this has been a great hinderance to male contraceptive utilization among such communities who perceive many children to be a source of security. (Kabagenyi et al., 2014).

These findings are contrary to WHO findings among Jordanian men who 75% disagreed that number of children was a sign of masculinity (Www.Emro.Who.Int, n.d.) Nevertheless Kabagenyi et al., reiterates that lack of male involvement in contraceptive use is due to cultural beliefs, negative community perceptions, stigma that arises from lack of access to right information and minimal community engagements on family planning matters. (Kabagenyi et al., 2014).

Child gender preference has been found to be one of the causes of high fertility among some families. Culturally, in Uganda, families prefer to have a male child and until a family has a male child, they continue to reproduce with men preferring to marry several wives until one bear a boy child. This significantly contributes to the rise in fertility rates among families (George et al., 2020)

Religion has been defined as a social-cultural system of designated behaviours and practices that relates humanity to supernatural, and spiritual elements and up to 84% of the world's population belong to the four major religious sects of Hinduism, Islam, Buddhism Christianity, which are the main religious sects or some form of folk religion. Up to 85% of Kenyans are Christians with 11% being Muslims (KNBS 2019).

Globally, religiosity is negatively related to total fertility rates (TFR) (Götmark & Andersson, 2020) and UNFPA stresses on prior assessment on sociocultural barriers that include gender norms and religious acceptability of the FP methods that are likely to challenge family planning programs, find alternative solutions before investing in such programs. (UNFPA 2017).

In most conservative communities, religion has been identified as being part of daily life and anybody who goes against the teachings is likely to be suspended. This was confirmed in Burundi where despite the teachings on modern contraceptives communities are yet to embrace its use due to the influence of church teachings. (Hakizimana & Odjidja, 2021).

Among Christians, several verses in the holy bible in the book of Genesis, God instructs mankind to multiply and fill the world. "*And God blessed them, and God said unto them, Be fruitful, and multiply, and replenish the earth".* (Genesis 1:28) This has been the basis for hesitance to embrace modern contraceptives by some religious sects. These sentiments were echoed among Ugandan men (George et al., 2020).

In a northern Nigerian study, Sinai et al established that 50% (25% male and 25% females) of the participants were not using contraceptives due to religious restrictions. Targeted engagement of males and religious leaders with correct information was recommended. (Sinai et al., 2018) Similarly, lack of clarity on Islamic religion stance on the use of family planning was found to be a barrier to utilization of male contraceptives among Jordanians

(Men's-Perceptions-of-and Participation-in-Family-Planning-in-Aqaba-and-Maan-Governorates-Jordan @Who.Int, n.d.)

In Kenya, religious organizations are key stakeholders in health service provision. On several occasions, the opinion of the religious leadership has held a significant impact especially on the uptake of reproductive health services. From 2014, one of the major

religious sects had concerns about immunization of the Tetanus vaccine which they believed had been laced with a contraceptive that significantly affected uptake negatively. @ Www.Researchgate.Net, n.d.).

For several decades a religious sect "Kavonokya" in Eastern Kenya has been against modern education and medicine, this has greatly hampered uptake of health services including child immunization (Mutemi, n.d.)

"Dini Ya Musambwa" is a religious sect with its origin in Kimilili sub-county of Bungoma county. Though its members were anticolonial, there have been no reports on decline to utilize modern health services (Reed, 1954)

As part of the strategy to improve uptake, culturally oriented community-based contraceptive health approaches targeting to change perceptions and therefore improve uptake especially for the youths have been recommended (George et al., 2020). This is reiterated by Ekpenyong et al 2018 who stresses on cultural acceptance of the family planning methods and male empowerment to improve acceptance being key in improving contraceptive uptake.

In most studies, stereotyped beliefs, and perceptions of loss of libido, reduced sexual sensation, pleasure and promotion of promiscuity, perceived barrenness, fear of having disable babies were found to be major barriers to utilization of family planning services and are majorly due to lack of correct information. These need prior redress before a rollout of family planning programs (George et al., 2020).

2.5 Data Gaps In Reviewed Literature

UNFPA is coordinating efforts to eliminate unmet needs for contraceptives by 2030. To be able to achieve this, there is need for active involvement of both males and females to enable overcome existing barriers. Data on male contraceptives is scanty while most of the available data is skewed towards female family planning/contraceptives or HIV prevention. More so, most data collected is from female respondents who are not direct consumers of male contraceptives. Based on the scanty data available, Bungoma county reproductive health indicators specifically for male contraceptive utilization are wanting and demand for urgent interventions. This demands for urgent data collection to provide baseline

information to guide evidence-based strategies for planners and implementors to enable to achieve SDG target 3.7.

CHAPTER THREE: RESEARCH METHODS

3.1 Research Methodology

3.1.1 Study Design

This was a community-based cross sectional analytical study that was to determine utilization of male contraceptive among adult males in Kamukuywa ward of Kimilili subcounty in Bungoma county. This design was adopted to enable understand the actual proportions of males using contraceptives and associations between influencers and utilization that informed the poor reproductive indicators as earlier reported by other investigators.

3.1.2 Study Location

The study was conducted in Kamukuywa ward within Kimilili Subcounty in Bungoma county. Bungoma county is one of the counties in the western part of Kenya with a population of 1,670,570 inhabitants. Kamukuywa ward is one of the 4 wards within Kimilili Subcounty with a population of 46,457 persons (22,559 males and 23,898 females). Those aged 20 and above are 45% of all males equivalent to 10,152 adult males.

3.1.3 Study Population

The target population was 22,559 males who were residents Kamukuywa ward of Kimilili Subcounty aged between 20 and 69 years.

3.1.4 Sampling

Sample size determination was by Fisher et al. formula $n= z^2 pq/d^2$

n= Sample size

Z= Normal deviation at the desired confidence interval. In this case it was taken at 95%, Z value at 95% is 1.96.

P= Proportion of the population with desired characteristic.

q= Proportion of the population without desired characteristic. d^2= Degree of precision; will be taken to be 5%.

n= 1.96^2x0.62x0.38/0.05^2= 362.

Minimum sample size n=362

10% adjustment for nonresponse rate =36

Total 398

3.1.5 Sampling Technique

This study employed multistage sampling technique. Simple random sampling was done 9 sub counties then on 4 wards. Considering that the study was to be conducted in the entire ward that had two locations, purposive sampling was done. Proportionate sampling was then done within each location and sublocation after which systematic random sampling was utilized during actual data collection at the field level.

Table 3.1: Sampling steps

Level of sampling	Population N	N items	Type of sample	Sample n
Subcounty	9	• Bumula. • Kanduyi. • Kabuchai. • Tongareni. • Sirisia. • Webuye East • Webuye West. • Kimilili. • Mt Elgon	Simple Random	1 Kimilili
Ward	4	• Kibingei • Kamukuywa • Maeni. • Kimilili	Simple Random	1 Kamukuywa

Location	2	Makhonge Kamukuywa	Purposive sampling	Makhonge Kamukuywa
Locations	398	Makhonge 43% of N	Proportionate sampling	171
		Kamukuywa 57% of N	Proportionate sampling	227
Makhonge	171	Makhonge sublocation	Proportionate sampling	69
		Mapera Sub-location	Proportionate sampling	43
		Mbongi Sub-location	Proportionate sampling	59
Kamukuywa	227	Kimakwa Sub-location	Proportionate sampling	76
		Musembe Sub-location	Proportionate sampling	65
		Nabikoto Sub-location	Proportionate sampling	86
Field level	171	Makhonge	Systematic Random sampling	171
	227	Kamukuywa	Systematic Random sampling	227

3.1.6 Inclusion Criteria

Males aged between 20-69 years who were residents of Kamukuywa ward for at least 3 months prior to data collection and who voluntarily consented to participate in the study.

3.1.7 Exclusion Criteria

The study excluded any male who was mentally challenged and those who participated in pretesting of the questionnaire.

3.2 Data Collection

Both quantitative and qualitative data was collected using a semi structured questionnaire. The questionnaire collected non- numerical data whose responses were coded to enable quantification during summary and analysis. There were closed-ended questions with coded qualitative responses like level of education, knowledge, marital status, and open-ended questions where Key Informants as respondents elaborated on their responses (qualitative data), main themes within these responses were identified, coded then analysed. The questionnaire was administered by trained enumerators under my supervision. A one-day training was conducted for enumerators.

3.2.1 Data Reliability

During data collection enumerators strictly adhered to the proposed methodologies and data analysis was done using scientifically proven processes. Personal involvement in data collection, daily review of the data collected to ensure its accuracy and consistency was also done.

3.2.2 Validity

Training was conducted for enumerators to enable them to understand all aspects of the research process and questionnaire. Probability sampling was used with questionnaires designed to be simple and clear. The questionnaire was pretested on 10% of the sample size in Nasusi sublocation Maeni Ward on a population with similar characteristics then reviewed before actual data collection. KII were also used to shed clarity of some matters. The questionnaire too was aligned to the objective of the study. Data collection tools-(questionnaire) was reviewed by the supervisors.

3.2.3 Data Analysis

Data was collected, summarized and cleaned, then keyed into spreadsheets and analysed using the SPSS V.26 software. Descriptive analysis; frequencies, percentages, and mean were used to describe the outcome. An Inferential statistical test using Chi-square test was

then done to test the hypothesis at the 95% confidence level. For data whose cell values were less than 5 the Fischer's exact test was used. Thematic content analysis was used for qualitative data was coded, and themes developed that were then quantified. Questionnaires on a Likert scale of 3 and 5 were used to determine perceptions, responses coded and quantified.

3.3 Ethical & Logistical Considerations.

This study got clearance from Kenyatta University Ethics Committee, was cleared by the Kenyatta University Graduate School and received a research permit from National Council for Science and Technology

NACOSTI. County Department of Health Bungoma County the local leadership in the two Sublocations in Kamukuywa ward authorized implementation of the study. Inclusion and participation in this study was voluntary through the signing of informed consent and participants had the freedom to decide on whether to or not to respond to questions or withdraw from the research without any consequences. The study used codes and not participants names just to ensure the confidentiality of respondents.

CHAPTER FOUR: RESULTS

4.1 Socio-demographic characteristics of the study population

Data was obtained from 395 study respondents. However, two incomplete observations were excluded from the analysis. Therefore, the response rate was 99.5%. The demographic characteristics of the study respondents are presented in Table 4.1. Majority of the respondents were aged between 20-29 (27.7%), married (87.6%), protestant (59.8%), had 3-4 children (36.1%), had secondary education (47.3%), and 80.2% worker in the informal sector.

Table 4.1: Socio-demographic characteristics of the study respondents

Characteristics	n = 393 n (%)
Age (years)	
20-29	109 (27.7%)
30-39	90 (22.9%)
40-49	81 (20.6%)
50-59	76 (19.3%)
60-69	37 (9.4%)
Occupation	
Informal	315 (80.2%)
Formal	72 (18.3%)
Others (students)	6 (1.5%)
Education level	
None	7 (1.8%)
Primary	128 (32.6%)
Secondary	186 (47.3%)
Tertiary	72 (18.3%)
Marital status	
Married	344 (87.6%)
Single	49 (12.5%)
Religion	
Protestant	235 (59.8%)
Catholic	135 (34.4%)
Muslim	14 (3.6%)
Others	9 (2.3%)
Number of children	
None	77 (19.6%)
1-2	69 (17.6%)
3-4	142 (36.1%)
≥5	105 (26.7%)

4.2 Proportion Of Males Utilizing Male Contraceptives In Bungoma County

Analysis was conducted on the utilization of current contraceptives among the study respondents, and the results presented in Table 4.3. Majority (80.9%) of the respondents use contraceptives. Condom was the most used contraceptive method (89.3%). Contraceptives were used mainly (52.2%) within the week of data collection.

Table 4.2: Utilization of male contraceptives among the respondents

Attributes	n = 393 (%)
Do you use contraceptives? Yes	318 (80.9%)
No	75 (19.1%)
Contraceptive methods used (n =318) Condom	284 (89.3%)
Sterilization/vasectomy	17 (5.3%)
Withdrawal	10 (3.1%)
Others	7 (2.2%)
When last used the contraceptive (n =318) < a week	166 (52.2%)
1-4 weeks	57 (17.9%)
>4-12 weeks	32 (10.1%)
>12-24 weeks	23 (7.2%)
>24-52 weeks	6 (1.9%)
> 52 weeks	34 (10.7%)
Motivation for using contraceptives (n =318) Prevent pregnancy	111 (34.9%)
My partner's request	27 (8.5%)
Own initiative Support my partner who can't use contraceptives	18 (5.7%)
To prevent STDs	162 (50.9%)
Most preferred method that can advocate (n =352) Condom	316 (89.7%)
Vasectomy	9 (2.6%)
Withdrawal	27 (7.7%)
Contraceptive method never to advocate (n =323) Condoms	24 (7.4%)
Vasectomy	230 (71.2%)
Withdrawal	49 (15.2%)
All	20 (6.2%)

4.2.1 Utilization Of Male Contraceptives By Socio-Demographic Factors

To establish how utilization of contraceptives differed across socio-demographic characteristics of the respondents. A Chi-square and Fisher Exact tests were conducted, and results are as in Table 4.3 below.

Table 4.3: Distribution of utilization of male contraceptives by socio-demographic factors

	n =393 Utilization of male contraceptives		$X^{2\beta}$	p*
Attribute	Yes	no		
Age			17.557	<0.001
20-29	97 (88.9%)	12 (21.6%)		
30-39	76 (84.4%)	14 (15.6%)		
40-49	65 (80.2%)	16 (18.8%)		
50-59	58 (79.4%)	15 (20.6%)		
60-69	22 (59.5%)	15 (40.5%)		
Occupation			10.007	0.124
Informal	249 (79.3%)	65(19.7%)		
Formal	36 (85.7%)	6 (14.3%)		
Others	31 (80.6%)	6 (19.4%)		
Education level			3.012	0.390
None	6 (85.7%)	1 (14.3%)		
Primary	98 (76.6%)	30 (23.4%)		
Secondary	152 (81.7%)	34 (18.3%)		
University	62 (86.1%)	10 (13.9%)		
Marital status			0.835	0.361
Married	276 (80.2%)	68 (19.8%)		
Single	42 (85.7%)	7 (14.3%)		
Religion			7.154	0.053
Protestant	182 (77.8%)	53 (22.6%)		
Catholic	118 (87.4%)	17 (12.6%)		
Muslim	12 (85.7%)	2 (14.3%)		
Others	6 (66.7%)	3 (33.3%)		

$^{\beta}$ X^2 stands for chi-square (for cells with less than five observations, Fisher's exact test was used).

* Significance level < 0.05

4.3 Barriers to current male contraceptive utilization among the study respondents

A *Chi*-square test and Fisher's Exact Test of association were conducted to determine barriers to contraceptive utilization. Results were as shown in Table 4.4 below.

Table 4.4: chi-square test of association on barriers to current contraceptive utilization.

Barrier	Utilization of male contraceptives			
	Yes	No	$X^2\beta$	p *
Service delivery point (n = 370)			57.736	<0.001
Government	204 (92.7%)	16 (7.3%)		
Private health facility	44 (81.5%)	10 (18.5%)		
Dispense in community and workplace	25 (83.3%)	5 (16.7%)		
Shop	36 (90.0%)	4 (10.0%)		
Others	7 (26.9%)	19 (73.1%)		
Distance (n =356)			8.643	0.030
Less than 1 km	97 (87.4%)	14 (12.4%)		
1-2 km	125 (91.9%)	11 (8.1%)		
2-4 km	73 (78.5%)	20 (21.5%)		
> 4 km	21 (84.0%)	4 (16.0%)		
Gender preference of the serving staff (n = 357)			9.201	0.022
Female staff	53 (77.9%)	15 (22.1%)		
Male staff	63 (85.1%)	11 (14.9%)		
Either sex of staff	173 (91.1%)	17 (8.9%)		
Collect from the dispenser	24 (96.0%)	1 (4.0%)		
Availability of contraceptives (n = 348)			5.462	0.141
Never	16 (84.2%)	3 (15.6%)		
Rarely	55 (83.3%)	11 (16.7%)		
Occasionally	144 (91.1%)	14 (8.9%)		
Always	98 (93.3%)	7 (6.7%)		
Do you pay for FP services (n = 354)			0.181	0.671
Yes	87 (88.8%)	11 (11.2%)		
No	223 (87.1%)	33 (12.9%)		
Does the cost of contraceptive make men not use contraceptives (n = 376)			2.063	0.151
Agree	107 (83.0%)	64 (17.0%)		
Disagree	205 (85.1%)	36 (14.9%)		
Frequency of missing contraceptives from service delivery point in the last 6 months (n = 353)			6.090	0.107
Never	69 (90.8%)	7 (9.2%)		
Rarely	148 (91.9%)	13 (8.1%)		
Occasionally	66 (82.5%)	14 (17.5%)		
Always	30 (83.3%)	6 (16.7%)		
Reason for missing to collect contraceptives (n = 317)			41.518	<0.001
Out of stock	172 (93.0%)	13 (7.0%)		
Staff attitude	10 (62.5%)	6 (37.5%)		
Lack of money	24 (82.8%)	5 (17.2%)		
Personal reasons	16 (80.0%)	6 (23.1%)		
Feel comfortable collecting contraceptives (n = 362)			39.653	<0.001
Yes	242 (91.7%)	22 (8.3%)		
Not sure	18 (52.9%)	16 (47.1%)		
No	54 (84.4%)	10 (15.6%)		

$^{\beta}X^2$ stands for chi-square (for cells with less than five observations, Fisher's exact test was used). * Significance level < 0.05

4.3.1 Measures that can be taken to improve utilization of male contraceptives.

To establish measures that can be taken to improve utilization of male contraceptives, descriptive data was collected and analysed as shown in table 4.5.

Table 4.5 Measures that can be put in place to improve utilization of male contraceptives.

Measure	**n=373**	**%**
Make contraceptives Available	130	34.85%
Create Awareness/education	131	35.12%
Cost	58	15.55%
Distance	45	12.06%
Privacy	5	1.34%
Service provider	3	0.80%
Other diseases	1	0.27%
Total	373	100%

4.4 Knowledge And Perceptions May Affect Use Of Male Contraceptives.

Several questions were asked to determine level of knowledge and perceptions and an average score of 50% and above was qualified as good while anything below 50% was poor. Analysis was then conducted on the knowledge and perceptions categories of the respondents and the results presented in table 4.6 below.

Table 4.6: Knowledge on current male contraceptives among respondents.

n=393		
Variable	Respondents	Proportion %
Good Knowledge	336	85
Poor Knowledge	57	15

4.4.1. Knowledge and Perceptions on New Male Contraceptives.

To determine knowledge on new male contraceptives, 380 respondents and 12 KIIs were asked to name at least one modern male contraceptive other than condom and vasectomy. The KIIs included facility in charge, family planning staff, Outpatient and maternity ward staff, Public Health Officers and community leaders. Results are as shown in table 4.7.

Table 4.7 Showing The Proportion Of Respondents With Knowledge On New Male Contraceptives.

	Respondents n= 380		KII n=12	
Have Knowledge	**Yes**	**No**	**Yes**	**No**
Number	4	376	0	12
Percentage	1	99%	0	100%

4.4.2 Association between Knowledge, Perceptions, and Use of new male contraceptives among respondents

Chi-square and Fisher's Exact tests of association were conducted to determine the association between knowledge perception and use of male contraceptives. The results were as shown in table 4.8 below.

Table 4.8: Association between Knowledge, Perceptions and Use of new male contraceptives among respondents.

Attribute	Knowledge and perceptions		$X^{2\beta}$	p*
	Good	Poor		
Acceptability of the new male contraceptives (n = 307)			5.065	0.024
Acceptable	140 (88.6%)	18 (11.4%)		
Unacceptable	118 (79.1%)	31 (26.9%)		
Duration to start using the new male. contraceptives (n = 306)			1.652	0.438
Immediately	76 (87.4%)	11 (12.6%)		
1-6 months	118 (88.7%)	15 (11.3%)		
>12 months	80 (93.0%)	6 (7.0%)		
Preferred formulation (n =350)			10.267	0.029
Pill	68 (81.0%)	16 (19.0%)		
Injection to other part of body	116 (92.1%)	10 (7.9%)		
Implant	38 (90.5%)	4 (9.5%)		
Gel	81 (90.0%)	9 (10.0%)		
Surgical	5 (62.5%)	3 (37.5%)		
Utilization of contraceptive method (n = 393)			59.286	< 0.001
Yes	293 (92.1%)	25 (7.9%)		
No	43 (57.3%)	32 (42.7%)		

$^{\beta}$ X^2 stands for chi-square (for cells with less than five observations, Fisher's exact test was used), * significance level < 0.05

4.5 Factors Associated with Acceptability of New Male Contraceptives.

Chi squire and Fishes Exact test of association were conducted on determinants of acceptability of new male contraceptives, and the results are presented in Table 4.9 below

Table 4.9: Factors Associated With Acceptability Of New Male Contraceptives Among The Respondents.

			n = 393	
Determinants	Acceptable	Unacceptable	$X^{2\beta}$	*p**
Age			4.245	0.374
20-29	38 (44.2%)	48 (55.8%)		
30-39	41 (55.4%)	33 (44.6%)		
40-49	36 (57.1%)	27 (42.9%)		
50-59	29 (55.8%)	23 (44.2%)		
60-69	14 (43.8%)	18 (56.2%)		
Occupation			1.252	0.535
Formal	31 (57.4%)	23 (52.6%)		
Informal	83 (51.6%)	78 (48.4%)		
Others	44 (47.8%)	48 (52.2%)		
Education level			1.190	0.781
None	5 (71.4%)	2 (28.6%)		
Primary	50 (50.0%)	50 (50.0%)		
Secondary	73 (51.0%)	70 (49.0%)		
University	30 (52.6%)	27 (47.4%)		
Marital status			3.024	0.220
Married	141 (53.0%)	125 (47.0%)		
Single	17 (41.5%)	24 (58.5%)		
Religion			1.990	0.579
Protestant	94 (52.5%)	85 (47.5%)		
Catholic	52 (27.7%)	57 (52.3%)		
Muslim	7 (58.3%)	5 (41.7%)		
Others	5 (71.4%)	2 (28.6%)		
Service delivery point			2.810	0.590
Government health facility	95 (56.5%)	73 (43.5%)		
Private health facility	20 (48.8%)	21 (51.2%)		
Community distribution site	14 (60.9%)	9 (39.1%)		
Shop	18 (52.9%)	16 (47.1%)		
Others	10 (41.7%)	14 (58.3%)		
Distance			10.604	0.014
<1 km	62 (68.1%)	29 (31.9%)		
1-2 km	42 (46.2%)	49 (53.8%)		
2-4 km	38 (48.7%)	40 (51.3%)		
> 4 km	12 (50.0%)	12 (50.0%)		
Paying for family planning services			4.666	0.031
Yes	41 (46.1%)	48 (53.9%)		
No	112 (59.9%)	75 (40.1%)		
Formulation preference			6.196	0.182
Pill	43 (53.1%)	38 (46.9%)		
Injection	43 (53.8%)	37 (46.2%)		
Implant	10 (47.6%)	11 (52.4%)		
Gel	56 (68.3%)	26 (31.7%)		
Surgical	4 (50.0%)	4 (50.0%)		

$^{\beta}X^2$ stands for chi-square (for cells with less than five observations, Fisher's exact test was used), * significance level < 0.05

CHAPTER FIVE: DISCUSSION,CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter presents discussions of study findings based on the research questions objectives, conclusions, and recommendation are covered here. There were 395 respondents with 99.5% response rate. The average age of respondents was 40.4yrs with mode being 27 years. The average family size was 4.04 which is lower that for Bungoma county (4.6) but almost same as the national (3.9) (National Bureau of Statistics-Kenya and ICF International, 2015)

5.1.1 Utilization of male contraceptives

This study found a high utilization of male contraceptives, which is closer to findings in Kirinyaga (62%) (Waruguru et al., 2019) and Kisii (77%) (Emmanuel et al., 2015). However, the findings in Kisii were among HIV infected people whose respondents were both male and female. This varies with findings of the Kenya demographic health survey that reported utilization of condom in Bungoma county to be 1.4% (KNBS, 2022), Unlike in this study that just focused on use by male respondents, the KDHS 2022 report, the respondents were females who also responded to the contraceptive that they use consistently. This study's findings also vary with multiple studies in Ethiopia (Wondim et al., 2020) and (Kassa et al., 2014), in Uganda (Thummalachetty et al., 2017) that found a lower utilization.

As reconned by Universal Health Coverage policy brief 2018, the high utilization could be attributed access to contraceptives at no cost in most government institutions. Similar findings were also reported by (Griffins.O et al 2020) that indicated consistent utilization of condoms of 91% among men in Kenya. However, this study was conducted among male sex workers and could have been informed by the health education on the need to prevent the transmission on HIV. Utilization was seen to progressively decrease with increasing age which is in line with decreased sexual needs and as one approach menopause especially for married couples. According to WHO, this variation occurs due to varied contraceptive

needs per age group. These results are like findings in West Pokot Kenya by (Butto et al 2015).

Males aged between 20-40 years were the greatest consumers of contraceptives, these are similar findings with (APRH 2018) (NCPD et al., 2020) (Kassa et al., 2014) in Ethiopia and (Emmanuel et al., 2015) Kenya. This can be attributed to outcomes of specific objectives of reproductive health policies that targeted to promote use of contraceptives among adolescents and youths (Condom policy, 2001) (MoH, 2015). It also tallies with findings from the US where up to 93% of older adolescence were using a form of contraceptive. (Martinez & Abma, 2020).

Condom was the most used male contraceptive across all age groups. These are similar to findings from northern Ethiopia (Wondim et al., 2020). However, the findings vary with global findings (Contracept. Use by Method 2019). The high utilization could be attributed to condom being the only form of modern male contraceptive that is easily accessible and reversable. Most respondents in this study indicated that though withdrawal method is reversable too, it is not practical sentiments echoed by (Kabagenyi et al., 2014) in Northern Uganda. These however differ with findings among teenagers in Europe, Albania, Congo and Cameroon who had a higher utilization of withdrawal method (Martinez & Abma, 2020) (Contracept. Use by Method 2019). In this study 5.3% of the respondents reported to have undergone vasectomy, these findings are higher than any other findings in Kenya (KNBS et al., 2022) <0.0% Kenya, (2.6%) Japan but closer to Oceania (5.8%). It is however lower than in the United Kingdom and Ireland (10.4%) and
(6.6%) among the Americans. (“Contracept. Use by Method 2019). This high prevalence could be attributed to the long-time consistent outreach to health facilities in the study area by a renown reproductive health service provider. (Marie Stopes). These variations too could be explained by the regional variation in contraceptive preference and choice (WHO 2017).

Most respondents had used contraceptives within three months to data collection. These are similar to findings in Bungoma (70%), (Ministry of Health Kenya, 2016) (Emmanuel et al., 2015),- (MOH 2016) who found 65% and 77% utilization at last sexual encounter in Kenya. (NCPD et al., 2020)

Although condom is a dual technology product, the greatest motivation to use it was to prevent STI 50.9%. This resonate well with other findings in Kenya ((Manguro et al., 2022) (Steinfeld et al., 2013) which found a higher and consistent utilization of condoms among persons living with HIV.

5.1.2 Barriers to current male contraceptive utilization in Bungoma County.

This study directly and indirectly assessed probable barriers that hinder utilization of male contraceptives. Qualitative and quantitative data was analysed indicated majority of the respondents collected contraceptives from government facilities. This could be because government facilities were almost equally distributed in the study area hence providing easy accessibility while contraceptives are available at a no cost. Within the government facilities there were multiple service delivery points that ranged from outdoor condom dispensers, Family planning rooms, outpatient consultation rooms, maternity, and pharmacy. These multiple delivery points could be part of the integration of Family planning and HIV prevention service provision within the healthcare system MOH 2015, MOH 2017. However, men were reported to avoid going to the family planning clinic due to privacy& confidentiality issues. As reported by KIIs *"Most men use condom for prevention of HIV and other STIs from mpango wa kando, so they are shy to go to the clinic to request for them" ……. For prevention of HIV and other STIs from extramarital sexual partners.* In this study service delivery point was found to be statistically significant barrier. a finding that corroborates well with (George K et al., 2020) Uganda, WHO 2017, (Steinfeld et al., 2013) in Kenya (UNDP, 2019) (George K et al., 2020). Service integration has been advocated for as a strategy to improve reproductive health service, contraceptive utilization, and sustainability (MOH 2017). This seemed to be well adopted within government facilities within the study area, however, there was a gap in commodity supply chain monitoring and accountability which could be a source of varied reporting on estimated male utilizing family planning services at their facilities that ranged from 20-60% among key informants. An inquest with one of the key informants she said *"Hapa kwetu hakuna records ya condom, labda bin cards kwa store na kwa FP clinic Kwa sababu condoms zinapeanwa kila mahali. Consultation, maternity, kwa dispenser hata bora afya".*

"Sisi mtu akiingia na aitishe tunampatia tu". "In this facility of ours, we do not have records for condom, maybe at the store where we have bin cards. This is because condoms are issued everywhere. Consultation room, maternity, Pharmacy, the dispenser and even at the Public Health department". For us any one who walks in and requests for it, we just give it to them". Similar findings have been reported in other studies in Kenya (Steinfeld et al., 2013) and globally (WHO, 2017)

Reasons for missing contraceptives were a significant barrier to male contraceptive utilization. Only 28.16% reported to always get contraceptives when they need, 4.59% never get contraceptives with stockouts being the major reason for failing to collect contraceptives. This response resonated well with similar response in this study on what can be done to improve utilization where majority of the respondents suggested availing contraceptives in a continuous supply to improve contraceptive utilization by males. This is supported by findings from Kirinyaga Kenya (Waruguru, 2019). An interaction with one of the KII at the facility confirmed that stockouts are a major challenge since COVID19 outbreak…… "*Tangu ile story ya COVID19 billionaires, sikuhizi KEMSA inaleta condoms ikijisikia… hata sahii, hatuna stock" Since that story of COVID19 billionaires, the Kenya Medical Supplies Agency (KEMSA) supplies us with condoms when they feel like…even right now we've run out of stock"* The gaps in commodity management and accountability could be contributing to stockouts due to poor stock monitoring that should inform timely orders and stock replenishment.(NCPD 2020). (Otieno et al., 2020)

Majority of the respondents were comfortable being served by either male or female staff. This finding contrasts with (WHO, 2017), (Sharma et al., 2018) who indicate that males preferred being served by male service providers. However, majority of the respondents agreed that service provider may affect contraceptive utilization by males in different ways. The study found a significant association between utilization and serving staff gender preference. These findings are similar to studies conducted in Nyanza Kenya, Uganda and India (Steinfeld et al., 2013) (George K et al., 2020) (Sharma et al., 2018) (Li et al., 2020)

Distance from service delivery point has been cited as determinant to reproductive health service utilization (WHO 2017). In this study too there was a significant association between utilization and distance. This could inform the high utilization of contraceptives as majority of the respondents resided within a 5km radius from the service delivery point.

These findings are similar to (Mwaliko et al 2014). (Gitobu et al., 2017).(Oldenburg et al., 2021) Burkina Faso.(Paköz & Yüzer, 2014) Turkey. It also resonates well with the WHOs recommendation of improving access by having health facilities at most 5kms from patients' residence. However, this varies with other studies in other parts of Kenya. (KenyaNationalBureauofStatistics[KNBS], 2018).

Most Ministry of health policies have advocated for free condoms and family planning service as an incentive to utilization, this could inform why majority of respondent received services from government facilities. These findings resonate well with WHO that indicates availability of free of charge or affordable condoms globally. (Global 2018). Similarly, George K et al., 2020 indicates that free of charge services are a driver to increase utilization. Majority of those who bought contraceptives got them from shops while some from government hospital. The cost-free contraceptives could inform the high utilization of the contraceptives. Access at no cost could reflect the government's policy to provide condoms free of charge in government health facilities with facilities being at liberty to place a cost sharing fee on condoms being dispensed (Condom policy, 2001) (MOH 2015) Majority of those paying for contraceptives paid less than KShs 100 (USD 0.83) while 25% paid up to Ksh 200 (USD 1.67). A chi squire test of association conducted confirmed a statistically insignificant associated between cost and utilization suggesting that cost is not a deterrent to current contraceptive utilization in Bungoma county. This contrasts with most literatures (Global 2018). (Gitobu et al., 2017) (Hakizimana & Odjidja, 2021)

Level of education, marital status, occupation and religion are determinants of contraceptive utilization (MoH, 2015). However in this study there was insignificant association between Occupation, Level of education, Marital status, and religion with contraceptive utilization. These findings are contrary to other studies in Kenya (Mwangi et al 2016) (Mochache et al., 2020) (Ochako et al., 2017) (Haryanto, 2017) in Indonesia and (Ekpenyong et al., 2018) in Nigeria.

5.1.3 Knowledge And Perceptions On Use Of New Male Contraceptives.

This study established good knowledge levels on current male contraceptives for majority of the respondents.. In this study, majority of the respondents had good knowledge on what family planning is. When asked about male contraceptives, most of the respondents knew

male condom, 40% knew vasectomy while minority knew about withdrawal method. The same order was replicated in utilization. The good knowledge informs decision making and therefore appropriate choice which could inform the high utilization in this study. (WHO 2017). Similar findings have been reported, (Gitobu et al., 2017) (Adelekan et al., 2014) Nigeria. (Health & Of, 2001), (MoH,
2015) (Ekpenyong et al 2018) Nigeria. However, other studies have indicated that high knowledge does not necessarily translate to high utilization of contraceptives an indication that there are more factors that come to play to facilitate an increase in utilization (Haryanto, 2017) (Wondim 2021).

Knowledge about new male contraceptives was poor (1%), 99% of respondents did not know any new male contraceptives while all the 12 key informants including family planning service providers and public health officers did not know any new male contraceptive in use or under development. All those who new about new male contraceptives had attained tertiary level of education. This lack of knowledge is likely to affect utilization if such commodities are introduced. This study found a significant association between utilization knowledge and perceptions. These are similar to findings in Nigerian and Kenyan studies MS et al., 2018), (Mwangi et al., 2016)

Majority of respondents had positive perceptions on male contraceptive utilization, agreed to the statement that New Medicines approved by government are effective and safe while and do what the Doctor says, this is an indicator of trust in government initiatives and adherence to health providers instructions. These findings could indicate that the community is confident with initiatives that come through government system and level of adherence could be good. It also provides a clue on community entry strategies that can be utilized during introduction of new products for contraception. Majority, (74.2%) disagreed that using contraceptives makes one a lesser man, 81.1% contraceptives is a woman's business 65.8% women who use contraceptives become promiscuous. These are similar to Nigerian findings of 86% and 65% respectively (Ekepeyon et al 2018) They also corroborate well with other studies in Nigeria (Adelekan et al., 2014) and (Ochako et al., 22017) Kenya These perceptions could provide a good platform for synergy in contraceptive utilization between male and females that will see males support their female

partners which will enable bridge the gap of unmet needs for family planning. (Ekepeyon et al 2018).

The majority of the respondents perceived vasectomy as a form of castration followed that of those who believed vasectomy reduces sexual pleasure. Most of the respondents indicated that despite using contraceptives, sexual pleasure is a priority to them. These findings indicate lack of specific information on specific methods of contraception and informs the nature or characteristic of new contraceptive that may be developed in future. These are similar to findings from Nyanza Kenya where there was low utilization of vasectomy as a contraceptive method that was believed to reduce sexual pleasure (Steinfeld et al., 2013) Uganda, (Haryanto, 2017) Indonesia. Therefore, there is need for more community sensitization and in-depth health education on the specific details of each method as such as perceptions would have negative influence on utilization (Mwangi et al., 2016)

5.1.4 Factors That Affect Acceptability Of New Male Contraceptives.

Individual, Social cultural and commodity related factors have been cited as determinants of acceptability hence affecting utilization of reproductive health services. (George k et al. 2018) In this study, Majority of the respondents preferred or would advocate for the use of condoms while 2.6% would advocate for Vasectomy. This high utilization could be attributed to condom being a dual technology product, readily available and mostly free of charge in government facilities (WHO 2017). This could also be attributed to the limited choices for male contraceptives. Ease of use, reversibility and prevention of STI were the major driving factors for choice as elucidated by KII.. "***Most preferred male contraceptive is condom because it can be found in many places, free, you use and you have finished with it, it also prevents unnecessary pregnancies STIs and HIV".*** Most participants indicated they can never use or advocate for surgical vasectomy, this is mainly due to cultural beliefs and myths that have led to such negative perceptions about specific contraceptives. This informs the need for community sensitization and education on contraceptive method specific to demystify such misconceptions to improve acceptability and uptake. (Dombola et al., 2021) These findings are echoed by (Adelekan et al., 2014)

Nigeria. (Thummalachetty et al., 2017) Uganda. Majority of respondents perceived vasectomy is a form of castration. Similar sentiments came from KII….

…..**"*a man who has undergone vasectomy is equivalent to an ox*" "*Men who undergo vasectomy want to evade responsibilities". ….**

……. ***"But vasectomy once done, it means no more children, dull sex, no enjoyment"***. Similar findings were reported in Uganda (Kabagenyi et al., 2014) and Pakistan (Haryanto, 2017) India (Sharma et al., 2018). Formulation of the contraceptive was found to be a determinant, majority of respondents prefer injectable formulation to other parts of the body but not reproductive system while minority preferred surgical vasectomy. Cultural beliefs, misconceptions and fear associated with surgical vasectomy is seen as deterrents to acceptability.

These are similar to findings from multiple studies in Uganda and Pakistan (Thummalachetty et al., 2017) (Kabagenyi et al., 2014) (Haryanto, 2017)

If a new contraceptive were provided, most respondents would prefer Pill when needed while minority preferred non-surgical vasectomy. These are similar characteristics with the current and most utilized contraceptive (Condom). When asked about the preferred qualities of new contraceptives, the majority preferred contraceptives that will be readily available, acceptable formulation, while the minority mentioned cost. This resonates well with responses on the utilization of current contraceptives and barriers to utilization. It further provides insights on the nature of the contraceptive that should be considered in future. Considering that condom has been embraced due to its dual action, a one-off double technology pill is more likely to easily be accepted. However more health education and community sensitization on Nonsurgical vasectomy would improve the knowledge to change the perceptions that would then increase acceptability with ultimate increase in utilization (Emberson, 2016) (Mwangi et al., 2016).

Seventy-one point four six of those who accepted would use new contraceptives would use it within six months of introduction while 87.5% would use it within 12 months. Slightly more than half of the respondents believed that family planning clinics want to limit birth of the poor. Although majority of men were on contraception, majority of them felt that

occurrence of a pregnancy was ok for them. This could inform the higher fertility rates despite high utilization of contraceptives as the main objective to use condom is to prevent STI. (Ekepenyon et al 2018). Although religious influence has been cited in several studies as an influencer to acceptability

(Adelekan et al., 2014) Nigeria, (Wondim et al., 2020) Ethiopia, (George K et al., 2020) Uganda (Kabagenyi et al., 2014) Uganda) and (Wangia Elizabeth, 2018) Kenya, this study found it to be statistically insignificant. A dissection of Kamukuywa area established on average a different church existed within a radius of 200 meters. This could suggest that the community is divided on religious grounds hence no particular sect that will have significant influence against contraceptive use. (Mutemi, n.d.) (Mwangi et al., 2016).

5.2 Conclusions

Utilization of male contraceptive is in Bungoma County underestimated.

Condom is the most utilized contraceptive, however, there are still barriers that hinder utilization of male contraceptives, especially Vasectomy.

Most of the residents of Bungoma County have good knowledge on current male contraceptives. However, there is an almost absolute lack of knowledge on new contraceptives under development.

Distance to service delivery and whether men will purchase contraceptives will affect acceptability of new contraceptives if rolled out.

5.3 Recommendations.

5.3.1 Recommendations From Study

The National Ministry of Health and County Government Department of Health need to invest in health system strengthening targeting the Health Products and Commodity management System that will support inventory management that includes family planning commodities.

There should an intentional and continuous/ sensitization and update of healthcare providers and men specifically regarding new male contraceptive development

5.3.2 Recommendations for research.

Considering that this study established a high utilization of male contraceptives than what has ever been reported before, there is need for similar research to be done on a larger scale.

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APPENDICES

ERC-2

Appendix I: Informed Consent

PARTICIPANTS CODE…….

My Name is **Mr. Edwin Simiyu** a MASTER student from Kenyatta University. I am conducting a study on "**Utilization of Male Contraceptives in Bungoma County"**. The information from this study will be used by the Ministry of Medical Services and Ministry of Public Health and Sanitation, Male contraceptive Initiative to improve quality of service provision and development of new contraceptive methods in Bungoma, other regions of Kenya and entire world.

Purpose of study

You are being asked to take part in a research study. Before you decide to participate in this study, it is important that you understand why the research is being done and what it will involve. Please read the following information carefully. Please ask the researcher if there is anything that is not clear or if you need more information.

The purpose of this study is to establish the level of utilization of males on male contraceptives in Bungoma county. Data collected will be analyzed and used by myself, Kenyatta University and Male Contraceptive Initiative.

Study procedures

This study we will be asking you and other participants some questions on male contraceptives. You will first sign this document to confirm your consent to participate then voluntarily answer the questions. Please note that it is not mandatory for you to answer all questions and you will be free to opt out at any point when you feel like without any consequences

Risks: In this study, there are no risks involved as you will only be responding to questions

Benefits: There will be no direct benefit to you for your participation in this study. However, we hope that the information obtained from this study may be used to improve service provision that will benefit the entire community at a later stage"

Confidentiality

Your responses to this study will be anonymous. Please do not write any identifying information on your questionnaire. Every effort will be made by the researcher to preserve your confidentiality including the following:

- Assigning codes/numbers for participants that will be used on all research notes and documents
- Keeping notes, interview transcriptions, and any other identifying participant information in a locked file cabinet in the personal possession of the researcher.

Participants data will be kept confidential except in cases where the researcher, Kenyatta University and Male Contraceptive Initiative is legally obligated to report specific incidents.

Contact Information

If you have questions at any time about this study, or you experience adverse effects as the result of participating in this study, you may contact the researcher whose contact information is provided on the first page. If you have questions regarding your rights as a research participant, or if problems arise which you do not feel you can discuss with the Primary Investigator, please contact Professor Margaret on 0721817521 or Dr Titus on 0720917797. However, if you have questions about your rights as a study participant: You may contact Kenyatta University Ethical Review Committee Secretariat on chairman.kuerc@ku.ac.ke

Voluntary Participation

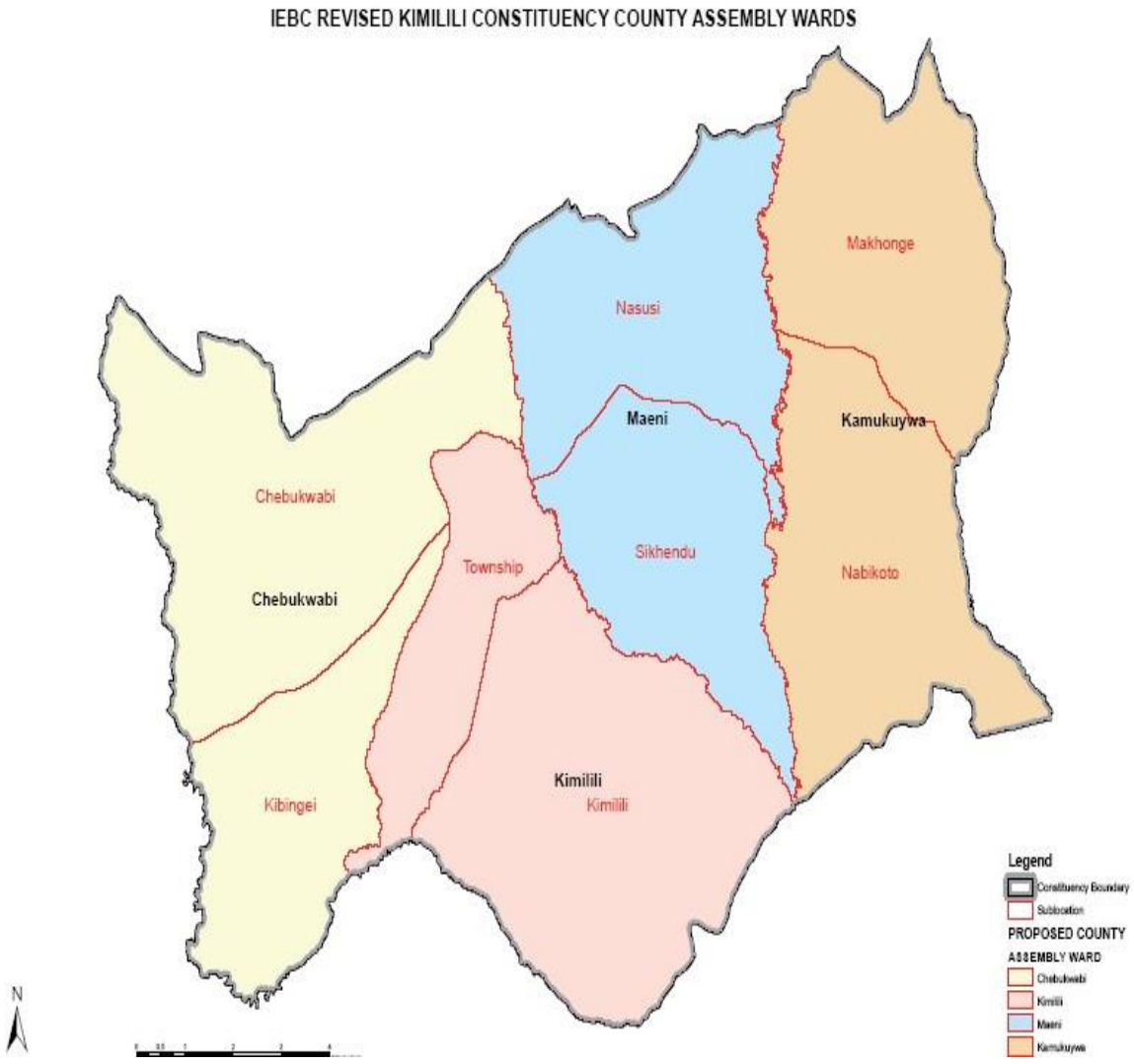
Your participation in this study is voluntary. It is up to you to decide whether or not to take part in this study. If you decide to take part in this study, you will be asked to sign a consent form. After you sign the consent form, you are still free to withdraw at any time and without giving a reason. Withdrawing from this study will not affect the relationship you have, if any, with the researcher. If you withdraw from the study before data collection is completed, your data will be returned to you or destroyed.

CONSENT: I have read and I understand the provided information and have had the opportunity to ask questions that have been answered satisfactorily. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and without cost. I understand that I will be given a copy of this consent form. I voluntarily agree to take part in this study.

Participant's signature _____ Date _____

Interviewers signature _____ Date _____

Appendix II: Kimilili Constituency Map



(National & Pillars, n.d.)

Appendix III: Questionnaire For Male Respondent.

Note: Please read the questions carefully and give a response for each question.

Unless specified, write only one number (CODE) that corresponds to the response in the last column of this questionnaire. (Response Column **RC5)**

	PARTICIPANTS CODE					
No.	Question	CODE	CODE REFERENCE			
	DEMOGRAPHIC DATA					
1	How old are you?					
2	Occupation		1.Farmer	2.Business	3.Teacher	
			4.Security	5 Boda-boda	6. Student	
			7.Health	8.Driver	9. others	
3	Level of education	1	Tertiary			
		2	Secondary school			
		3	Primary			
		4	None			
4	Marital Status	1	Married			
		2	Unmarried			
5	Number of children alive	1	0			

		2	1-2	
		3	3-4	
		4	5 and above	
6	Specify the gender		1 Male …… 2 Female……..	
7	What is your religion	1	Protestant	
		2	Catholic	
		3	Muslim	
		4	Others	

	UTILIZATION & BARRIERS TO CURRENT METHODS			
8	Do you use any male contraceptive?	1	Yes	
		2	No	
9	If yes which contraceptive method, do you use?	1	Condom	
		2	Sterilization/Vasectomy	
		3	Withdrawal	
		4	Others- please specify	
10	If response is Yes in Q8 above, when did you last use it?	1	Within the current week	
		2	Upto 1Month ago (4 weeks ago)	
		3	1- 3 months ago (>4-12 weeks ago	
		4	4-6 months ago(> 12-24 weeks)	

		5	More than 6 months- 1 year (> 24-52 weeks)	
		6	More than year ago	
11	If response for 8 is yes, what motivates you to use?	1	Prevent pregnancy	
		2	My partner requests that I use	
		3	Support my Partner who can't use contraceptives	
		4	To prevent sexually transmitted diseases	
12	If no what is/are the reason? List in order starting with main reasons	1	Medical reason	
		2	Side effects	
		3	Religious restriction	
		4	Cultural beliefs/Myths	
		5	Distance from facility	
		6	Cost of contraceptive	
		7	Staff issues at service delivery	
		8	Others- specify	
13	How often does your partner use contraceptives		[1] Never [2] Rarely [3] Occasionally [4] Moderate amount [5] Always	

14	If yes, which method is she using?		1.Pills, 2. Implant, 3. Barrier method, 4. Injection 5. Safe days 6. Emergency pill 7. Sterilization. 8Menopause 9. Unknown Method	
15	Of all her methods, which one do you prefer most?		1.Pills, 2. Implant, 3. Barrier method, 4. Injection 5. Safe days 6. Emergency pill 7. Sterilization. 8Menopause 9. Unknown Method	
	COMMODITY BARRIERS			
16	Where do you normally get your contraceptives.	1	Government health facility	
		2	Private health facility	
		3	Community distribution sites/ dispensers	
		4	Mission hospitals/facility	
		5	Place of work (if not among the above listed)	
		6	Others- Specify	
17	How far is the collection point from your residence- (Enumerator confirms/estimates with Google maps)		**1**.Less than 1 km, **2.** 1-2 Km, **3** more than 2-4km , **4.** 5 km and above	
18		1	Female staff	
		2	Male staff	

	When you go for FP/Contraceptive services, whom would you prefer to be served by?	3	Either of them	
		4	Collect contraceptive myself from dispenser	
19	In your own opinion, do you agree a service provider can affect male utilization of Contraceptives?		Strongly agree	
			Agree	
			Not sure	
			Disagree	
			Strongly disagree	
20	When you go to collect contraceptives, do you always get them?	4	Always get them	
		3	Occasionally get them	
		2	Rarely get them	
		1	Never get them	
21	Do you normally pay for FP services?		Yes	
			No	
22	If yes above how much (ksh)	1	1-100	

		2	101-200	
		3	More than 200	
23	Do you agree that cost of the contraceptives makes men not use contraceptives	5	Strongly Agree	
		4	Agree	
		3	Not sure	
		2	Disagree	
		1	Strongly disagree	

24	How often did you miss in the last 6 months?		[1] Never [2] Rarely [3] Occasionally [4] Almost always [5] Always	
25	What was the reason for missing to collect contraceptives? Can list multiple reasons	1	Out of stock	
		2	Long waiting time	
		3	Staff attitude	
		4	Facility closed	
		5	Lack of money	
		6	Long distance	
		7	Others- Specify	
26	As a Man, do you feel comfortable collecting contraceptives from the current point. (Clinic, Pharmacy/room)	1	Yes	
		2	Not sure	
		3	No	
27	Do you agree there are issues at the collection point that make men not utilize contraceptives?		[5] Strongly Agree [4] Agree [3] Not sure [2] Disagree [1] Strongly disagree	
	KNOWLEDGE			
28	What is family planning?	1	Child spacing/ to have few children/To avoid/stop having	

			more children/Use of contraceptives	
		2	Do not know	
29	Please tell me any family planning methods/contraceptives that you know		[1].Pills [2]. Injection[3]. Implants, [4.] Condom [5]. Cap.[6] Spermicide [7]. IUCD. [8].Withdrawal [9]. Lactation. [10].Sterilization, [11]. Others-Specify.	
30	List any male contraceptives that you know?		[1] Sterilization-Surgical ligation	

			[2] Condom- Barrier [3] Withdrawal	
31	Briefly explain how they work (Q9 above)		[1] Sterilization-Surgical ligation [2] Condom- Barrier [3] Withdrawal	
32	Other than condoms and vasectomy, which other new male		[1]Pill [2]Gel [3] Non-surgical vasectomy	

	contraceptives do you know? (Please list them)			
33	Which male contraceptive would you prefer or advocate for? List At most 2		1.Condom, 2. Sterilization, 3. Withdrawal	
34	Which male contraceptive can you Never use or advocate for and? List At most 2	1	Condom	
		2	Sterilization	
		3	Withdrawal	
		4	None	
35	Please explain on the each of the above listed.		[1]Reduces pleasure. [2] Permanent] [3] Not effective [4] Makes one infertile [5] Not practical. [6] Unhygienic [7] Not culturally acceptable. [8] Religion	
36	Based on the available contraceptives, do you agree that		[5]Strongly Agree [4]Agree [3]Not sure	

	there is need to develop new contraceptives for men?		[2]Disagree [1]Strongly disagree	
37	If a new method was developed today or in the near future, will you accept to use it?		1.Totally can't accept 2. Can't accept 3. Slightly accept 4. Neutral 5. Slightly accept 6. Accept 7. Perfectly Accept	
38	If It is acceptable, how long will it take you to start using it?		[1] Use right away [2] 1 to 3 months [3] 4 to 6 months [4] Within 7 to 12 months [5] 1 to 2 years [6] 3 to 5 years [7] More than 5 years	

39	If there were other methods other than condom and vasectomy, which formulation, will you prefer. List from most preferred.		1] Pill. 2] Injection 3] Implant 4] Gel 5] Surgical	

40	In the next 5 to 10 years, new male methods to avoid pregnancy will be made as an oral pill, as a skin gel and as an injection. If you were to choose, which one will you prefer?		[1] pill once a day [2] pill when needed before sex [3] gel once a day [4] gel when needed before sex. [5] Injection-Surgical vasectomy [6] none of the above	
41	Thinking about new medications, how much do you agree with each of the following statements? [1] New medicines are more risky than older medicines [2] New medicines approved by the government are safe [3] New medicines approved by the government are effective [4] Generally I do what my doctor recommends		[5] Strongly agree [4] Agree [3] Neither agree nor disagree [2] Disagree [1] Strongly disagree	
42	If you were given an opportunity to decide, what qualities would wish a male contraceptive should have? List at least 3 Why do you prefer the above qualities?		[1]. Formulation, [2]. Frequency of use, [3]. Mode of action, [4]. Reversibility [5]. Period of action [6]. Cost.	

			[7] Availability	
43	How much do you agree with the following statements? You can answer with strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree. [1] Using contraceptives makes you a lesser man [2] Contraception is a woman's business, and men do not need to worry [3] Women who use contraception will become promiscuous [7] Family planning clinics want to limit births of the poor		[5] Strongly agree [4] Agree [3] Neither agree nor disagree [2] Disagree [1] Strongly disagree	
44	Again, using the same scale, how much do you agree or disagree with the following? [1] Vasectomy decreases sexual pleasure [2] Vasectomy is a form of castration		[5] Strongly agree [4] Agree [3] Neither agree nor disagree	
	[3] Sexual satisfaction is very important to me [5] Male contraception would make me infertile [6] Male contraception would increase my chances of getting STIs/HIV [8] Female contraceptives hurt women's health		[2] Disagree [1] Strongly disagree	

Appendix IV: Key Informant Interview questionnaire

1. What is your opinion of the family planning services provided at your health facility?

(probe for how they like the services, the health workers attitudes, costs).

2. What are the most popular modern methods of contraception that are used by individuals and couples in this community?

3. Approximately what proportion or how many males attend family planning clinic? Are you comfortable with the attendance? Please elaborate your response

4. What are the most preferred and male contraception methods and how do they work? (*Probe for reasons for choice of those methods and why not the others)*

5. Other than Vasectomy and condoms, which other male contraceptives do you know? *(current or under development)*

6. What do you think would be the reason why men may not come to the FP clinic?

Distance, staff issues, availability of contraceptive, cost, site or location of clinic

7. In this community what will hinder men from using male contraceptives. *Probe for all possible barriers and explanation-cultural beliefs, Religion, peer pressure*

8. How do men access these methods? *(probe for sources, ease of access, costs of methods, period to refill, stock outs, staff)*

9. Under what circumstances did you to discontinue or advise a client to stop the use of the method(s)? *(probe for access issues; costs of methods; side effects; who influenced decision: - providers, peers, significant others)*

10. In your own opinion, if a ***NEW*** contraceptive was developed today what will make other men in this community not to use it?

11. If you were given a opportunity to choose, what will be the best qualities of a male contraceptive?

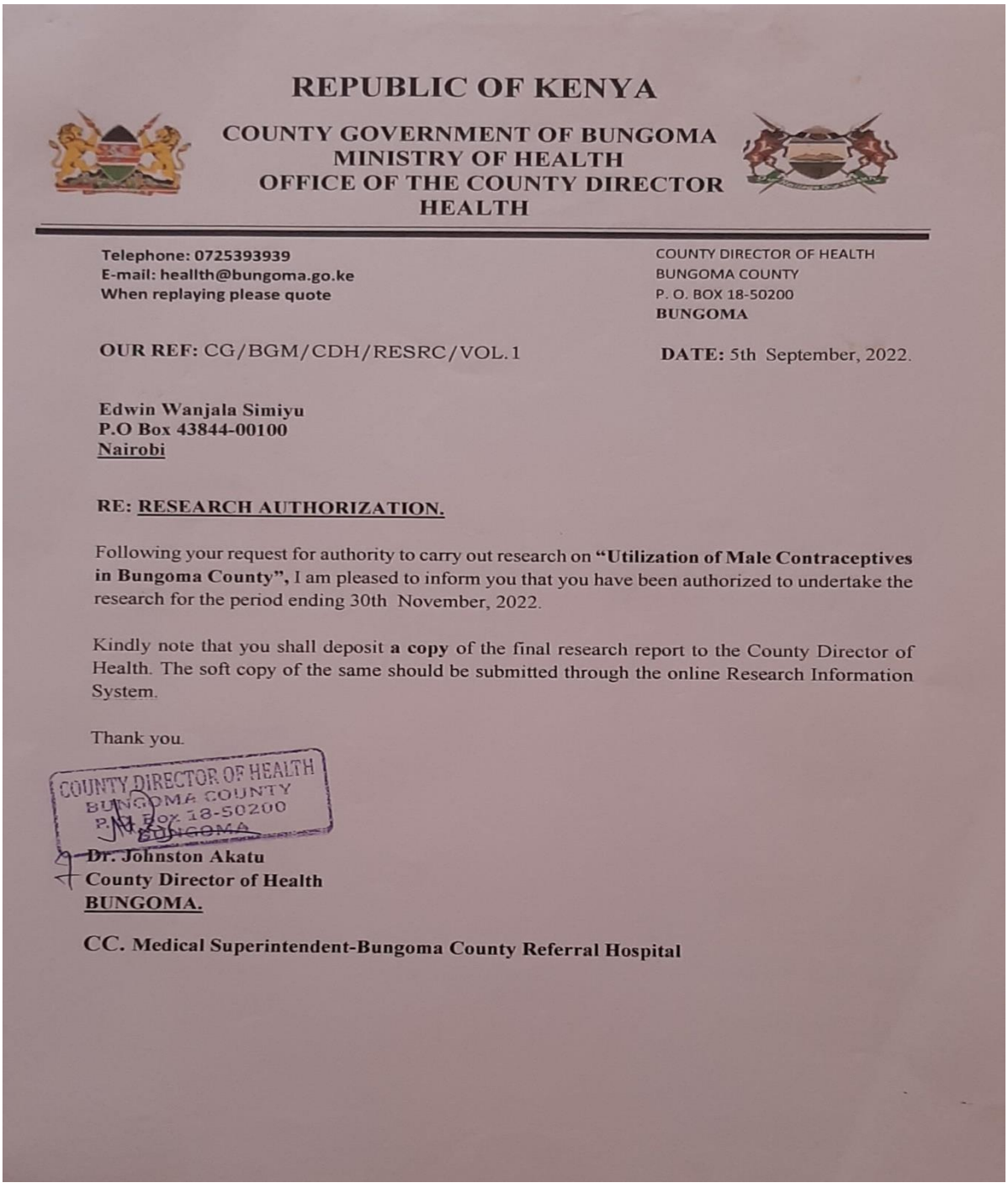
12. If a new male contraceptive was developed today or in the near future, would you use or allow your partner use it? If yes why? If not why?

13. How does the community think about men who use contraceptive?

14. In this community, are there any believes about male contraceptives?

15. Do you have anything else you would like to share with us about modern family planning methods?

Appendix V: County Authorization



REPUBLIC OF KENYA

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

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

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

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

DATE: 5th September, 2022.

Edwin Wanjala Simiyu
P.O Box 43844-00100
Nairobi

RE: RESEARCH AUTHORIZATION.

Following your request for authority to carry out research on **"Utilization of Male Contraceptives in Bungoma County",** I am pleased to inform you that you have been authorized to undertake the research for the period ending 30th November, 2022.

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

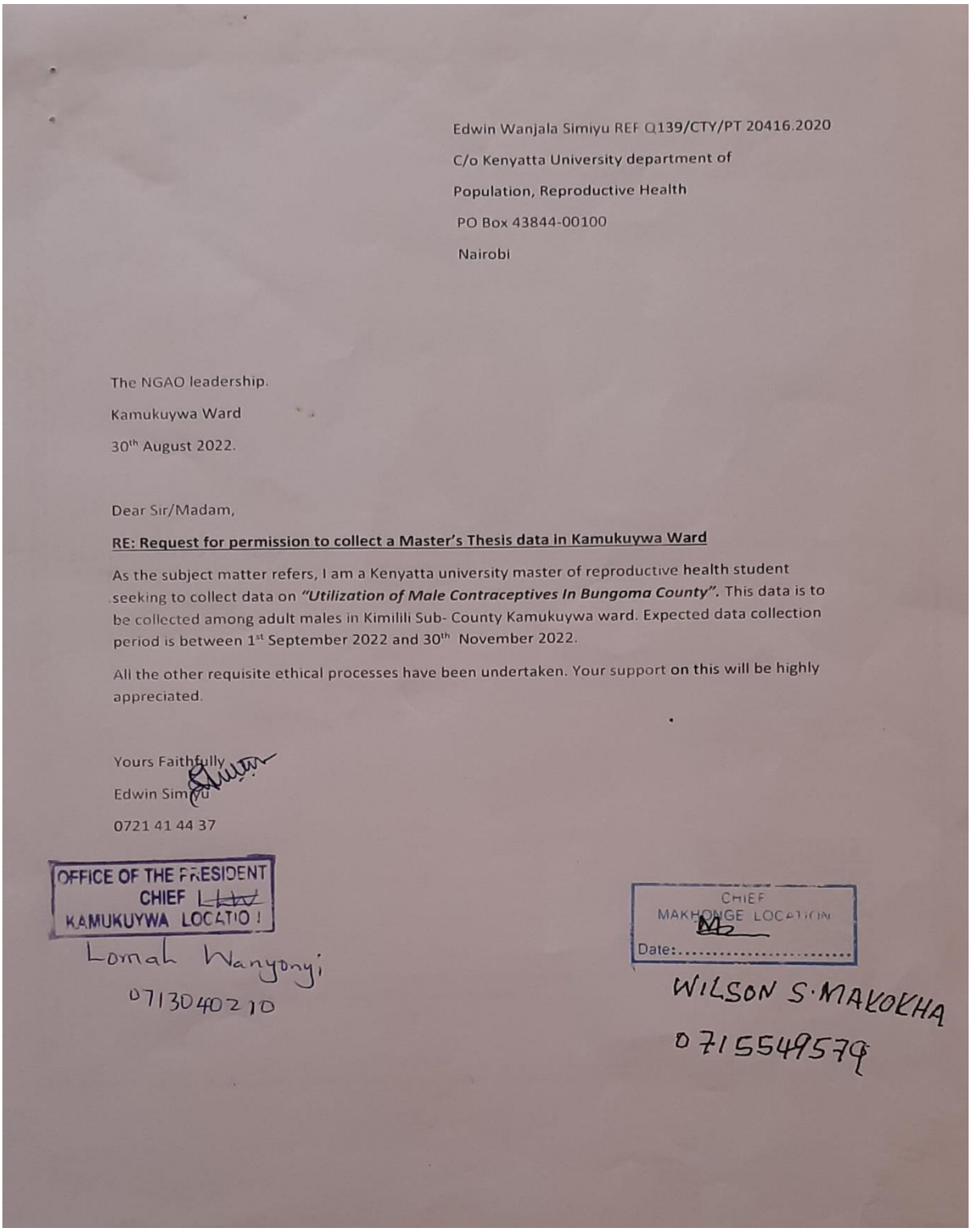
Thank you.

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

Dr. Johnston Akatu
County Director of Health
BUNGOMA.

CC. Medical Superintendent-Bungoma County Referral Hospital

Appendix VI: Ward Authorization



Edwin Wanjala Simiyu REF Q139/CTY/PT 20416.2020
C/o Kenyatta University department of
Population, Reproductive Health
PO Box 43844-00100
Nairobi

The NGAO leadership.
Kamukuywa Ward
30th August 2022.

Dear Sir/Madam,

RE: Request for permission to collect a Master's Thesis data in Kamukuywa Ward

As the subject matter refers, I am a Kenyatta university master of reproductive health student seeking to collect data on ***"Utilization of Male Contraceptives In Bungoma County".*** This data is to be collected among adult males in Kimilili Sub- County Kamukuywa ward. Expected data collection period is between 1st September 2022 and 30th November 2022.

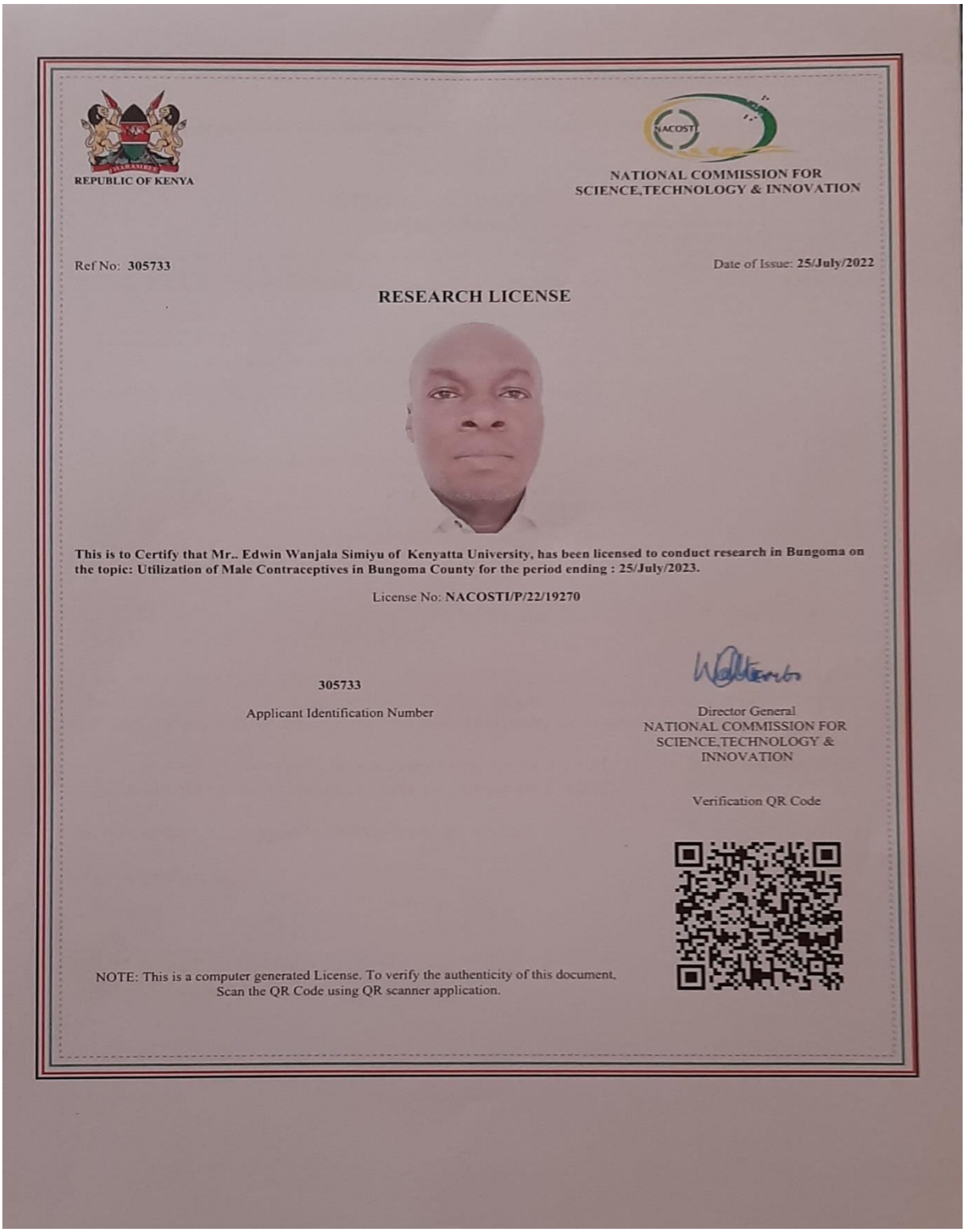
All the other requisite ethical processes have been undertaken. Your support on this will be highly appreciated.

Yours Faithfully
Edwin Simiyu
0721 41 44 37

OFFICE OF THE PRESIDENT
CHIEF
KAMUKUYWA LOCATION
Lornah Wanyonyi
0713040210

CHIEF
MAKHONGE LOCATION
Date:.....
WILSON S. MAKOKHA
0715549579

Appendix VII: NACOSTI License



REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **305733**

Date of Issue: **25/July/2022**

RESEARCH LICENSE

This is to Certify that Mr.. Edwin Wanjala Simiyu of Kenyatta University, has been licensed to conduct research in Bungoma on the topic: Utilization of Male Contraceptives in Bungoma County for the period ending : 25/July/2023.

License No: **NACOSTI/P/22/19270**

305733

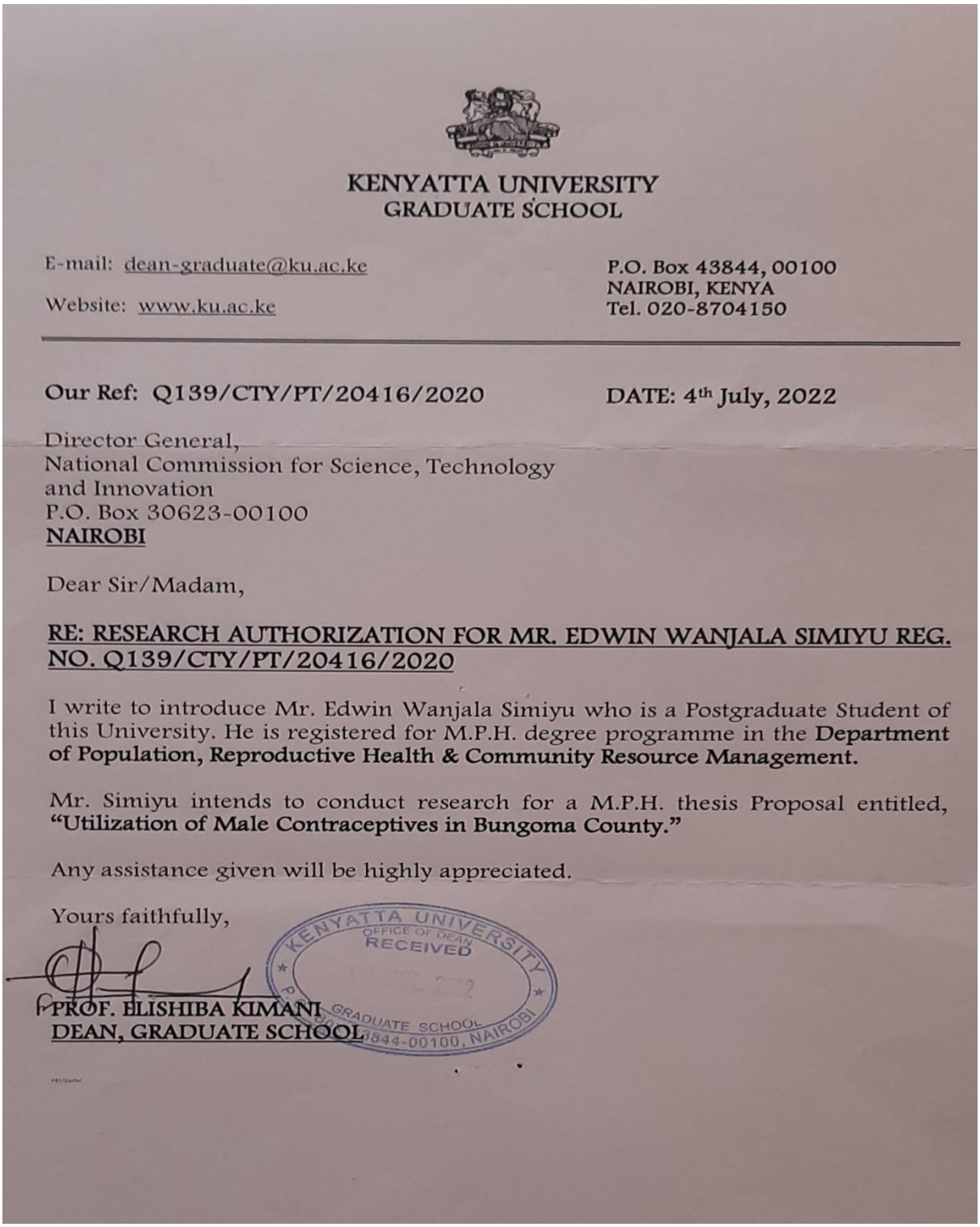
Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

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

Appendix VIII: Request for Authorization



KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 020-8704150

Our Ref: Q139/CTY/PT/20416/2020 DATE: 4th July, 2022

Director General,
National Commission for Science, Technology
and Innovation
P.O. Box 30623-00100
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR MR. EDWIN WANJALA SIMIYU REG. NO. Q139/CTY/PT/20416/2020

I write to introduce Mr. Edwin Wanjala Simiyu who is a Postgraduate Student of this University. He is registered for M.P.H. degree programme in the **Department of Population, Reproductive Health & Community Resource Management.**

Mr. Simiyu intends to conduct research for a M.P.H. thesis Proposal entitled, **"Utilization of Male Contraceptives in Bungoma County."**

Any assistance given will be highly appreciated.

Yours faithfully,

KENYATTA UNIVERSITY
OFFICE OF DEAN
RECEIVED
GRADUATE SCHOOL
P.O. Box 43844-00100, NAIROBI

PROF. ELISHIBA KIMANI
DEAN, GRADUATE SCHOOL

Appendix IX: Approval from Graduate School

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke
P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 020-8704150

Internal Memo

FROM: Dean, Graduate School **DATE:** 4th July, 2022

TO: Mr. Edwin Wanjala Simiyu **REF:** Q139/CTY/PT/20416/2020
C/o Department of Population, Reproductive
Health & Community Resource Management

SUBJECT: APPROVAL OF RESEARCH PROPOSAL

This is to inform you that Graduate School Board, at its meeting on **20th June, 2022**, approved your Research Proposal for the M.P.H. Degree entitled, **"Utilization of Male Contraceptives in Bungoma County."**

You may now proceed with your Data collection, subject to clearance with the Director General, National Commission for Science, Technology & Innovation and Ethics Review Committee, Kenyatta University.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking and Progress Report Forms per semester. The forms are available at the University's Website under Graduate School webpage downloads.

Also, please ensure that you publish article(s) from your thesis before submitting it to Graduate School for examination as per the Commission for University Education and Kenyatta University guidelines.

Thank you.

DR. HARRIET ISABOKE
FOR: DEAN, GRADUATE SCHOOL

CC. Chairman, Department of Population, Reproductive Health & CRM
Supervisors:

1. Prof. Margaret Keraka
   C/o Department of Population, Reproductive Health & CRM
   Kenyatta University

2. Dr. Titus Kahiga
   C/o Department of Pharmacy & Complementary Medicine
   Kenyatta University