

**DETERMINANTS OF CONTRACEPTIVES PREFERENCE AND USE AMONG
PEOPLE LIVING WITH HIV AND AIDS IN RURAL AREAS: A STUDY OF
NYAMARAMBE DIVISION, KISII COUNTY, KENYA**

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**A Thesis submitted in Partial Fulfillment of the Requirements for the Degree of Masters
of Arts in Geography, the Department of Humanity, School of Social Sciences and Arts,
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DECLARATION

This thesis is my original work and has not been presented for a degree in any other university. No part of this thesis may be reproduced without the prior written permission of the author and/ or Rongo University.

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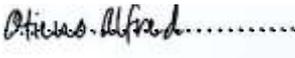
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DEDICATION

I dedicate this research thesis to Mama Rita Katamu and my family members for their support and sacrifice they have made to ensure that I continue with my studies.

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I wish to send my regards to Dr. Paul Obino, Prof. Agwanda and Dr. Shivachi for their trust, belief, guidance and assistance that they bestowed and offered me while undertaking this study. I also thank my family for the sacrifices they made to enable me pursue this degree course, I also send my gratitude to fellow students and university staff members who made sure that I did the right thing during my study at the University and may God bless you!

ABSTRACT

The World Health Organization (WHO) estimates that a majority of persons living with the Human Immunodeficiency Virus (HIV) and the Acquired Immunodeficiency Syndrome (AIDS) are within the reproductive age of 25-49 years. This implies that their sexual and reproductive rights which have to be protected as enshrined in international and national legal instruments. One avenue through which persons living with HIV and AIDS (PLWHAs) can enjoy these rights is through the use of contraceptives. In recognition of this, governments, including that of Kenya, have made contraceptives available and accessible in most parts of the country. However, despite the obvious benefits, availability and accessibility, the uptake of contraceptives is still at only 69% in Kenya. This study therefore sought to investigate the determinants of contraceptive preference and use among PLWHAs in Nyamarambe Division, Kisii County Kenya. The specific objectives of the study were to: examine the level of contraceptive knowledge and use; establish the most preferred contraceptive methods and explore the factors that influence the preference and use of contraceptives. The study was guided by the social cognitive and the protection motivation theories. It applied the mixed method approach through which both qualitative and quantitative data were collected and analyzed using the descriptive survey design. The target population for this study group were 1,206 PLWHAs attending government health facilities for anti-retroviral therapy (ART). Out of these, a sample of 107 was selected through cluster, quota and systematic random sampling techniques. Data were collected using a questionnaire, focus group discussions (FGDs) and interviews, strictly observing all ethical considerations. The findings of this study indicate that 93% of the respondents were knowledgeable about contraceptive use as 77% knew the use and its importance. The study also found that the implant was the most commonly used contraceptive, with more than 29% preferring its use, as opposed to 19.3% who chose to use IUCD method and 18.2% who were inclined to condom method. The study further revealed that the prevalence in the use of the implant was largely influenced by healthcare workers whose percentage was at 48.9%, who tend to recommend the method over other methods. The study also established that some of the factors that influence contraceptive preference and use include adequate information pertaining its presence and its availability of a contraceptive in a health center or in a region. Interestingly, the study revealed that despite assurances by government about availability of contraceptives at health facilities, clients were limited in terms of choice, and that only implants, male condoms and IUCD were available at the facilities in the study area. This study recommends that the government through the ministry of education should incorporate family planning education in secondary schools as this would help them have knowledge and understanding of the use of various contraceptives while the ministry of health is also encouraged to provide numerous contraceptive methods and also train health workers on their importance in enhancing contraceptive use among PLWHA.

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List of Abbreviations

ART - Antiretroviral Therapy

CCIH-Christian Connections for International Health

HIV/AIDS - Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome

FP - Family Planning

ICPD - International Conference on Population and Development

IUCD- Intra-uterine Contraceptive Device

MOH – Ministry of Health

PAI– Population Action International

PLWH/A-Persons Living with HIV/AIDS

PMTCT - Prevention of Mother-to-child Transmission

UNFPA –United Nations Population Fund

USAID-U.S. Agency for International Development

WHA-Women with HIV/AIDS

WHO – World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Globally, 37.9 million have tested positive for Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS), with sub-Saharan Africa contributing approximately two-thirds of this population (UNICEF, 2018). A number that is higher than one reported in the year 2015 that was around 33.3 million (UNAIDS 2016). Out of these, an estimated 1.6 million are in Kenya (UNAIDS, 2018). According to the World Health Organization (WHO), use of Anti-Retroviral Therapy (ART) suppresses HIV, stops progression of the virus, and increases prognosis of the same. In Kenya, approximately 50% of persons living with HIV and AIDS (PLWHAs) are reported to be on ART, after the Kenyan government embraced the world health organization (WHO) recommendation of offering treatment to those who have been diagnosed with HIV (Avert, 2018). A number of studies also indicate that the majority of PLWHAs in Africa are of reproductive age (WHO, 2019). Enhanced uptake of ART has resulted in improved health and wellbeing, including sexual and reproductive wellbeing and health (Hancock, 2016 and Magala *et al.*, 2017). The implications of the aforementioned is that a majority of PLWHAs are likely to be sexually active and hence, the matter of their reproductive health and rights arises and of which must be addressed just like any other without any discrimination. Increased use and proper management of ART has increased chances of survival if not a lifeline to individuals who once seen as those in limbo to live and have children (Mayhew *et al.*, 2017). Better health among people living with HIV as a result of using ARTs has massive increase in reproduction desire thus all rights of reproduction can't be denied to them (UNAIDS, 2011).

Sexual and reproductive health and rights are a fundamental concept, enshrined in international legal instruments such as the Covenant of Economic, Social and Cultural Rights (1966), Convention on the Elimination of all forms of Discrimination against Women (1979), the Protocol to African Charter on Human and People's Rights on the Rights of Women in Africa (the Maputo Protocol) of 2003, the Millennium Development Goals (2001), Abuja Declaration on HIV and AIDs, Tuberculosis (TB) and other related Diseases (2001), Campaign on Accelerated Reduction of Maternal Mortality in Africa (2009), and Sustainable Development Goals (2015), among others. In Kenya, reproductive health and rights are recognized in law through the constitution of Kenya (2010) and the Sexual offences Act (2006); and also in policies such as the National Reproductive Health Policy (NRHP) (2007), National Reproductive Health Strategy (NRHS) (2009-2015; 2016-2021), the Adolescent Reproductive Health and Development Policy (ARHDP) (2003), the National Condom Policy and Strategy (NCPS) (2009-2014), the Contraceptive Policy and Strategy (CPS) (2002-2006), the Contraceptive Commodities Procurement Plan (CCPP) (2003-2006), the Contraceptive Commodities Security Strategy(CCSS) (2007-2012), among many others.

All the aforementioned legal instruments place upon nation states, Kenya included, the obligation of putting in place measures aimed at upholding and protecting the reproductive health and rights of all peoples regardless of their HIV status. Various measures have been put in place to address population health and of such measures is the use of contraceptives. Contraceptive use not only provides couples with the means to time childbearing, but also improves the health and wellbeing of women and their families (Yaya *et al.*, 2018). It also enables women to exercise choice and control over their sexuality and fertility (WHO, 2019), reduces maternal and peri-natal morbidity and mortality (UNFPA, 2019), lowers the possible perils associated with sexually transmitted infections (STIs) including HIV (WHO, 2019), as well as increasing opportunities for the female gender in areas such as education, employment

and even political and social participation (Yaya *et al.*, 2018). The need for contraceptive use is even more crucial among PLWHs because it is a more cost effective way of reducing further transmission, including mother to child transmission (MTCT), compared to prophylaxis with antiretroviral drugs (Wekesa and Coast, 2015; Mayhew *et al.*, 2017 and WHO, 2019). Mochache *et al.*, (2018), also aver that contraceptive utilization has both direct and indirect benefits which are not limited to maternal health especially when preventing pregnancies which pose risks to mother and child's survival. In such a case, mother and child deaths are shelved thus controlling pregnancy related problems and thereby reducing cases of unsafe abortions and may be possible deaths. It can also help delay an introductory birthing to the adolescent girls while averting other associated problems with teenage pregnancies. Increased cases of desire to have children triggers the need of contraceptive utilization among people with HIV. Its use among them ensures proper planning for pregnancies and reduced cases of vertical transmission (Damien *et al.*, 2018). The use of contraceptive is a key component (prong 2) of the WHO/UNAIDS HIV prevention (UNAIDS, 2011).

OContraceptives use is also important in preventing unplanned pregnancies and abortions. According to WHO (2018), in 2017 alone, there were 67 million unplanned pregnancies globally, something that could have been prevented with correct and consistent use of contraceptives (Njuguna *et al.*, 2017 and Damien *et al.*, 2018).

In view of the importance of contraceptive use among PLWHAs, governments, including that of Kenya, have implemented interventions to scale up the uptake of the same. With the support of the World Health Organization (WHO), the government of Kenya has ensured that contraceptives are available in public health facilities (WHO, 2017). However, despite this, the uptake of contraceptives among PLHWAs in Kenya was still at 69% in 2019 (WHO, 2019). This is despite concerted awareness campaigns by various actors, including government of Kenya, non-governmental organizations (NGOs) and faith based organizations

(FBOs). The challenge comes with a fact that the use of contraceptive solely lies with the knowledge of the potential users (WFP, 2017). The knowledge varies from one individual to another and from one region to another based on various socio-cultural practices, economic and political factors (Thummalachetty, 2017). Globally, 58% of the world population is knowledgeable about contraceptive though its prevalence use stands at 42.8%. Africa as a continent has varied percentages with regards to political and religious factors which influence reproductive health, for instance, Nigeria in the Western part Africa, 69% of its population are knowledgeable about contraceptives though this vary from urban to rural areas significantly (Tchokosa and Adeyami, 2018). Kenya a country in the East Africa is no exceptional, according to the KDHS report of 2014 on contraceptive use only 62% are knowledgeable about the use and importance but only 58% were using contraceptives (KDHS, 2014).

The knowledge of a contraceptive also has the power to influence the use and preference of a contraceptive among individuals whether living with HIV or not. When one understands what a contraceptive is and its importance he or she will definitely have interest in knowing its advantages over other choices thus factors such as convenience, availability, effectiveness, cost become crucial when it comes to selection of the most preferred contraceptive (WHO, 2015 and Mulongo *et al.*, 2017).

Choice and preference of a contraceptive in question by the user lies on numerous factors which are not limited to health, number of children, level of education, economic status and socio-cultural beliefs and practices. The mentioned factors have the ability to increase contraceptive uptake and at the same time lower it for instance strict religious practices such as those of the Muslims and catholic which see contraceptive use as going against Gods way of procreation could influence low uptake in a region. In so doing, it is useful to understand that preference and patterns of use of any contraceptive is defined by various factors. There is

general consensus that preference and patterns of use of contraceptives are not universal, and so vary from one setting to another. For instance, a study conducted in Taso, Uganda for instance, reported that demographic factors play important roles on the choice of a contraceptive used by various individuals (Egessa, 2010). While another study conducted among women attending ART and family planning (FP) clinics in South Africa identified socio-cultural factors as being influential just like the role of the health providers who were also seen to be clinical in their influence towards the uptake of contraceptives (Oni *et al.*, 2013). In Kenya, related investigations made by Njuguna *et al.*, (2017) and Ochako *et al.*, (2017) identified socio-economic factors as being determinant of contraceptive use and preference in urban areas. However, the studies did not focus on PLHWAs in rural areas either and so a big gap to look into. Another closely related study conducted by Kimani *et al.*, (2015) only highlighted on contraception application and need for children by women living with HIV in the country but no focus on contraceptive use in rural areas.

In view of the aforementioned, the aim of this study is to investigate preference and use of contraceptives among PLWHAs in rural areas, with a specific focus on Nyamarambe Division in Kisii County in the western part of Kenya. The area has a rich population history in terms of culture, economics and politics.

1.2 Statement of the Problem

Globally, over 37.9 million persons are living with HIV with two-thirds living in Sub-Saharan Africa, and 1.6 million in Kenya (UNAID, 2018). Available data indicates that a vast majority of PLWHAs are in the reproductive age and therefore presumably sexually active (WHO, 2019). Being sexually active, PLWHAs, like everyone else, have a right to their sexual and reproductive rights, as enshrined in various international and Kenyan legal instruments. One of the interventions designed to enhance enjoyment of sexual and reproductive rights is the use of contraceptives.

There is general agreement that contraceptive use has various advantages to users, their families, communities and to the economy. These advantages include better child spacing, avoidance of unintended pregnancies and their related challenges, improved child and maternal health, and reduced maternal and child mortality, among others. In view of these benefits, governments, including that of Kenya, have put in place measures to ensure that contraceptives are available and accessible to all persons, including PLWHAs. Furthermore, change agents such as non-governmental organizations and family based organizations have implemented concerted awareness and publicity campaigns to enhance uptake of contraceptive use, especially among PLWHAs.

However, despite the aforementioned stated advantages, availability and accessibility of contraceptives, in addition to various awareness efforts by various actors, the uptake of contraceptive use is still low, especially among PLWHAs. In Kenya, only 69% of PLWHAs were using contraceptives in 2018. Even then, most of those who were using them were in urban areas with rural areas uptake being lower. The increased child desire for children by people living with HIV gives a nod for increased knowledge of contraceptive use among PLWHA (Kimani *et al.*, 2015)

Thus, despite the obvious advantages of contraceptives, and the availability and accessibility of contraceptive services especially in rural communities such as the study area, their uptake is still low. This study therefore seeks to investigate this discrepancy, by focusing on determinants of preference and use among people living with HIV and AIDS.

1.3 Objectives of the Study

The purpose of this research was to investigate determinants of contraceptive preference and use among people living with HIV and AIDS in Nyamarambe Division, Kisii County.

1.3.1 Specific objectives

1. To examine the level of contraceptive knowledge and use among PLWH
2. To establish contraceptive method preference among PLWH
3. To explore factors that influence contraceptive use and choice among PLWH

1.3.2 Research Questions

The research questions were:-

1. What is level of contraceptive knowledge and use of contraceptive among PLWH
2. What is the most preferred contraceptive methods among PLWH
3. What are the factors that influence contraceptive use and choice use among PLWHA

1.4 Significance of the Study

The findings of this study are significant to all users of contraceptives, especially in rural areas, as they provide useful insights that may inform their health behavior moving forward. The findings are also significant to contraceptive service providers such as health workers, governmental and non-governmental agencies. This is because information on determinants of preference and use may inform future interventions to enhance uptake of contraceptive

services. Finally, the findings of this study will add to the pool of knowledge on contraceptive use in general.

1.5 Limitation of the Study

The major limitation of this study was related to the topic itself. Contraceptive use is a private and sensitive matter that many people, especially rural dwellers, may be shy to discuss. When a study relies on self-reporting on such a sensitive matter, the matter of fidelity of data always arises. Considering that primary data was collected mainly from the affected subjects, this was likely to be a major limitation. However, to mitigate this limitation, the study applied triangulation, whereby data were collected using focus group discussions (FGDs) and key informant interviews (KIIs) to complement and corroborate data from the main subjects. The questionnaire itself was also designed to allow for probing, with some questions that were aimed at corroborating the information obtained from other questions. Furthermore, primary data was complemented by secondary data from health facility records.

1.6 Scope of the Study

The study was confined to preference and use of contraceptives, and did not venture into other aspects of contraceptives. In so doing, the study focused on respondents within the reproductive age of 15-49 years, who are living with HIV, and attending clinic in the three major health facilities in the study area. The study applied a survey design, using a questionnaire, focus group discussions and interviews.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter is constituted of related literature and theories to the study, the reviewed literature shall highlight the preferred modern family planning methods, level of contraceptive use among PLWH, attitudes of PLWH towards FP use and factors influencing contraceptive use among PLWH.

2.2 Overview of the literature

The use of contraceptives among individuals is majorly based on knowledge of existence, importance and repercussions in case one fails to use them. Knowledge is literally believed to have an effect on one's attitude towards the use of any contraception method. When an individual understands the importance of using contraceptive his or her response towards its use becomes positive, on the other hand negative environment such as negative religious practices, inadequate resources, negative advice from colleagues and backward cultural practices where children are seen as source of labor will deter one from using them. In addition, fear of misfortunes after failing to use them can also influence the use of a contraceptive positively.

2.3 Theoretical Literature Review

According to Timacheff (1975), a theory is defined as a methodological amassment of ideas and narratives trying to clarify events or behaviors; it is the axis around which the research revolves. This study was subjected to the guidance of two theories that is; the theory of social cognitive and Protection motivation theory. The two theories were crucial as they help in addressing factors influencing the use and preference of contraceptives among people living with HIV.

The study was guided by two social behavioral theories which are; social cognitive theory and protection theory.

2.3.1 Social Cognitive Theory

Various changes occur in human development and so many theories have been proposed to explain the conceptions of human nature, causes and mechanisms of human motivation and behavior.

Baltes and Reese, (1984) asserted that development is a continuous process a concept which pushed various studies to focus on deep analysis of human psychosocial analysis from childhood to adulthood. In the same line of knowledge Bandura, (1989) added that, development is a multidimensional process which changes in its origin of psychobiologic and even in the conditions of its experience where it is enhanced for sustenance. The use of contraceptives among PLWH depends on the situations under which they are expected to use and benefit from them. Positive changes such as improved health, reduced prejudice and stigmatization induce many to use contraceptives (Pilecco *et al.*, 2014). In addition under Bandura's Triadic Reciprocal Determinism of 1989, individual's behavior is believed to be directed either by environmental factors or by internal disposition. Some of these environmental forces are stronger thus may change one's behavior rapidly as others act slowly. In addition, expectations, beliefs, one's perceptions, goals may also shape one's behavior. People's behaviors can also be influenced by their beliefs, feelings and their thinking (Bandura, 1986; Neisser, 1976; Bower, 1975). The extrinsic and natural effects of what one does partially affects the way they react emotionally Lerner's (1982), reiterates that, individual's reactions are sometimes evoked by their social environment influenced by their physical features which include size, age, tribe and gender and physical appearance influence, very different from what they engage in or say and therefore the application of modern

contraception methods amid PLWHA can also be influenced by age whereby young unemployed individuals may use contraceptives to avoid family responsibilities at tender age. In addition, positive women sometimes use contraceptives to avoid unplanned pregnancies in order avoid risks attached to them such as maternal deaths and mother to child infection during birth (Mccarthy, 2014).

Snyder (1981), activation of social reactions by people as a result of social positions given to them by the society also determine their understanding that will either weaken them or make them stronger depending on their immediate surroundings. For instance among the sero-discordant couples men influence their wives to avoid using contraceptives as long as they remain unsatisfied with number of children a woman has borne they have this depicts the roles conferred to men as commandant in African society which has an influence in the use of contraceptives (Jalang'o *et al.*, 2017).

Bandura (1989), section of reciprocal causation in the Triadic System offers a dual passage effect amidst environment and individual's behavior. In everyday life's endeavors, one's behaviors changes conditions of the environment and also gets changed by the new conditions realized. The surrounding is not constant and neither is it permanent to individual's wellbeing. In case movement is stopped or delayed, some features of the social and physical surrounding may result to the change of individuals like and dislike. Nonetheless, larger number of environmental elements do not operate as determinants unless they are put in the right position to act. For instance clinicians may not influence PLWHA to use family planning services unless she or he attends a health center. Family member, partner, media can also influence individuals to consume family planning services but this will also depend on the intrinsic disposition (Bandura, 1989). A study in the use of contraceptives is defined by religious doctrines and so medics have little to influence as religion is deemed personal and influences

people differently based on one's faith or belief (Oni *et al.*, 2013). This is also not different with Kisii youths and their behaviors towards the uptake of various contraceptives. Contraceptive use among youths was found to be influenced by colleagues or peers rather than other factors including religion and health officers (Jalang'o *et al.*, 2017). In addition, Jalang'o *et al.*, (2017) reported that peers had great influence on their colleagues on the use of injections and oral pills that was common among them unlike other age groups which had varied contraceptive methods.

It is thus clear to note that the use and preference of a contraceptive by one is influenced by the environment which is mainly made of peers, medical officers, and family members but after activation by an action that will either positively or negatively ignite one to use or not.

The theory's strength is that it explains human behavioral change which is commendable in that it allows and accounts for cognitive processes and that it also explains numerous number of behaviors as it is on point and simple to understand and relates individual's behaviors in regards to the use of contraceptives and preference. One of the setbacks of this theory is that what one views as a punishment, another may view it as a reward. It also fails to explain behavioral differences among individuals that may influence one's action within and around his/environment for example the use of FP among PLWH may not be ok with others regardless of its positives seen by others.

2.3.2 Protection Motivation Theory

Boer and Sydel, (1971) say that the theory was posited to give ideological explanation in fathoming fear appeals among individuals. Originally, the theory was created within the structure of fear aroused through communication as Boer and Sydel further explained. According to Hoveland *et al.*,(1953), on their research on fear drive model, human beings

tempt to do things out fear just to be out of danger of which they are never sure with the results . When information received triggers fear to the recipient, the recipient will be made to look for ways of doing away with the perceived discomfort. But in case the received information received is positive and is likely to spell out discomfort], the recipient will take it and change his or her behavior to avoid repercussions otherwise negative adaptive reactions such as failing to accept the threat or evading messages associated with arousal of fears may be realized (Boer and Sydel, 1981). The use of contraception among people living with HIV and AIDS is based on communication based fears by experts or the experienced that may result from the risks involved such as giving birth to HIV positive baby, infection of partner, forced abortion health deterioration and high living standards imposed by the ever changing economic environment (WHO, 2006). The previous studies reviewed in this section include; integration of family planning and HIV, benefits of integrating family planning and HIV services knowledge of family planning, contraceptive choice among PLWHAs and conditions affecting application of the contraception amidst persons who are HIV positive. This theory remains relevant when used to explain reasons why many people turn to use various contraceptive methods as they fear the vulnerability and severity of both unplanned pregnancies when one is HIV positive. The severity of not using contraceptives encourages people to use various methods just to ensure that individuals are safe from repercussions. For instance, some individuals preferred using double edged contraceptives such as condoms because they feared infecting their partners while some women feared prejudice and stigmatization on their children thus they used contraceptives to avert these future problems that may come up if not taken care of (Pilecco *et al.*, 2014).

Individuals get information from different sources if not the immediate environment they live in which help them change from doing things the way they have been doing them (Clubb and Hinkle, 2015). For instance those who have been living with HIV and AIDs and are active

sexually and willing to control unwanted pregnancies are likely to change by adopting the use of contraceptives based on the information they obtain from the media, peers and health care officers when they visit various health centers for counselling and this is reinforced by implications that may be realized in case of failure to use contraceptives (Pilecco *et al.*, 2014).

2.4 Level of Contraception Knowledge and Use

Utilization of modern family planning methods solely depends on the knowledge on its importance on one's reproduction health and the available skills for its application (Odai *et al.*, 2014). Knowledge and use of a contraceptive is further extended to its accessibility, availability and information pertaining its use, effectiveness, safety and side effects (Family Planning Guidelines, 2010). Many are likely to use a contraceptive when they know its importance based on either fear of negative impact on their lives or benefits to their lives and their loved ones; Boer and Sydel, (1971) assertion in their theory of Protection Motivation where fear influences ones action, and that one's action is defined by the result of an action or expectation after an action. A good number of researches done in different parts with regards to contraception knowledge and usage affirm that knowledge is key towards contraceptive use; contraceptive knowledge among various households is ranked high in both the countryside and in uplands. For instance the United Nations report of 2010 reported that generally majority of households are knowledgeable about contraceptives and are using at least one recognized contraceptive by WHO (United Nations report, 2010).

Contraception usage is important when a nation is moving towards attaining sustainable development goals (SDG) as it influences its economic growth and development goal not forgetting families and individual citizens health and living standards that will see the world move towards realizing sustainable population growth (Starbid *et al.*, 2016). Its use impacts

positively towards gender promotion and empowerment, reduction of poverty, calm political temperatures, and effective provision of solutions to problems associated with a rapidly growing population (UN Global Health Action, 2015). Expansion of contraceptive utilization among all individuals regardless of their HIV status is vital in realizing the after-2015 development agenda across the 5 SDGs themes of people, planets, peace, prosperity and partnership (Ositemehin, 2015).

To achieve all the SDG agenda, incorporation of contraceptive use among people living with HIV is critical as knowledge alone is not enough but its use that will lead to improved health of the general globe. Many countries through their respective ministries of health have thus taken the initiative of educating its population on the importance of the use of contraceptive hence increased knowledge and use as indicated by related studies, such one conducted in Vietnam, Quang Ninh Province by Kim Chi *et al.*, (2012), which reported that the general population of HIV –infected women in Vietnam knew the importance of contraceptives use before infection and were even more likely to use contraceptive after knowing their status. The study further highlighted that women who had received post-test counseling were three times highly able to use the contraceptive more than their counterparts who were HIV negative. While another study conducted in chosen towns of Uttar Pradesh India, by Singh *et al.*, (2016), also proved that contraceptive knowledge among individuals is high, he further added that in every household at least one contraceptive was known and this cemented the fact that contraceptive knowledge is high within majority of households in towns Uttar Pradesh India.

Even though contraceptive knowledge is high globally after massive individual country campaigns, its use had been irregular in different sections of the globe as indicated by WFP report of 2017 which indicated that the use of contraceptive was at 70% in Europe, Carribean,

Latin America and Northern America but very low in middle East and Western Africa at percentages below 25%. Contraceptive is important as its correct and consistent use would result to reduced mother and child death rates while improving schooling for girls and women (WFP, 2017).

In African continent challenges have been there with regards to the use of contraceptive among the general population (Njuguna *et al.*, 2015); utilization of contraceptives is influenced by a number of factors as various studies conducted with relation to it attest, such related studies include that of Oni *et al.*, (2013), found that majority of the participants at 95% used contraceptives which was attributed to their adequate knowledge on its use in relation to their sero-status, their knowledge has been boosted by health workers advice but among the remaining 5% population did not use contraceptive due factors not limited to education, cultural beliefs and practices. Another study is by Sufa *et al.*, (2013), revealed that most of women who were HIV positive were contraception knowledgeable and were using at least one of the approved contraceptive methods. In this study, 61.8% of the 282 participants had used at least one type of contraception that was recognized before testing positive for HIV while 29.2% were not using contraceptives to plan their reproductive health a situation that is a worry to the whole community. In addition, the study further stated that there were some contraceptive methods that were commonly used by majority of the studied subjects. On the western of the African continent, related studies were also conducted specifically in Nigeria by Ajayi *et al.*, (2018), results indicated that many individuals of up to 81% who participated in their study were knowledgeable about contraceptives but the use varied from rural to urban areas where the later was found to be higher than the former. The East Africa states of Uganda also had a number of related studies of which one on contraceptive knowledge, perceptions and concerns among men in Uganda revealed that that there was high level of contraceptive

knowledge of over 50% of the persons who participated in this study (Thummalachetty *et al.*, 2017).

In Kenya many studies concerning the use of contraceptive also reiterated that since its inception and campaigns by the government on its use through the media and health centers its knowledge and use had improved immensely (WFP, 2017). Earlier related studies conducted on contraceptive use include that of Imbuki *et al.*, (2010), this was on factors that influence contraceptive use and discontinuation among people living with HIV in Kericho, this study in its findings revealed that many households were knowledgeable about contraception and its benefits and at least one contraceptive method was used to avert any unwanted or untimed pregnancy. Another study conducted by RHRA (2014), also acknowledged high level knowledge of contraception in a study they conducted in Kenya. In this study, findings indicated that over 80% of those who turned up for the study as respondents were knowledgeable about contraceptive use surpassing the government's target of 62% knowledge amongst its citizens. Another study done in the country done by Mayhew *et al.*, (2017) indicated high level of contraceptive knowledge among individuals who participated in the study, most of them could easily mention more than one modern family planning methods offered to them at the clinics they attended an assurance that contraceptive knowledge among people living with HIV was high.

The use of contraceptive among PLWH is determined by the user's understanding of these methods. Lack of knowledge and negative influence by related variables such as demographic factors and health factors about contraceptive methods and concerns among individuals may bar them from using them (Nangendo, 2012; Namasau, 2015 and Mayhew *et al.*, 2017). Source of knowledge is assorted from peers, print media, learning institutions and hospitals where advices are provided by the health workers and discussion among cohorts and hearsays

between users and potential users. Various studies thus have proved the wide knowledge of contraceptive use among individuals in the general public whether HIV positive or not. In addition, a previous study that was done by Kibuuka *et al.*, (2009), recorded in their findings that there was high level of understanding of contraception in terms of use and importance and reiterated that lack of knowledge could impact one's reproductive health negatively. The level of use contraceptive among PLWH is also influenced by partner's status especially for those who are courting or married and are sexually active. Those of who have prior knowledge of their partner's HIV status are in upper hand to apply at least one contraceptive method to reduce vertical transmission and possible reduction of mother to child transmission among those living with HIV (Harrington *et al.*, 2012). Other reasons have also been noted to reduction of cases of maternal mortality and abortions (UNAIDS, 2011 and Odai *et al.*, 2014). Peer influence has a great impact in the level of contraceptive uptake and type of usage (Ochako *et al.*, 2017). The use of modern family planning method among PLWH was also greatly influenced by cohort's responses and influence (Odai *et al.* 2014). What peers say about contraception influence the use of a particular contraceptive method. For instance where one group of individuals believe that one particular method has negative impact on their health majority are likely to be influenced and not to use it even before they have a test (Mulongo *et al.* 2017).

Lastly, Contraceptive use and compliance is equally related to the range of methods available, patients' choice, cost and accessibility. Easy accessibility increases the use as their inaccessibility proves otherwise (Hoke *et al.*, 2014 and Njuguna *et al.*, 2015). Their availability in health centers that provide integrated reproductive and HIV services has eventually increased the use of contraceptive amongst this population.

2.5 Most Preferred Contraceptive

There are enough types of contraceptive methods for all individuals whether one has been tested negative or positive for HIV. However, choice and use among individuals is influenced by a number of factors which range from demographic factors for example age, economic factors and socio-cultural factors (Adilo, 2017). Preference of a particular contraceptive may be as a result of its affordability, convenience to poses to user, and its availability (Bongomin *et. al.*, 2017).

It should also be noted that among the available contraceptive methods there is none that is generally accepted by all and provides effective prevention on STDs and pregnancy with no side effects (WHO, 2015). The fact that none is accepted by all gives the room for making choices amongst individuals depending on their tastes or demands (Bongomin *et. al.*, 2017). Ochako *et al.*, 2017 asserted that factors such as cost, age and peer influences the use of a contraceptive though this is a subject to availability of the said contraceptive in an area. Easy use and accessibility through the influence of the health officers also play vital role when it comes to preference, many users of contraceptives depend so much on the health officers' advice on contraceptive uptake (Mulongo *et al.*, 2017). In rural areas where information on contraceptive is scarce health officers have been the main agents or influencers of the use of particular contraceptives though in some areas peers have been the main influencers (Mulongo *at al.*, 2017 and Ochako *et al.*, 2017).

Even though individuals have their own choices, individuals who have tested positive are encouraged to use contraceptives that are effective in terms of protection against further infection and unplanned pregnancies (Adilo, 2017; UNFPA, WHO, UNAIDS, 2015). In this case barrier methods such as the use of condoms are believed to be more effective and long lasting solution when used continuously and effectively (FHI 360, 2013). The use of barrier

methods is thus seen to be much effective in cases of STDs for instance HIV where their transmission can only be prevented by the use of a barrier method that is accepted by many users and even governments have encouraged its use together with HIV programmers across sub-Saharan Africa (Wamalwa *et al.*, 2015). Condom as a barrier method type of contraceptive has been well documented and currently the most effective option when used consistently with other contraceptive methods by those who would like to protect themselves from both untimely pregnancies, related risks and STDs (Wilson *et al.*, 2003; Adilo, 2017 and Mayhew *et al.*, 217). Its preference among majority is that the method can be used in combination with other methods to enhance their effectiveness with regards to containing unwanted pregnancies and further STDs infections, for instance a study on population in the United States in March 2010 was published and its findings stated that if all women in the study had used at least one effective modern family planning method together with another barrier method especially condom, then about 80% of unplanned pregnancies and abortions would have been avoided easily (Pazol *et al.*, 2010). The use of condoms has increased immensely due to publicity it has had from public health centers, non-governmental agencies to the media and its easy accessibility and ready availability. The use of condom is not only popular in the United States of America, in Africa counseling and education on reproductive health has emphasized on the use of condoms and thus its popularity and preference among people living with HIV. In Lusaka Zambia, 99% of those who participated in a study on contraceptive use among individuals using antiretroviral therapy, used condoms and because of their double ability in terms of pregnancy prevention and protection against further infection of STDs and apart from their double protection factor the users also highlighted its ready availability in hospitals and shops (Hancock *et al.*, 2016). In Kenya, the use of male condoms was mostly preferred by the respondents involved in a study conducted in Busia due

its dual course and easy use and in addition its availability even in retail shops around (Mulongo *et al.*, 2017).

Other modern contraceptive methods popular among PLWH include contraceptive pills, IUCD, tubal ligation for women and vasectomy for men. All these methods have no additional advantage of protecting one against sexual related infections, but their use and knowledge amongst expected users had been popularized in health centers and media by the government through health officers but were less commonly used especially those believed to have permanent impact on one's reproductive life such as tubal ligation and vasectomy (Landolt *et al.*, 2011). Even though tubal ligation and vasectomy are not common in Africa especially in Kenya, other countries such as India record high records of its utilization to its due its convenience (Mallet and Kalambi 2008 and Singh *et al.*, 2016). The methods are unpopular due to the belief that has not been expelled by health experts in the country, majority of potential users believe that they cannot be easily reversed in case a patient changes his or her mind while at the same time many questions have been raised on ethical grounds when it is applied forcefully on HIV-positive persons without undergoing formal procedures as reported in some countries (Mallet and Kalambi, 2008). In an earlier study conducted on sterilization by Curtis, Mohllaje and Peterson (2006), the two suggested that sterilization is a better option for older individuals who are no longer have desire to have children but not plausible option to the adolescents who may still have the desire to have children and therefore regret later when in need of kids or even the aged who still intended to have children.

Currently, IUCD is one of the common reversible long lasting contraception that is in use by majority globally (WHO, 2015). Some studies in support of this include one done earlier within Zambia in 2007 which in its findings reported massive support on the use of IUCD and highlighted that the method assures users of safety and reliability to the female gender either

positive or negative for HIV as many believed that it was effective and had minimal issues with regards to their health and that incases of partner's discomfort health officers could easily come in handy for partner counseling and even adjustment of the position of the coil (Stringer *et al.*, 2007). The method just like sterilization which lacks the burden continuous use and with a number of health problems such as those made up of hormonal components (WHO, 2015). Gold and Johnsons (2008), in their study on uses of contraceptives appealed for increased use of IUCD among females living with HIV due to its effectiveness in terms of the duration one can have it and even its safety to the women in use with zero burden as in case with other contraceptive methods such as pills and injections.

Nevertheless, many have challenged the use of IUCD by people living with HIV as it is believed to have complications but this has been refuted as limited evidence shows that IUCD use by HIV-infected women has increased risk of infection-related complications nor with HIV shedding of the cervix. IUCDs that have copper bearing have been blamed to enhance menstrual bleeding thus increased cases of anaemia to those using it, for this reason measures have to be taken in to consideration in situations where the supposed users are living with HIV and AIDs. Nevertheless, some writers have taken the chance to offer advice to women who are at high risk of STDs for example commercial sex workers to use other friendly methods such as condoms (Harrington *et al.*, 2012).

Other studies also indicated that some women prefer using injectable as they can easily be administered or used without a resistant partner's knowledge and at the same time users also believe that they are cheap in terms of cost (Harrington *et al.*, 2012). Oral Contraceptive Pill such as emergency pills come in line as among other methods in family planning, they are supposed to be taken within 72 hours after having unprotected sex and are common among the youths (Jalang'o *et al.*, 2017 and Ochako *et al.*, 2017). A previous related study conducted in

Uganda by Egessa (2010), also highlighted other traditional methods such as abstinence, use of herbs rhythmic sexual intercourse to be among other family planning options for the people living with HIV and AIDS.

Women have had a bigger share of numerous modern family planning methods while men have only been condition to minute choices of condoms and sterilization through methods such as vasectomy. Vasectomy is one of the latest surgical contraceptive method for men and is regarded as among the most effective contraceptive methods for men (Singh *et al.*, 2016) the method has only fall shot in most African countries due to its high cost and fear of irreversibility in case it is poorly done (Mallet and Kalambi, 2008).

2.6 Factors Influencing Contraceptive use among PLWH

2.6.1 Client Related Factors

a) Level of Education

Various studies on fertility and use of contraceptive trends among individuals in different parts of the world have always shown that individual's level of education as an important factor in determining the use and preference of a particular contraceptive method if not accessibility of various contraceptive methods. Education increases knowledge if not better understanding of the pros and cons of various contraceptive methods thus able to choose the best option for one's use or demands. It is also believed that the level of education also help in improving communication between partners and also improves women's decision making on choice and use of various contraceptive methods and at the same time liberates man from male chauvinism thus supporting women towards the use of contraceptives without any negativity (Worke *et al.*, 2016). With respect to this, a joint study conducted in Guatemala, Nicaragua, Panama and Honduras indicated that high education odds increased contraceptive utilization, in this study, over 50% of the population under study had achieved basic education and their

use of contraceptive and even their choice was exemplary high compared to those who had no education (Zertuche *et al.*, 2017).

An earlier study in a cross a number of nations in the Southern part of Sahara such as Kenya, Tanzania, Cote D'voire, Ghana and Burkina Faso reported in its findings that persons with secondary education or higher learning level were able to access and utilize modern contraceptives more than those with no or with low basic education. For instance, it was reported that in Burkina Faso those who had attained higher education used modern contraceptive more than the uneducated respondents (Rob *et al.*, 2007). In addition, a later study led by Habte and Namasasu (2015), in Malawi, also indicated that proper education was one of the notable conditions that defined application of contraception amongst a number of individuals in the study. These responses were in line with the third Millennium Development Goal (MDG) (an objective for women empowerment), this goal emphasizes on women empowerment through education that is believed to be pivotal in the development of a society. In south western Nigeria, a study on the use of traditional and modern contraceptives, also indicated that high level of education showed high utilization of contraceptives and also increased knowledge on the benefits of the use of contraceptives among childbearing women (Ajayi *et. al.*, 2018).

In East Africa especially in Ethiopia, various studies pertaining contraceptive use which had been conducted were reviewed and also showed high level of correlation between education and the use of contraceptives. For example, an earlier study by Berhane *et al.*, (2013) noted that women who had second level of education or more registered increased odds of contraceptive use. The more one goes to school, the more appreciation on contraceptive use advantages compared to those without education. The study further highlighted that individuals with more education had higher levels of HIV knowledge and were likely to have

fewer stigmas towards HIV, thus enabling them protect their partners and themselves from HIV and STI and re-infection and reduce related risks such as unwanted pregnancies and further vertical transmission of the deadly virus. Another study by Sufa *et al.*,(2013), also reiterated that, higher learning increases one's decision making ability in respect to family planning especially women as they strive to remain in control of their reproductive life. In the University of Gondar Hospital Ethiopia, there was 95% use of contraceptives among the respondents who had achieved basic education (Worke, *et al.*, 2016). Further reports also indicated that those with basic education or higher were in better position to knowledgeable of various types of contraception and so was the use compared with those who had minimum or no education (Adilo, 2017). A study conducted in Gulu Regional Referral Hospital in Northern Uganda also asserted that contraceptive prevalence among individuals living with HIV was high among those with high level of education as those with no or low education only provided relatively low contraception use, education among women and the society at large ensures knowledge empowerment thus right decision making towards better planning in reproduction life and health in general (Bongomin *et al.*, 2017; Nakirijja *et al.*, 2018).

In Kenya just like any other country where such related studies have been conducted, it is clear that high level of education influences contraceptive use and choice. A study conducted in Mathare valley indicated that high level of education was key as it influenced level of knowledge and use. The study revealed that 80% of the individuals who were involved in the study had knowledge and had at least used a contraceptive unlike those who had low education and had low response towards contraceptive use (RHRA, 2014) while Mulongo *et al.*, (2017), in their research on contraception use in Busia County, cited that education immensely influenced both type and level of contraceptive use with the educated found to be using varied contraceptive methods unlike the uneducated who were either using one method or none. Another study conducted by Jalang'o *et al.*, (2017), in Kisii County also reiterated

that the use of contraceptives was highly influenced by the level of education; they further added that even the type of contraceptive used was also influenced by education level this is because education increases level of independence on the user and knowledge on both the possible benefits and side effects. Ochako *et al.*, (2017) also found out that contraceptive prevalence was high among those with higher education was higher compared to those with low or no education at all, those with less education had limited information on the availability of various contraceptive methods as many could not inquire from health officers attending to them.

Moreover, educated men were also found to be more receptive on the use of contraceptive compared to their counterparts who had little education or not educated at all. Apart from using the contraceptives themselves they were also found to be supportive to their female partners when it came to matters of contraception application (Ochako *et al.*, 2017). Education as a factor is therefore seen as a gate pass to choice and usage. Those who are more educated are able to choose the most suitable contraceptive without much ado.

b) Parity and contraceptive use

The number of children one has, got high chances of influencing the use and preference of a particular contraceptive. Various research literatures pertaining contraception report that families that have got more than two kids regularly apply contraceptives regardless of their status (Lima *et al.*, 2017), in addition, those living with HIV are more likely to use contraceptives due to the numerous challenges associated with its failure to use compared to those living without the virus (Njuguna *et al.*, 2017). Young individuals with no kids choose temporary contraceptive methods such as injections and pills unlike individuals with large families who go for long term or permanent contraceptive methods such as IUCD and tubal

ligation (Mallet and Kalambi, 2008). Increased concern among many health officers in many health centers has made them take the responsibility of advising PLWHA to embrace contraception in order to help them improve their health and that of their children, reduce infection to their partners and at the same time reduce economic load associated with large families and continuous HIV medication (Yaya *et al.*, 2018).

With many interest in helping those living with HIV find solutions to their bulging baggage in life, several scholars and researchers have conducted various related studies on the use of contraceptives among people living with HIV and have proved the importance of by reporting their findings for reference for example, a study conducted in South American countries that is, Paraguay and Guatemala on the use of contraceptives found that most women who were within the age of reproduction and living active sexual lives and had more than four children did not want children in the future and thus used contraceptives to reduce chances of untimely pregnancies which they felt was a burden to their families economically (Lima *et al.*, 2017).

According to Yaya *et al.*, (2017), contraceptive usage within individuals living with HIV in Togo was high regardless of the number of children one had, this was meant to avoid unplanned pregnancy and further infection of the infants and even partners more to those who revealed that they were using condoms. The use of contraceptives was also seen to improve the health of mothers and children hence better living among those living with HIV in this study.

In Eastern Africa, a previous findings by Asfaw and Gashe (2014), indicated that HIV positive women who were having children favored using contraceptives to contain unplanned pregnancies and other related problems than those who had recorded that they had no children. The findings were not different form related reports from a study done in South Africa and

Uganda on contraception. In addition, another research study conducted at the University of Gondar supported this when they recorded in their research results that women with four to six children were more receptive to the adoption of contraception intake as a measure of controlling unexpected child conception unlike those who had less than two children who were seen to be less concern about the application of modern family planning methods (Worke *et. al.*, 2016).

In Kenya, a related study posted in their findings that 71% of those who had been tested positive for HIV were not intending to have children hence took a bold decision to apply one or more contraceptive method to avoid unplanned expectancies (Mayhew *et al.*, 2017). Mulongo *et. al.*, (2017) while conducting a study on contraceptive usage in Busia County also confirmed that many women who were married or were sexually active and had children preferred using contraceptives to avoid unplanned pregnancies. Njuguna *et al.*, (2017) findings were also in line with this as they reiterated on the number of children one had in their studies influenced the use of contraceptives heavily. Many individuals today are much concerned about the number of children they would like to have in order to provide for them adequately thus many opt to have few number of children thus for one living with HIV and wants to enjoy better health and proper child spacing, few number of children is the solution which equals to maximum use of contraceptives (UNAIDS, 2014).

c) Age and Marital status

Age and marital are also seen as major demographic factors that influence the use choice of a contraceptive method. Age defines the intentions that one has with regards to their sexual ambitions; different ages engage in sex for different reasons thus a reason to use a contraceptive or not. Age has an influence on the use of a particular contraceptive as it is

critical in defining financial obligation and ability of one, young people who are not employed are likely to go for what their peers say and also based on what they can afford with their little resources while the aged who are (Ochako *et al.*, 2017 and Mulongo *et. al.*, 2017). Young people are found to be popular with use of injection and pills while those above age twenty five years are found to be common with long term contraceptives such as IUCD and other sophisticated contraceptive methods such as tubal ligation and vasectomy (Withers *et al.*, 2015; Njuguna *et al.*, 2017 and Mayhew *et al.*, 2017).

Marital status also has great influence on contraception method choice and intake (Mochache *et al.*, 2018). Individuals who are married may choose to use particular contraceptives as influenced by their partners' desires, for instance there are those who may choose non barriers that can easily be hidden from their partners as some partners perceive use of contraceptives as signs of promiscuity (Withers *et al.*, 2015). Young and unmarried people choose to use contraceptives in order to reduce chances of early births and also reduce STDs infections while the married people use contraceptives in order to have proper spacing between children that to ensure easy upkeep (Nakirijja *et al.*,2018).

Age and marital status also defines the choice of contraceptive method to be used by one, many youths use condoms and pills due to their easy accessibility and availability while some aged persons above 40 years claim no need to use contraceptives as they face no risk of child bearing and no interest in engaging in sexual intercourse mostly due to the already existence of the desired family size (Nakirijja *et al.*, 2018).

In India, vasectomy and tubal ligation was common among individuals above age 25 years either divorced, married or unmarried due to the fact that they were reliable and many of the users did not intend to get children any more. The ready availability and reliability of these

methods have made many individuals not interested in child bearing use them more than other methods in India (Singh *et al.*, 2016).

A study on the use of contraceptives for those living with HIV in the peripheries of Lusaka town in Zambia showed that age was a key factor when it comes to intake of different types of contraceptives; age influenced both the type and use of a contraceptive (Hancock *et al.*, 2016). In Lusaka, Zambia the married and aging households above 30 years reported to have used contraceptives to lower chances of unwanted pregnancies more than those under the age of 29 years. Nevertheless, the youths in this study were more likely to use pills and injections more than the aged who used methods such as IUCD and permanent contraceptive methods such as vasectomy and tubal ligation (Hancock *et al.*, 2016).

A study in Ethiopia at the University of Gohar Health Center, individuals aged above 25 years recorded high level of contraceptive uptake at 95% compared with the unmarried who recorded the opposite this was due to satisfaction of the number of children they had together with presumed economic pressure (Worke, *et al.*, 2016). Yaya *et al.*, (2017), also supported these findings by reporting that women who had attained menopause and were unmarried were not much into contraception uptake when compared with those in the age bracket of 25-30 who were reported to use contraceptives more.

In Kenya age and marital status were also observed to be critical factors on the preference and use of a contraceptive. Many of those aged between 15-24 years who attended family planning services in government hospitals in Kisii preferred injections and condoms while those who were above 39 years of age preferred permanent methods such as tubal ligation for women with very few women preferring vasectomy for their male partners (Jalang'o *et al.*, 2017).

Another study in rural parts of Busia on the use of contraceptives also found that, age and marital status determined the use and type of contraceptive, in this study the young and unmarried used pills for convenience while the aged and married or divorced were likely to use long term contraceptives such as IUCD and tubal ligation as they were no longer interested in children any more. However, those who had hit menopause stage and were no longer interested in sex had seen no need of using contraceptives (Mulongo *et al.*, 2017).

Married couples have been reported to be using non barrier types of contraception more than individuals with no permanent partners. Men who are not married were more likely to use condoms anytime they were engaging in sexual activity majorly to reduce chances of infection and unwanted pregnancies with their opposite sexual partners (Ochako *et al.*, 2017). Even though a study in various parts of the country showed that some married couples could use non barrier contraceptive methods, among the Digo community at the coastal part of Kenya, majority of couples were reluctant on the use of contraceptive and many male partners regarded it as a contributor to promiscuity (Mochache *et al.*, 2018). Use of contraceptives thus relies on the agreement of the partners and their perception on its impact on their lives.

2.6.2 Community Related Factors

a) Cultural Practices

Cultural practices or inaccurate beliefs may impair use and correct use of contraceptive methods among members of a community. It is therefore important to consider an individual's socio-cultural practices before influencing its use. It is also believed that there is a big relationship between cultural expectations and uptake of contraceptive and so is the case with African contraceptive intake setup where men are in charge and influence the use and choice of a contraceptive method (Thummalachetty *et al.*, 2017); in this case, women are not left to

make their own decisions on contraceptive uptake thus many have no liberty to choose any form of contraceptive of their choice and use as their culture abhors women independence as male partners are seen to be the head of household thus the power to dictate the type of contraceptive method to be used and when to use it (Mwende, *et al.*, 2017).

In other previous literatures concerning the use of contraceptives, many scholars cited many cultural norms that influenced the use of contraceptives among various groups of people regardless of their HIV status. These norms were majorly dwelling on women's position in the society with regards to decision making on matters pertaining their reproductive health and life and the general social view on the value of children in the society. Some people chose not to use contraceptives in order to fulfill socio-cultural rights of having a child and also hide from public on their HIV status by trying to live a normal life (Worke *et al.*, 2016). This findings is in line with that of Malalu *et al.*, (2014), in a related case study in Baringo North Sub-county pertaining determinants of the use of modern family planning methods with social-cultural practices influence on uses of various modern family planning methods among individuals, the approval from party's influences decision to use contraceptive method and that of the choice of a contraceptive method. In this study, seventy nine percent of the female respondents accepted to have used the contraceptive after discussing it with their male partners a sign that majority could not make their own informed decision without their men's input.

b) Religion

Since immemorial religion has brandished massive strength within the society (Parrinder, 1954:9-10) and that it still and keeps on influencing the way the society perceives giving birth to children even in countries that are believed to be developed and with high literacy level.

Some religious institutions negatively influence acceptance of modern methods of contraception, others positively influence its use thus those who are more religious with their denomination's doctrines going against the use of contraceptives are likely not to use them hence higher fertility. Nevertheless, the Moslem and catholic believers are the least to apply contraceptives when compared with believers attached to other religious divisions thus persuasion on the use of birth control is still a sensitive issue for example, according to Nakirijja, *et al.*, (2018) in their findings when looking at the effect of socio-economic on contraception uptake in rural areas by female resident, it was discovered that majority of the women were negatively influenced by their religion not to use contraceptives. Another study in Uganda conducted in Taso Masaka by Magala, *et al.*, (2018), also asserted that religion was still influential on the use of contraceptive and could not be ignored. In their study findings, they reported that the use of contraceptives among Protestants was higher than that of Catholics and Muslims. In addition, specific contraceptives such as condoms were highly used by Protestants more than Catholics. The catholic and Islam doctrines discourage the use of contraceptive among their faithful and only encourage them to rely on observation of menstrual cycle and natural safe days for their women. The influence of religion on the uptake of contraceptive is low in the country side especially areas dominated by Muslims for example in northern part of Kenya where the use of contraceptive has been found to be very low a contrast to other rural parts of the country (Ochako *et al.*, 2017).

Even though religion is a vital factor influencing the use of contraceptives as highlighted by some related research work (Ochako *et al.*, 2017; Magala *et al.*, 2018 and Nakirijja *et al.*, 2018), some areas have recorded low influences, for example a study of the Digo community on the use of contraceptives indicated that majority of the women in the study used various contraceptive methods an influence created by increased cases of education among the women (Mochache *et al.*, 2018).

c) Partners and use of contraceptives

Presence of partners in an individual's life has got a great influence on the use and choice of a contraceptive. Partner's influence on the use of a particular contraceptive is determined by HIV status and attitude; sensitive and caring partners are likely to accept and use protective contraceptives such as condoms to protect their partners and control unwanted pregnancies this idea conformed with a finding in a related study that was conducted in various American countries such as Guatemala, Paraguay, and Honduras where sero-discordant couples were majorly using barriers to avoid further infection and unplanned pregnancies (Lima *et al.*, 2017).

In Africa, such influences were realized in studies conducted by Asfaw and Gash (2014) that showed that, those partners who had opened up about their HIV condition to their partners were at a higher stake of using protective barrier methods for example condom unlike women who did not disclose their status as this was meant to reduce chances of further infections to the partners and related risks such as stigmatization and even reduce morbidity and infant infection and mortality. Majority of women took contraceptives with influence from their male partners who also influenced the type of contraceptives to be used. In most cases male partners influenced the choice of contraceptives used by their partners either directly or indirectly (Thummalachetty *et al.*, 2017).

In Kenya, a related study conducted by Ochako *et al.*, (2015) showed that many male partners influenced the use of contraceptives and this was further supported by findings of a research work done by Mulongo *et al.*, (2017) and Jalang'o *et al.*, (2017) in Busia and Kisii Counties respectively. The findings in these studies indicated that partners influenced the use and choice of various contraceptives. Some contraceptives in these studies were condemned and

could not be used due heavy influence of the partner's attitude towards their use, for instance IUD use was associated with discomfort to the male partners during sex while condoms was seen to cause rushes to some partners' private parts after the intercourse as others were seen to be used easily as they could easily be hidden from male partners who against the use of contraceptives as they deemed it as a sign of infidelity among their partners and mistrust.

2.6.3 Health Service-Related Factors

a) Health officers

The use of contraceptives among individuals regardless of their HIV status was also influenced by such factors as provider's skills and knowledge about various contraceptive methods. The level of training of the personnel offering family planning and HIV services to the victim also influenced the level of contraceptive use amongst these people. Better understanding of various contraceptive methods in terms of pros and cons and skills for service delivery amongst health providers was necessary and so was the government initiative in many countries. For instance, in South Africa, the integration of family planning and HIV demanded the retraining of the concerned health providers this was to ensure better understanding as most of PLWH were more open to them and could easily be influenced positively towards the use of various contraceptive methods (FHI 360, 2011). This statement was backed by Asfaw and Gash (2014), the study indicated that PLWH attending health centers for contraceptive intake indicated that they preferred health providers with the right qualification and skills since they would prescribe the right drugs that will not react with antiretroviral drugs and they also provide more family-oriented counseling and services which most of the patients were comfortable with. In addition, the same study reported that PLWH had little trust on community health service providers and health enlistee whom most of them were believed to be missing the required skills, understanding and tutelage in giving

contraception services and with such trust many of them were likely to use various contraceptives suggested by them without any problem.

The level of knowledge on the availability, use and safety of a contraceptive is likely to influence the service provider's ability to recommend its application to his/her client without biasness. A qualified health officer is believed to influence his or her clients to use particular contraceptives among various clients in need. Their vast knowledge is likely to help their respective health center stock various contraceptives in order to meet various demands of varied clients they attend to as well advise their clients on the benefits and flaws of various contraceptive methods they may be interested in (Asfaw and Gash, 2014). A later a study conducted in the University of Gondar Hospital in Ethiopia also supported this in their findings that many of clinic attendees preferred advices from qualified health officers and would easily use contraceptives recommended by them without further consultation or doubt (Worke *et. al.*, 2016).

An older and a later study conducted in Kisumu and Busia pertaining contraceptive use reiterated that health officers have greater influence towards the use of particular contraceptive to others due the trust given to them by their patients and thus the increased use of some contraceptives compared to others (Akelo *et al.*, 2013 and Mulongo *et al.*, 2017).

b) Level of access and availability to contraceptive methods

Individuals were likely to use a particular contraceptive method as a result of the convenience it posed to them in terms of accessibility which can be influenced by physical distance, finance and availability. The cost of some contraceptives influenced their utilization and preference negatively for example vasectomy and tubal ligation were unpopular due to their deemed high cost unavailability in various rural health centers (Mallet and Kalambi 2008). The stated factors made many people to use less expensive methods that were readily

available for example injections and pills that can easily be obtained over the counter. According to Malalu *et al.* (2014), narrow range of contraceptive methods affect the choice and use, easy accessibility and preference of various contraceptive methods that are available for use (Zertuche *et al.*, 2017), later on supported this point that limited supply of contraceptives disadvantage people from choosing the kind of contraceptive method that he or she desired. They further explained that physical distance has greater influence on regular use of particular contraceptives and that health attendants were also crucial towards choosing a contraceptive method as they could easily explain both benefits and negatives of a particular contraceptive. Mulongo *et al.*, (2017) supported the above findings on the influence of the health officers by narrating that most of the contraceptive methods in use by people he studied were obtained from the health centers under the influence of the health officers for example, in their study the 53.2% users of male condoms were advised by health officers.

2.7 Summary of Literature Review and Gap

According to related numerous studies, various factors influenced the preference and use of contraceptives among PLWH. Many of these factors were influenced by knowledge, demographic factors and health related factors. In rural areas, the level of contraceptive knowledge was generally high but lower compared to urban areas. The variation was also open in terms of the use of various contraceptives from one region to another. The limited use of some contraceptives especially barriers enables increased cases of further infections, unwanted pregnancies stigmatization and increased maternal and infant deaths, their use are influenced by availability, health workers and misconception based on alleged side effects. It was thus important to know the kind of contraceptives available to PLWH in rural areas and know methods they used more and why they preferred them and factors that influenced their use. Thereafter challenges would then be realized, addressed to reduce further damages by the deadly HIV disease among the reproductive age in Nyamarambe Division, Kisii County.

2.8 The link between Theoretical and Conceptual framework

The use of contraceptive is influenced by many factors of which some are influenced by social behaviors. Bandura's Theory of Triadic Reciprocal Determinism of 1989, talks about the effect of environment towards one's change in behaviors and so is the use of contraceptive amongst PLWH. The use of a contraceptive by an individual can be motivated by his or her immediate surrounding for instance socio-cultural environment such as religion where groups of Catholics and Muslims do not support the use of contraception as a way of controlling birth as this is against God's procreation plan and so its members may not use them.

The use of any form of family planning can also be influenced by people around one as long as they understand the consequences of failing to use it as Azjen (1985), explains it in his theory of Planned Behavior. Those who are positive are able to use contraceptive as a result of knowing the repercussions of failing to use them.

1.7 Conceptual Framework

The effective use of contraceptive methods among those who have tested positive for HIV is swayed by multiple interactions of a number of authorities including one's self, socio-culture and health services

The significance of this study will be investigating the determinants of contraceptive use and that what influences one to use one contraceptive at the expense of another.

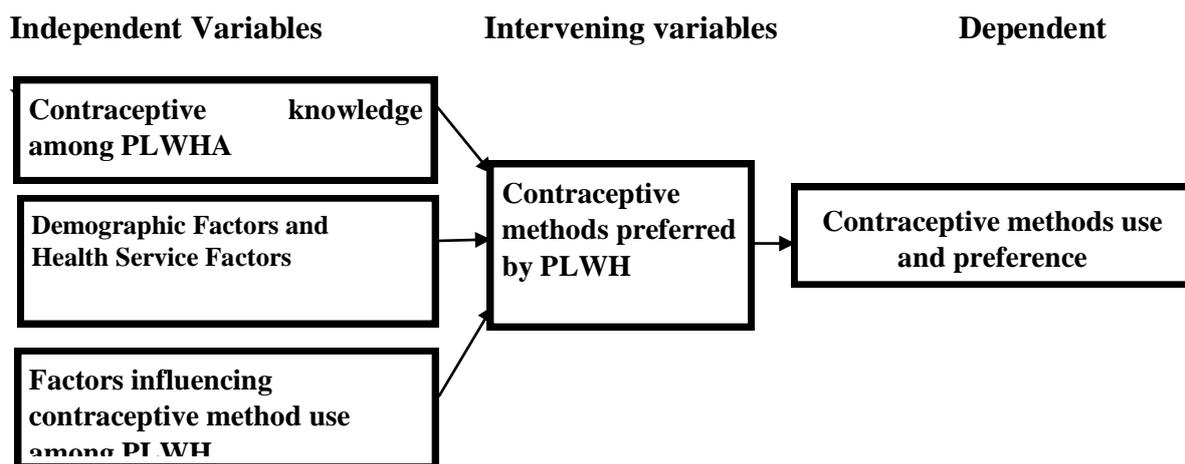


Figure 1.1: Conceptual Framework

Source: Researcher, 2018

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter describes the study area and target population, in addition to the process of arriving at the size of the sample and procedure of sampling. Furthermore, tools of collecting data and techniques are explained in this chapter. Finally, the chapter will describe analysis of data.

3.1 Area of Study

This study was conducted in Nyamarambe Division, South Gucha Sub County, Kisii County in Kenya. Kisii County is situated on the Western part of Kenya, and borders Migori, Homabay, Narok and Nyamira counties to the West, North, South and East respectively. The study area has three locations namely Nyakembene Location, Omogwa Location and Chache Location.

Although the study area is predominantly rural, it is well served with three public health facilities in every location, where this study was conducted. The facilities are Omogwa health center in South Mugirango Central location, Gotichak health center in Nyakembene location, and Nduru health center in South Mugirango Chache location. All the three health facilities offer integrated reproductive health care and HIV services. The three health centers are easily accessible, being that they are located approximately four kilometers apart.

3.2. Research Design

This study used a mixed method approach, in which both qualitative and quantitative data were applied. The mixed method approach was preferred so as to benefit from the strengths of both qualitative and quantitative data and to triangulate different methods in order to get very

credible data. Furthermore, the study employed a cross sectional descriptive research design, complemented by a desk review of secondary data.

3.3 Target Population

The targeted population in this study were all individuals of reproductive age - between 15 and 49 years, who were living with HIV and attending antiretroviral clinic in the three selected health facilities. According to ministry of health report of 2018, a total of 1,096 PLHWAs of reproductive age were regular attendees of ART clinic at the three facilities. In addition to PLHWAs, the study also targeted key informants, who included the counselors and the medical officers

3.4 Sample Size and Sampling Techniques

The size of the sample for this study was 107. This sample size was arrived at by applying the Fisher *et al.*, (1998) formula

$$N = \frac{(Z^2 \cdot P(1-P))}{\delta^2}$$

Where; N= Expected sample size

Z= Degree of confidence at 95% that corresponds to 1.96

P= the estimated value of the proportion of women of reproductive age who have ever used any contraceptive method (p = 0.075 referring to a prevalence of 7.5%) (KDHS, 2014).

δ= Acceptance error at 0.05.

$$N = \frac{1.96^2 \times 0.075(1-0.075)}{0.05^2} = 107$$

The sample for this study was selected using the cluster, quota and systematic random methods. In the first step of sampling, three health facilities were purposively selected to form clusters. The three facilities – Nduru, Omogwa and Gotichak – were selected because they

were the three available public health facilities in the area providing HIV counseling services and also offering contraceptive services to everyone in attendance and interested. The second step involved allocation of proportionate quotas to each of the selected health facilities, as indicated in Table 1. Finally, a sampling frame was drawn for each site, from which respondents were selected using the systematic random sampling method.

Table 3.1: Distribution of proportionate sample quotas

Health Facility	Total Population	Percentage (%)	Allocated Quota
Nduru	915	87	93
Omogwa	48	4.6	5
Gotichak	89	8.4	9
Total	1052	100	107

Source: Author (2018)

3.5 Data Collection Instruments

Data for this study was collected using three instruments –a semi-structured questionnaire, a focus group discussion (FGD) guide, and an interview schedule. The data collection instruments are described in this section.

3.5.1 The Questionnaire

A questionnaire was developed and made into more copies to collect data from the main respondents. The questionnaire was selected because it simple to use and analyse (McMillan, 2006). According to Mugenda and Mugenda (2003), the questionnaire is cost effective, easy to administer and that data can be collected from a large area in a very short time.

The questionnaire contained both open-ended and closed questions. The questionnaire sought to gather information about the demographic characteristics of respondents, levels of knowledge on contraceptives, patterns of use, and factors influencing preference and use of contraceptives in the study area.

3.5.2. Focus Group Discussion Guide

A focus group discussion guide was created to collect qualitative data. The tool was selected because it allows for open and free discussion hence allowing for generation of more ideas and wealth of information from a purposely selected group of individuals instead of a statistically representative sample. The FGD guide sought to opinions about contraceptive availability, types, use, and perceptions on effectiveness.

3.5.3 The Interview Schedule

An interview schedule was developed to collect data. The tool was selected because interviews allow for collection of in-depth information, which cannot be captured through by a questionnaire. An interview also allows a researcher to obtain instant responses and allows for probing for ambiguous answers. Because of the resource implications of conducting interviews, in regard to time and money, this tool was only administered to providers of reproductive health services who were also the main informants.

The interview schedule was comprised of six discussion topics, which covered areas such as general contraceptive knowledge, patterns of uptake, contraceptive usage and preference among the respondents, factors influencing the use and preference of contraceptives among the respondents and challenges facing the respondents as they strive to use various contraceptives.

3.6 Validity and Reliability of Research Tools

Before data collection, validity and reliability of the data collection tools was done as described in this section.

3.6.1 Validity of Research Tools

In this study, the validity of the tools was obtained through pilot testing conducted prior to the study in a neighbouring Moticho health centre in a different location from the area of study which is in Etago Sub-County. The researcher conducted a piloting study in Moticho Health Center in order to help him strengthen the quality of the questionnaire and remain in line with the objectives of the study. The piloting area was chosen as it was based in rural area just like the main area of study and had the same demographic characteristics with regards to HIV and contraceptive usage. Nevertheless, such related studies had not been conducted in this area before.

The content validity was determined through consultation of the researcher's supervisors, lecturers in the university, and health experts and that their positive views were effectively noted and used.

The professionals' feedback enabled the researcher to revise the research tools to ensure that the objectives of the study were realized. The validity of the research instrument was

acceptable because the data produced was consistent and could be generalised in the entire population of study. In addition, the researcher studied the instruments to ensure that they fulfil the objectives of the study by getting opinion of his supervisors. The supervisors were asked to give their opinion on ambiguity, clarity, level of language used and any other information that made the instruments valid.

3.6.2 Reliability of Research Tools

In order to ensure that the data obtained was reliable, a pilot study was conducted in a neighbouring Etago Sub-county Moticho health center which is also rural based with the same demographic character. The reliability test was conducted through Test-retest method followed by Cronbach's Alpha coefficient. The analysis showed that Cronbach's coefficient was 0.796 which with the thumb's rule, acceptable alpha is 0.70 or above thus the research items were considered reliable.

3.7 Data Collection Procedure

University department of postgraduate studies provided a clearance letter that helped the researcher obtain a research permit from the National Commission for Science, Technology and Innovation (NACOSTI). The research permit from NACOSTI allowed the researcher to get permission from relevant authorities in the study area to conduct a study.

For easy collection of data and to save time, the researcher recruited and trained three research assistants who assisted in the administration of the questionnaires to the main respondents in the three health centres.

3.7.1. Administering the Questionnaire

To ensure a speedy collection of accurate and reliable data, three research assistants (RAs), who were all undergraduate students familiar with the study area, were recruited and trained for this study. The one-day training, conducted by the principal investigator, exposed the RAs to the objectives of the study and the research problem. Furthermore, RAs were meticulously taken through the questions in the tool, to internalize it. Besides, RAs were trained on research ethics and field procedures, including etiquette and effective communication skills.

After the training, RAs administered the questionnaires to the target population in the three selected health facilities. Considering the nature of the target population and data collection sites, it was not viable to distribute and collect the questionnaires later, as this would result in a very low response rate. To mitigate this challenge, RAs issued out questionnaires and waited for them to be filled, then collected them right away. In instances where selected respondents could not read and write by themselves, the RAs read out the questions either in Kiswahili or the local language – *Ekegusii* – and then wrote down the responses.

3.7.2 Conducting FGDs

Three FGDs, one in each of the data collection site, were conducted in this study. Each FGD had between eight and ten discussants who were randomly selected from respondents who had filled-in the questionnaire. This study settled on 12 discussants, as guided by Smithson (2012), who argues that 12 is the most ideal number for FGD participants. Deliberate efforts were made to ensure that discussants had similar characteristics in terms of gender, socioeconomic status and age group. All FGDs were conducted in a quiet, conducive environment. The dates, timing and venue of each FGD were determined in consultation with, and at the convenience of participants. All FGDs were moderated by the principal investigator (PI), with the

assistance of a rapporteur who recorded proceedings. The PI welcomed participants and guided them through setting up the ground rules. Discussants were encouraged to freely express themselves, with the moderator occasionally probing and guiding the discussion.

3.7.3 Key Informant Interviews

Principal investigator conducted all the interviews. The dates, timing and venue of each interview were determined in consultation with interviewees. Each interview lasted for approximately one hour. The PI went out of the way to ensure that the environment was free and conducive. Interviewing skills such as paraphrasing, polite challenging, reflection and probing were applied to delve deeper into issues and seek clarifications for ambiguous responses. In as much as each interview was guided by a schedule, the order of questions was not followed religiously and could be varied depending on the flow of the interview.

3.8 Data Analysis and Presentation

Qualitative data were analyzed thematically, and presented in narrative form. Quantitative data were entered using a database developed on Epi info. The software is preferable because it is open-source software and suitable for such analysis. The errors identified during the process were fixed by crosschecking entries with re-entries from five per cent of the questionnaires. Program checks, simple frequencies and crosstabs were applied to detect inconsistencies, missing values and misrepresentation of variable labels. For purposes of quality assurance, consistencies between the questionnaires, structured observation schedules, information forms and data in the Epi info file were verified. Once the process of verification was complete the data was transferred to SPSS and R statistical software for further analysis. Besides the foregoing, tests of normality were conducted to determine if the data collected was normally distributed and hence suitable for parametric statistical analysis. The analysis

process was guided by the study questions. Quantitative data were then presented in Tables and charts.

3.9 Ethical Considerations

The researcher obtained a permit to conduct the study from the National Council for Science Technology and Innovation (NACOSTI) while an introductory letter was provided by Rongo University School of graduate Studies. Using the two documents, the researcher later went to the Kisii County Health office to seek for permission to be allowed conduct a study in one of its sub-counties. The researcher was granted permission but directed to go to the South-Gucha Sub-county Health office to be granted a permission which was granted after the proposed three health centers were approved by the officer in charge for the study. At the health centers, the researcher had also seek permission from the senior health officers in charge to allow him conduct the study which was granted.

During data collection, respondents were assured of confidentiality by informing them to avoid identifying themselves by writing their names on the questionnaires and this was maintained from data collection to report writing. Secondly, Study participants were assured

of voluntary participation in the study and that there was no risk to participants, as they were not have to sign a consent form.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS, AND DISCUSSION

4.0 Introduction

This chapter provides the analysis and discussion of the findings of this study. Data that could not be quantified is presented in explanation while the quantified data is done in form of tables. Presentation is done according to the study objectives. The study's objective was to find out what determines preference and use of contraceptive among individuals who are HIV positive in Nyamarambe Division, Kisii County Kenya. The researcher used questionnaire to collect data. The questionnaire was split into three sections; section A, which dealt with demographic characters of the population under study and entailed age, sex, education, marital status, parity, religion and occupation. Demographic characters play pivotal role on the choice of contraceptive and use with reference to knowledge. Section B, was meant to help in getting answers for the study's objective 1 and 2 which were the level of contraceptive knowledge and preference while section C was to dig into objective three of the study which was factors influencing the use of a contraceptive.

4.1 Response Rate

The study targeted 107 respondents who were randomly selected and provided with the questionnaires as they entered the health centers for their routine treatment. Such processes were also conducted in all the three health centers for the sake of uniformity. However, of all the 107 who were handed the questionnaire, some 32 did not manage to return their questionnaires. Those who filled and returned the questionnaires were 88 (Table 4.1). This was a response rate of 82 percent. According to Stocker (2010), 60 percent response rate and above is generally accepted as it will enable the researcher to make reliable deductions about

the population. This hence suggested that the response rate of 82 percent in this study was adequate.

Table 4.1: Response Rate

Health Facilities	Initial no.	Percentage (%)	Targeted no	Returned questionnaires
Nduru	915	87	93	75
Omogwa	48	4.6	5	5
Gotichak	89	8.4	9	8
Total	1052	100	107	88

Source: Author (2018).

4.2 Respondents' Demographic Characteristics

The researcher's interest was to find out the demographic characteristics of the subjects under study. Table 4.2 summarizes the demographic findings.

Table 4.2: Demographic characteristics of the respondents

Demographic Characteristic	Specification of Characteristic	Frequency	Percent
Gender	Male	17	19.3
	Female	71	80.7
	Sub Total	88	100.0
Age	15-24 years	17	19.3
	25-39 years	43	48.9
	40 -49 years	27	30.7
	50 and above years	1	1.1
	Sub Total	88	100.0
Marital status	Single	18	20
	Married	34	39
	Divorced	6	7
	Widowed	30	34
	Sub- total	88	100
Education level	No Education	27	30.7
	Primary	19	21.6
	Secondary	36	40.9
	Post-Secondary	5	5.7
	Total	88	100.0
Religion	Christians	74	84.1
	Muslim	1	1.1
	Others	13	14.8
	Sub-Total	88	100.0
Employment Status	Unemployed	33	38
	Self employed	45	51
	Salary employed	10	11
	Sub-Total	88	100.0
Desire to have Children	Yes	41	46.6
	No	47	53.4
	Sub-Total	88	100.0
Partner's status	Positive	43	48.9
	Negative	20	22.7
	Don't Know	25	28.4
	Sub-Total	88	100.0

Source: Author (2018)

Results provided in Table 4.2 shows that 19.3% of the respondents were males while 80.7% were females. It is interesting to learn that females took a larger portion than men in this

study. From the findings above, more women than men are concerned about contraceptive use possibly as many of them attend clinics during antenatal and post natal care where they are given relevant teachings concerning the use of contraceptives and their benefits to both the mother and the child unlike men. Very few men feature as far as contraceptive use is concerned. This study's findings are different from some of the related studies conducted in Kathmandu, Nepal where 52% were male while 48% were female (Pokharel *et al.*, 2018) and but in tandem with one conducted by Wekesa and Coast (2015) where male were few compared to female respondents but the study population higher than the population of this study. The uniqueness with this study compared to recent related study findings is that it included both males and females unlike others that only chose to deal with females for instance, a study on the use of contraception among female population in rural areas of Wakiso District in Uganda by Nakrijja *et al.*, (2018) which majored only on females.

Result on age of respondents as shown in Table 4.2 showed that among the interviewed individuals 19.3% were of 15-24 years old, 48.9% were between 25-39 years old, 30.7% were between 40-49 years while only 1.1% was above 49 years old. The results of this study revealed that the modal age group was 25-39 years while a previous related study in Nairobi slums Kenya had the modal class of 30-39 years Wekesa and Coast (2015). These two studies almost reflected the same findings. Respondents of middle age that is, 25-39 years in both studies were the majority and this was ideal for the two researches as this category are in reproductive age and are more likely to engage in the use of contraceptives.

Marital status is an important characteristic in this study, in this region child bearing and use of contraceptive is believed to be practiced by those who are married or at least have been in marriage. The researcher sought to establish marital status where the respondents were allowed to tick options applicable to them. The result of response is as in Table 4.2.

Result on marital status indicated that 20% of the respondents were single. 39% were married, 7% were divorced while 30% were widowed. This finding is relatively close to findings of a study conducted in Nairobi slums where 54% of the respondents were married, while 7.4% were not married and 20.1% were divorced. In both studies' findings the married were the majority a sign that the married were the ones using contraceptives more.

Findings on education show that 30% of the respondents had no education; 21.6% attained basic primary education; 40.9% had achieved at least secondary education while only 5.7% had gone beyond secondary education level. These findings are closely related to that of a previous related study conducted in a clinic in university of Gondar Hospital in Ethiopia where 29.9% had no basic education while 71.1% were literate and able to read and write (Worke *et al.*, 2016). In both studies, an illiteracy level of 30.7% is very high and this would be vital factor to consider in designing intervention measure for this category of respondents.

Table 4.2 also shows religion as one of the demographic determinants that also affects an individual's choice and contraception's utilization, in this study 74% of the respondents indicated that they were Christians while 1.2% was Muslims while 14.8% belonged to other religion such as non-believers (atheists). The findings in this study had trends similar to that of a cross-sectional study on the modern contraception usage among HIV positive women in Togo, where Christians were majority followed but with more Muslims and few individuals belonging to non-believers (Yaya *et al.*, 2018). Even though the researcher considered religion as an important demographic factor in this study, other previous related studies conducted in various health facilities in Kenya and Kilimanjaro region did not see the effect of religion in the use of contraceptives thus was not included among influential demographic factors (Njuguna *et al.*, 2017; Damian *et al.*, 2018).

The researcher also saw the need to understand the employment status of the people under study. Employment is a source of livelihood and economic power is also a vital factor in selecting and practicing the use of various contraceptives. People who are economically powered are able to afford some planning methods that involve spending. People with no or little income may not be able to afford or spend in some methods that involve spending. IUCD, Pills, and injection (depo) are more likely chosen by people of economic social class who can afford them.

According to this study, results on employment status of respondents revealed that 38% of the respondents are unemployed, 51% are self-employed while only 11% are employed by either the government or private firms. Many related studies have been found to have included this demographic characteristic in their findings for example, studies conducted in Nairobi Kenya, in regions around Kilimanjaro in Tanzania, University of Gondar, Ethiopia and various health centers in Togo and Kathamandu, Nepal had included employment status (Njuguna *et al.*, 2017; Damian *et al.*, 2018; Worke *et al.*, 2016; Yaya *et al.*, 2018 and Pokharel *et al.*, 2018).

It was also important for the researcher to find out from the respondents whether they desired to have children for those who had none and those who already had whether they desired more children. The desire to have children is a driving factor in influencing the consumption of various contraception methods. The study's findings are as shown in table 4.2. The respondents who desired to have children were 46.6% while 53.4% said they did not desire to have children. It is worth noting from table 4.2 on age that almost half were in reproductive age and half was either approaching or already at menopause given that women constitute a larger portion. This could also explain the 53.4% here that had no desire to have children which could have been attributed by health factors in relation to their status or having enough number of children they desired or the young people between age 14-25 who had no children

and therefore desired to have them. This would also influence the preference of a contraceptive to another. Those who desired to have children would not use contraceptives to reduce chances of getting pregnant and having children while those who did not desire to have children would use any method they deemed most effective against getting pregnant and having children in future. The findings here showed that there was still higher desire for children when compared to findings in other closely related studies for example, one conducted in regions around Kilimanjaro which had 76.2% of the respondents had no desire for children and 23.8% desired for children (Damian *et al.*, 2018).

The researcher was further interested in establishing whether the respondents knew their partner's status. This would also help establish whether the respondents were confident and ready to overcome stigma, choose the most convenient contraceptive method and share their HIV status. Table 4.2 shows the results of this variable as given by the respondents during the study.

Results on this variable shows that 48.9% of the respondents had knowledge of their partner's HIV status as positive and could share with their health counselors while 22.7% knew their partner's HIV status as negative. Interestingly 28.4% had no idea on HIV status of their partners and this forms a more at-risk group of persons in the society. The results here were quite impressive compared to that of a study conducted in Togo where 56.4% were knowledgeable about the status of their partners and 43.6% didn't know (Yaya *et al.*, 2018).

Having knowledge on the status of a partners with regards to HIV is very significant on planning intervention which integrates Family planning together with HIV sensitization. It shows that there are significant numbers of persons in the community who need to be sensitized and are risk of either spreading the disease or contracting it without knowing they

do so are become pregnant and risk infecting the unborn with the deadly virus. The knowledge of the partner’s status also helps choose the most appropriate contraceptive method with respect to the partner’s status.

4.3 Knowledge and use of contraceptive methods

This subsection deals with the objective of assessing the level of knowledge of respondents concerning family planning practices. It probes the respondent knowledge, importance and practice of contraceptive methods.

Table 4.3: Knowledge of contraceptive use

Do you know contraception	Frequency	Percentage
Yes	82	93
No	6	7
Total	88	100.0

Source: Research data, 2018

The researcher enquired to determine the level of knowledge of the respondents on whether they were aware of or knew what contraception meant to them.

Table 4.3 shows the status of knowledge and awareness of respondents concerning family planning. 93% of the respondents said they know what contraception is while only 7% indicated they didn’t understand what it was all about. The level of contraception knowledge is higher than that of a previous studies conducted in various health centers in Kenya and Kilimanjaro regions which showed that only 62.5% and 84% respectively had knowledge on contraceptive use and its importance (Njuguna *et al.*, 2017 and Damian *et al.*, 2018). In both studies it was important for the researchers to consider knowledge of contraceptive as it influences both choice and use.

4.4 Source knowledge of the contraceptive used

The researcher further probed the respondents to establish where they learnt about the use of contraceptives and their importance. This information was seen as informative as it could influence the type of contraceptive used and choice. Table 4.4 in the next page is a result of this probing.

Table 4.4: Source knowledge of the contraceptive

Where did you learn about contraceptive use	Frequency	Percentage
From School	25	28
From friends	6	7
From health center	50	57
From Media	1	1
Those who did not know	6	7
Total	88	100.0

Source: Research data, 2018

It can be learned from Table 4.4 that 28% of the respondents who had knowledge of the use of contraceptive learnt from school, 7% learnt it from friends; a larger portion 57% learnt it from various health centers while only 1% learnt it from the media. Those without knowledge of contraception were 7%. The results in this study only echoed the results previously recorded by In various studies such those conducted in Busia, Ethiopia, Togo and Nepal where majority of the users had learnt about the use of contraceptives in respective health centers they had attended for counseling and treatment (Mulongo *et al.*, 2017; Worke *et al.*, 2016; Yaya *et al.*, 2018 and Pokharel *et al.*, 2018).

4.5 Knowledge of the importance of using contraceptives

The respondents were asked if they knew of any importance or at least their perception whether the use of contraceptive was important or not. The response was as given in Table 4.5 below.

Table 4.5: Respondent's knowledge of importance of use of contraceptive

Do you know the importance of contraceptives	Frequency	Percentage
Yes	68	77
No	20	23
Total	88	100.0

Source: Source: Research data, 2018

The above table 4.5 is a presentation of results on whether the respondents knew the importance of the use of contraceptive, 86.6% said they knew and could cite examples of importance of the use of contraceptives while 11.4% indicated they did not know the importance of contraception. The results here are just like those results of associated studies in Kisii and Busia counties where high knowledge on the use of contraceptives also helped them understand the importance the use of contraceptives (Jalang'o *et al.*, 2017 and Mulongo *et al.*, 2017).

4.6 Use of contraception

The researcher enquired to know whether the respondents used any contraceptive method. Responses were as recorded on Table 4.6 below.

Table 4.6: Use of various contraceptive method(s)

Do you use any contraceptive method	Frequency	Percentage
Yes	78	88.6
No	10	11.4
Total	88	100.0

Source: Research data, 2018

As shown in Table 4.6, 88.6% of the respondents said they were using various contraceptive methods while 11.4% said they were not using any contraceptive method. The results here

showed that there was high level of contraceptive prevalence of 88.6% higher than that of the national at 65% (KDHS, 2014), and that of the global prevalence that stood at 63% (Magala *et al.*, 2017).

4.7 Contraceptive methods commonly used

Respondents who agreed they were using various contraceptive methods were probed to indicate the methods they commonly used from a variety of methods as shown in **Table 4.7**.

Table 4.7 Contraceptive methods ever used

Contraceptive method Ever Used	Frequency	Percentage (%)
IUCD	17	19.3
Injection	6	6.8
Condom	16	18.2
Pills	8	9.2
Implants	26	29.5
Sterilization	11	12.5
Other (e.g Counting safe days)	4	4.5
Total	88	100.0

Source: Research data, 2018

Table 4.7 in the previous page shows the number of the respondents who apply various contraceptives method, 19.3% used IUCD, 6.8% used injection, 18.2% used condoms, 9.2% use pills, 29.5% used Implants, and 12.5% used Sterilization while 4.5% used other methods. From Figure 4.2, implants followed by IUCD and implants were the most preferred methods. The findings were different from the study conducted in Nairobi Slums on contraceptive need among individuals with HIV that indicated that majority of individuals studied used condoms though at a lower rate of 15.3% (Wekesa and Coast, 2015).

4.8 Continued use of one contraceptive method

Table 4.8: Respondents who still use the contraceptive methods they used before HIV diagnosis

Do you still use one contraceptive Method?	Frequency	Percentage
Yes	67	76
No	21	24
Total	88	100.0

Source: Research data, 2018

When probed whether they still used the contraceptive method they used before HIV diagnosis, 76% indicated they still use the methods while 24% said they changed to other methods which they said to be more convenient to them. This is illustrated in Table 4.8.

4.9 When did you first use the contraceptive method

The researcher sought to know when the respondent first used the family planning method that they indicated they were using and ever used. Table 4.9 reveals the findings pertaining when the first contraceptive was used among the clients.

Table 4.9: When did you first use this contraceptive method?

When did you first use this contraceptive method?	Frequency	Percentage
Before diagnosis	60	68.2
After Diagnosis	27	30.7
Can't remember	1	1.1
Total	88	100.0

Source: Research data, 2018

Table 4.9 shows that 68.2% used the family planning method before being diagnosed with HIV, 30.7% said after being diagnosed with HIV while 1.1% could not remember when they first used the method be it before or after.

4.10 Why preference of the contraception

The researcher sought to know why the respondents preferred the contraceptive method they used. The results are as given in Table 4.10.

Table 4.10: Why preference of the contraception

Why Do you prefer this particular contraceptive method?	Frequency	Percentage
Easily Found	36	40.9
No Excess Bleeding (less Bleeding)	7	8.0
Easy to use	13	14.8
Duration Convenience	3	3.4
Others	29	33.0
Total	88	100.0

Source: Research data, 2018

Table 4.10 in the previous page indicates that 40.9% of the respondents preferred the method they used because it was easily found. 8.0% said there was no excess bleeding, 14.8% preferred it because it was easy to use while only 3.4 % said it was duration convenient. 33% indicated other reasons which were well specified. However, some of them cited cost of using it, minimal side effects and comfort. The above findings are in line with most findings of related studies conducted in developing countries for example, studies conducted in correlation to modern contraception utilization amongst persons with HIV asserted that abundance and reachability of numerous contraception methods affects the use and preference of particular contraceptives methods and this was not different with earlier studies conducted in Kathmandu Nepal and Nairobi Slums where all the aforementioned factors played a big

role in determining the most used contraceptive (Pokharel *et al.*, 2018 and Wekesa and Coast 2015).

4.11 Concerns about side-effects of contraceptive method used

The researcher asked the respondents if they were concerned about negative effects of the modern contraception methods that could impact on the choice of methods to use. Table 4.11 give in the next page provides the results of the responses.

Table 4.11: Concerns about contraception that influence choices of respondents

Do you have any concern that has influenced your choice of contraception?	Frequency	Percentage
Yes	47	53.4
No	41	46.6
Total	88	100.0

Source: Research data, 2018

Table 4.11 shows that 53.4% of those under study said they were worried about the possible negative effects of various contraception that could influence their choices while 46% said they were not concerned at all. The findings here on the concern on the use of contraceptives and their possible negative effects contradicts findings in a study in Kathmandu Nepal where there was insignificant worries of the use of contraceptives but were closely related to some comments made by HIV positive female sex population in Kisii and Busia (Pokharel *et al.*, 2018, Jalang'o *et al.*, 2017, and Mulongo *et al.*, 2017). The other respondents that were not concerned are a worrying lot and the authorities concerned must move with speed to create awareness among this group of people. Lack of awareness regarding side effects may lead to other emerging health issues that may be costly to address.

4.12 Side effects of contraceptive methods

The respondents who proved their worry about the possible health disadvantages realized after using modern family planning methods that could impact their choices were further probed to cite these side effects. Their answers were as recorded in Table 4.12.

Table 4.12: Side effects of contraceptive as cited by respondents

Side effects cited by respondents	Frequency	Percentage
1. Loss of sexual pleasure	6	6.8
2. Excess Bleeding	19	21.6
3. Increase in body weight	10	11.4
4. Increased loss of fertility	8	9.1
5. None	45	51.1
Total	88	100.0

Source: Research data, 2018

Table 4.12 shows that respondents' attitude, perception or experiences on the negative effects of the available modern family planning methods that could influence their choice. 6.8% indicated they lost sexual pleasure, 21.6% cited excess bleeding, 11.4% claimed they led to increase in body, 9.1% cited increased loss of fertility while 51.1% never cited anything. The findings in this study related closely to findings of a related study conducted in Kathmandu, Nepal where some few individuals did not want to use contraceptives as they cited possible side-effects such as increased weight, loss of sexual pleasure and possible loss of fertility. The findings were also similar to some reasons behind the low use of contraceptives by some HIV infected women in various health facilities in Kenya (Pokharel *et al.*, 2018 and Njuguna *et al.*, 2017).

4.13 Factors that influenced the use of the mentioned contraceptive method

The researcher had to find reasons why the population in the study decided to use the mentioned contraceptive methods. The responses given were as summarized in Table 4.13 below.

Table 4.13: Factors influencing use of mentioned contraceptives

Factors	Frequency	Percentage
1. Religion	1	1.1
2. Partner	21	23.9
3. Cultural Practices	3	3.4
4. Health officers	43	48.9
5. Friends	20	22.7
Total	88	100.0

Source: Research data, 2018

Table 4.13 indicates some of the major common factors influencing the use of contraceptives which include religion at 1.1%, Partner at 23.9%, Cultural practices at 3.4 %, health officers at 48.9 % and friends at 22.7%. These findings show health officers the leading factor in influencing use of certain contraceptives, followed by partner which is at par with friend. Religion is the factor having least influence. The findings here were found to be consistent with findings of related studies conducted in Kathmandu in Nepal, Nigeria, Nairobi and Busia (Pokharel *et al.*, 2018, Wekesa and Coast 2015 and Jalang'o *et al.*, 2017).

4.14 Challenges faced in accessing these services

It was also very important to know some of the challenges faced by PLWH while accessing contraception services. They noted the following challenges as shown in Table 14.

Table 4.14: Challenges faced in accessing contraception services

Challenges	Frequency	Percentage
Stigma	5	5.7
Inadequate options	23	26.1
Inadequate information	50	56.8
Costly	1	1.1
No Challenge	8	9.1
Total	88	100.0

Source: Research data, 2018

As shown in Table 4.14, it is apparent that inadequate information was a leading challenge by 56% followed by inadequate options (26.1%). Cost was the least challenge, meaning the services were affordable and thus accessible to most of them. This is because most interventions target people living with HIV are fully sponsored or funded by either government or international organizations. It is worth noting that despite spirited campaigns and sensitization intervention by government, NGOs and communities, contraceptive use was still stigmatized. Inadequate information on availability of numerous contraceptive methods could have been contributed by illiteracy and aggravated by the community's myths, cultural practices and traditions concerning the use of contraception amongst the people living with HIV. These challenges were not only limited to this study area, but the findings were similar to those in Kathmandu, Busia, Kisii and Nairobi where accessibility to health centers determined the choice and use of contraceptive. In these studies, cost, accessibility and stigma played a big role in determining the use and type of contraceptive, contraceptives such as

IUCD deemed to be expensive were not used commonly, while health centers that could not easily be accessed and were not well stocked with multiple contraceptives due to distance also affected information reach to many and variability of contraceptives to users (Pokharel *et al.*, 2018; Mulongo *et al.*, 2017; Jalang'o *et al.*, 2017 and Njuguna *et al.*, 2017).

4.15 Discussion

Among the 88 persons who filled the questionnaires 77% of the population was knowledgeable about the use of contraceptives with only 23% failing to have knowledge on contraceptive use. The 77% is higher than the ministry of health's target of 62% countrywide while lower than that in urban areas that was 80% in Mathare Valley an urban slum in Kenya (KDHS, 2014 and RHRA, 2015). The level of knowledge and use among these individuals was higher than that of a related study conducted in Uganda which was at 63% but lower than that of south western Nigeria which was at 81% and Kathmandu in Nepal with 98% (Thummalachety *et al.*, 2017; Ajayi *et al.*, 2018 and Pokharel *et al.*, 2018). The study further revealed that 88.6% of those who had knowledge about contraceptive had used contraceptive and that 11.4% had not used any contraceptive regardless of their knowledge on importance and types. The findings here show that contraceptive usage was higher in comparison to that of a related study in Nigeria and Nepal where 87% and 32% of individuals in the two studies confirmed that they were not using any form of contraception (Pokharel *et al.*, 2018 and Chinaeke *et al.*, 2019).

Many factors were also studied to influence preference and use of various contraceptive methods with demographic characters found to be dominating the table of influence; higher education was discovered to enhance contraceptive usage among individuals living with HIV. This was found to be consistent with findings of Jalang'o *et al.*, (2017) and Mulongo *et al.*,

(2017) in various parts of the country such as Kisii and Busia respectively. This is explained by high prevalence on contraceptive by those who have obtained at least basic level of education (69.3%) compared to those who have not gone to school or with minimum basic education (30.7%). Sex as a demographic factor, defines gender roles in reproduction in African communities its influence is also impeccable as women's knowledge surpassed that of men in this study; women's knowledge and use of contraceptive methods stood at 80.7% compared to that of men 19.3%. majority have a responsibility of attending clinics during pregnancies and have a duty of tending and taking young ones to hospital most of the time thus are always exposed such teachings pertaining benefits of the use of contraceptives. The gender role and contraceptive use is familiar in back country where majority of female population engage in the use of contraception compared to men in most societies this was found to be the same with findings of studies in Kisii concerning contraceptives (Jalang'o *et al.*, 2017).

The use of contraceptive was also discovered to be common among those who are married compared to other marital status classes; the married were highly knowledgeable at 39% followed by the widowed at 34% while the single and divorced were represented by 20% and 7% respectively. High level use of contraceptive among the married was contributed by reduced need for children likely influenced by high economic demands and fear of further health deterioration and stigmatization, such sentiments had also been made by respondents in a study done in Kisumu and Busia (Akelo *et al.*, 2013; Mulongo *et al.*, 2017).

To test objective two of the study on the most preferred contraceptives by the respondents, various types of contraceptives were mentioned by the respondent to support their level of knowledge and use and they were able to mention the following; IUD, injections, condoms (barriers), pills, implants, sterilization, tubal ligation and others such as counting of safe days. The frequency on the use of each of the mentioned contraceptives varied from one method to

another for example, the use of implants among these respondents was high more so the female respondents at 29.5% and that 49% of the women who used argued that it is easy to use, readily available in various health and could also be easily hidden from the suspecting male partners. This finding was different from the previous study conducted by Jalang'o *et al.*, (2017) in Kisii County where the use of injections was dominating regardless of individuals HIV status but this result differed with another related study conducted in Busia county by Mulongo *et al.*, (2017) where the use of condoms was preferred due to its dual functionality. Other reasons for continuous use of implants were due to continuous advice by the health attendants whenever they visited the clinics for medication this reason is an echo of the previous findings in other parts of the country (Akelo *et al.*, 2013). IUCD was the second most commonly used representing 17% of the respondents and its use was influenced by its availability, and the long period it could be used without any inconvenience. The use of condoms surprisingly was at third position as the most preferred contraceptive by people living in Nyamarambe with HIV, its unpopularity even with its double edge advantage of barrier to further infection of STDs and pregnancy prevention came as a result of allergy to female users, inadequate female condoms and loss of sexual pleasure while those who were in support of the method said that it was readily available, had an edge over both pregnancy and infections and was also easy to use. The use of pills as a contraceptive method was represented by 9.2% and its use was common among the youths aged between 15-24 years of age, its popularity amongst these persons could have been as a result of its availability and easy use as quoted by two respondents in the research tools they were provided with. Its use is low compared to that of the previous studies conducted in Kericho and Kisii where the percentage use were high among the peers though their influence remained with peers just like in the two studies (Imbuki *et al.*, 2013 and Jalang'o *et al.*, 2017) Sterilization and tubal ligation was represented 12.5% and was common among the divorced, widowed and those

aged above 39 years. The two methods were only used by those who thought to have had enough number of children, feared infant infection, wanted to avoid stigmatization and also thought that it was healthy not to have more children as that would lead to further health deterioration (Akelo *et al.*, 2013 and Jalango *et al.*, 2017).

On factors influencing the use of contraceptives, many factors were investigated from demographic factors to health center factors. In this study, the researcher found that religion as a demographic factor had little influence on the use of a particular contraceptive among PLWHA. The study revealed that among those who filled questionnaires only 1.1% agreed that religion influenced the use of certain contraceptives and that their use was against the will of God a response that is likened to findings of a study in south west Nigeria where a higher percentage was recorded (Ajayi *et al.*, 2018). Cultural was presented by a significant portion of 3.4%; the crave for high living standards and better health care, the study revealed that ignoring cultural practices such as high number of children preference as source of social security during . Peers also were realized to control a reasonable percentage on the usage of particular contraceptive the researcher reported that in this study peers had influence of 22.7% of those using particular and this was matching with results of a previous study on utilization of contraceptive where a number of individuals were influenced by peers on the use of pills (Jalang'o *et al.*, 2017).

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.0 Introduction

In this chapter, the study discusses the research findings and the prior assumptions made before the study was conducted. The findings obtained from the data collected have been used to verify the research questions. This chapter will give a brief research summary, followed by the conclusion and recommendations drawn from the findings of the study.

5.2 Summary of the Findings

Summary of the study findings will be provided in this section. The summary of the findings are presented as per the study objectives.

5.2.1 Level of contraceptive knowledge and use among PLWH

The study established that most of the respondents said they know what family planning is while only a few indicated they did not know what family planning is all about. This is important for intervention planners to target this segment for family planning sensitization. Moreover, most of the respondents knew and could cite examples of importance of family planning while a few indicated they did not know the importance of family planning. Besides, most of the respondents said they used family planning methods while just a few said they did not use any family planning methods. This indicates the proportion of respondents of used and those who did not use any family planning methods.

5.2.2 Family planning method preference among PLWH

The study established that even though the three selected government health centres in this study area provided a number of contraceptives, a big percentage of respondents in this study preferred contraceptive method was implants followed by IUCD, injection, condoms, pills,

implants and sterilization. Others included counting calendar for 'safe days for sex' and *coitus interruptus* also known as withdrawal mechanism.

5.2.3 Factors that influence contraceptive use among PLWH

The study established that key factors influencing the use of contraceptives include religion, partner, cultural practices, health officers and friends. These findings show health officers the leading factor in influencing use of contraceptives, followed by partner which is at par with friend. Religion is the factor having least influence.

5.3 Conclusions

From the findings of the study on the determinants of contraceptives preference and use among people living with HIV in Nyamarambe Division, Kisii County Kenya, the researcher concluded that:-

1. The level of contraceptive knowledge and use to those persons living with HIV/AIDS and attending medication was high due to high level of counseling conducted in these government health centers in the rural areas. In addition, sharing of information through media and increased level of literacy among individuals has enabled many acquire knowledge on contraceptive use but it would be useless if many cannot continue using contraceptives through-out in order to respond positively in answering the unmet reproductive demands of those who are HIV positive. Limited availability of contraceptives denies one accessibility and use and so is the case with women and female condoms which is unpopular due to its low supply and publicity.
2. The most preferred contraceptive among women was implant as it was readily available in all the three health centers and also believed to be cheap and reliable among the users while male condoms was popular among the male counterparts with

reasons such as being readily available, cheap and easy to use and that it was also able to perform double protection that is against re-infection and pregnancy. All contraceptives should be made easily available in all government health centers this will enable users to choose what suits their need. In addition, the government should increase the awareness on other existing contraceptives and their importance to everyone. Contraceptives such as condoms which have double advantage on protection against re-infection and pregnancy should be encouraged all the time by health officers and other interested forces in the fight against the spread of HIV and unwanted pregnancies.

Health officers and partner's opinion remain major influencers towards the use of a particular contraceptive method use among locals in Nyamarambe. Religion and cultural practices have little effect on the use and choice of a contraceptive method; these changes are as a result of improved level of literacy level, economic and socio-cultural practices that have seen women change roles as they get empowered.

5.4 Recommendations

5.4.1 Recommendations for Policy

Based on the findings, this study makes the following recommendations:

1. The ministry of education should incorporate family planning education in secondary schools as this will help them have better knowledge and understanding of its use.
2. The ministry of health of the national and county governments should encourage usage of double-edged approved modern contraception's for instance, condoms as this would give double care in case of unwanted pregnancies and further spread of the virus and other STDIs.

3. The ministry of health of the national and county governments should provide numerous contraceptive methods and train health workers on their importance to enhance application among persons who have been tested and living with HIV and AIDs.

5.4.2 Recommendation for Further Research

The study findings shall give useful base in which future studies in this field of contraception and HIV/AIDs associated studies shall be conducted. Apparently, there is absolute need in doing more related studies in various higher learning centers to discover how important information is to PLWHA and how the government can improve this to ensure that they are well informed about their reproductive health. The recorded data of the study shall also form part of the existing secondary data in the field of HIV/AIDS that learners and other researchers could utilize as source of information to their academic needs.

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APPENDIX I: LETTER OF INTRODUCTION

OMOLLO O. CHRISPINE

P.O. 395-KISII, KENYA

Phone NO. 0727-590-180

Dear Respondent,

I am the above named Masters of Arts in Geography student at Rongo University College currently conducting a field research on **DETERMINANTS OF CONTRACEPTIVE PREFERENCE AND USE AMONG PEOPLE LIVING WITH HIV AND AIDS IN RURAL AREAS: A STUDY OF NYAMARAMBE DIVISION, KISII COUNTY, KENYA.**

The purpose of this letter is to request you to provide me with related information in this area.

This information will be used only for the purpose of the study.

Thank you in advance.

Yours Sincerely,

.....

Omollo O. Chrisphine

APPENDIX II: UNIVERSITY RESEARCH PERMIT



OFFICE OF THE DEAN

SCHOOL OF GRADUATE STUDIES

Tel. 0771349741

P.O. Box 103 - 40404
RONGO

Our Ref: **MGEO/1003/2014**

Date: Tuesday, May 30, 2017

The Chief Executive Officer,
National Commission for Science, Technology & Innovation,
Utalii House,
Off Uhuru Highway, Nairobi,
P.O Box 30623-00100,
Nairobi-KENYA.

Dear Sir,

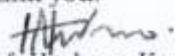
**RE: RESEARCH PERMIT FOR MR. OMOLLO O. CHRISPINE-
MGEO/1003/2014**

We wish to inform you that the above person is a bona fide graduate student of Rongo University in the School of Arts & Social Sciences pursuing a Master of Arts degree in Geography. He has been authorized by the University to undertake research titled; "***Determinants of Contraceptive Preference and Use among People Living with HIV/AIDS in Nyamarambe Division, Kisii County, Kenya***"

This is, therefore, to request the commission to issue him with a research permit to enable him proceed for field work.

Your assistance to her shall be highly appreciated.

Thank you.


Prof. Hezborn Kodero

DEAN, SCHOOL OF GRADUATE STUDIES

Copy to: Ag. Vice Chancellor
Ag. Deputy Vice Chancellor (Academic and Student Affairs),
Dean, School of Arts & Social Sciences.



APPENDIX III: NACOSTI RESEARCH AUTHORIZATION LETTER



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
2241349, 3310571, 2219420
Fax: +254-20-318245, 318249
Email: dg@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

NACOSTI, Upper Kabete
Off Waiyaki Way
P.O. Box 30623-00100
NAIROBI-KENYA

Ref. No. **NACOSTI/P/18/97491/21361**

Date: **14th March, 2018**

Omollo Ochieng Chrisphine
Rongo University
P.O. Box 103-40404
RONGO.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *“Determinants of contraceptive preference and use among people living with HIV/AIDS in Nyamarambe Division, Gucha South, Kisii County,”* I am pleased to inform you that you have been authorized to undertake research in **Kisii County** for the period ending **14th March, 2019.**

You are advised to report to **the County Commissioner, the County Director of Education and the County Director of Health Services, Kisii County** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit **a copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.

DR. STEPHEN K. KIBIRU, PhD.
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Kisii County.

The County Director of Education
Kisii County.

12. What is the importance of contraceptive use?

.....

13. Do you use any contraceptive method? Yes () No ()

If yes, which one?

IUCD () Injection () Condom () Pills () Implants () Sterilization

Sub-Section C: Contraceptive Usage and Preference

14. Have you ever used any Contraceptive method Yes () No ()

If yes, which one have you ever used?

IUCD () Injection () Condom () Pills () Implants ()

15. Do you still use the same contraceptive? Yes () No ()

If no, which one do you use now?.....

16. When did you first use it? Before diagnosis () After Diagnosis ()

17. Why do you prefer this particular contraceptive method?

Easily Found () No Excess Bleeding () Easy To Use ()

18. Do you have any concerns about the side effects of various contraceptives that could

influence your choice? Yes () No ()

a) If yes, which are some of the side effects?

Loss of Sexual Pleasure () Excess Bleeding () Increase in Body Weight ()

Increase Loss of Fertility () None ()

Sub Section D: Factors Influencing the Use of Contraceptive among PLWH

19. Which are some of the factors that influenced the use of the mentioned contraceptive method?

Religion () Partner () Cultural Practices () Health service officers ()
Friends ()

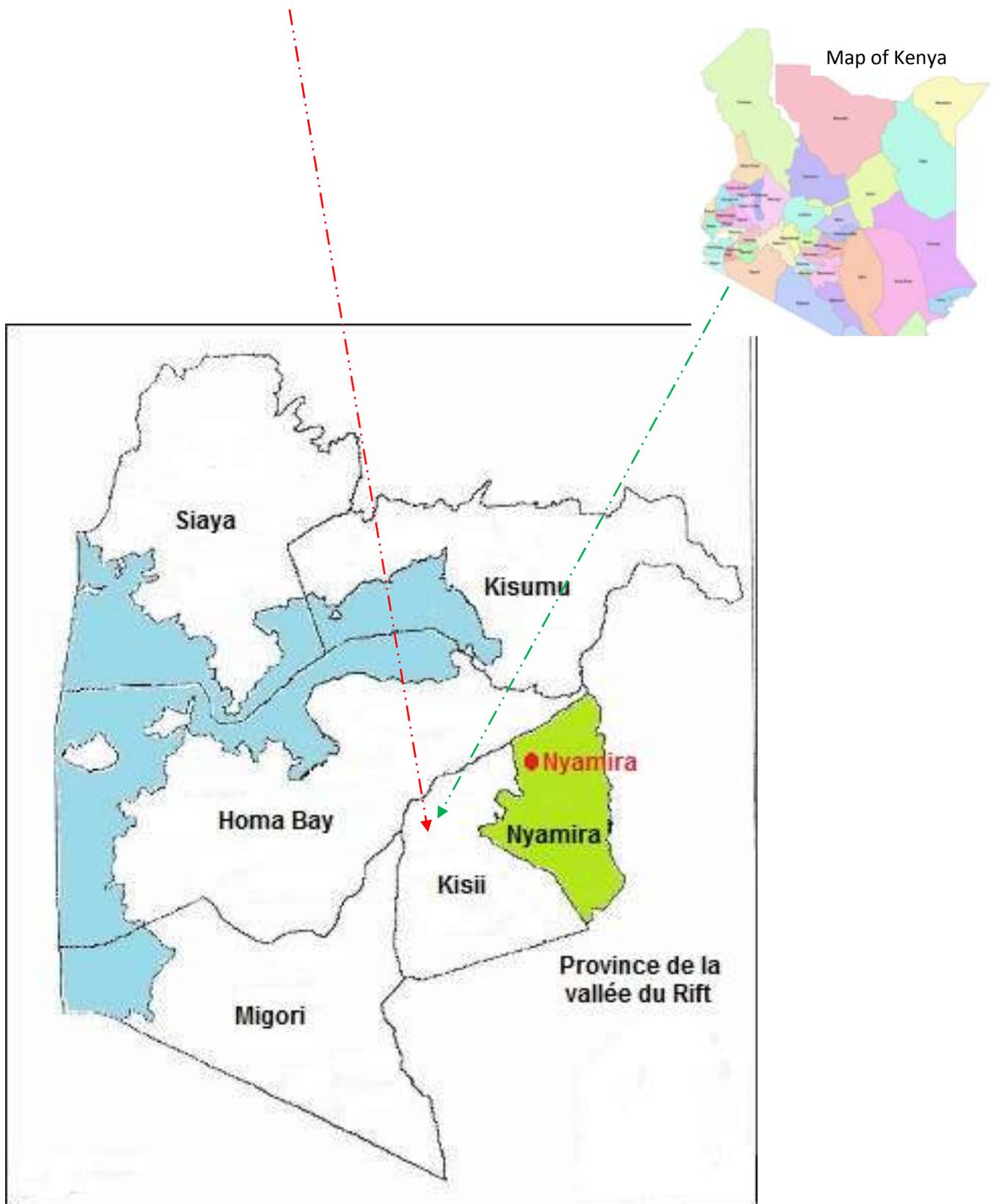
20. Which are some of the challenges faced in accessing these services

Stigma () inadequate options () inadequate information ()

21. Suggest ways in which contraceptive use among PLWHA can be improved

.....
.....
.....

APPENDIX V: MAP OF KISII AND NEIGHBOURING COUNTIES



APPENDIX VI: Map of Kisii County showing Nyamarambe Division in South Gucha

