Analysis of the Determinants of Contraceptive Preference and Use among PLWAs in Nyamarambe Division in Kisii County, Kenya

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ABSTRACT

Available data indicates that a vast majority of Persons Living with HIV/AIDS (PLWHAs) are in the reproductive age and therefore presumably sexually active. Being sexually active, PLHWAs, like everyone else, have a right to their sexual and reproductive rights, as enshrined in various international and national legal instruments. One of the interventions designed to enhance enjoyment of sexual and reproductive rights is the use of contraceptives. The main objective of this research was to investigate determinants of contraceptive preference and use among people living with HIV and AIDS in Nyamarambe sub-County in Kisii County, Kenya. This study used a mixed method approach, in which both qualitative and quantitative data were gathered. The targeted population in this study were all individuals of reproductive age 15 - 49 years, who were PLWHAs and attending antiretroviral clinic in the three selected health facilities. A sample of 107 PLWHAs respondents was used, on who questionnaires were administered. In addition to PLHWAs, the study also interviewed nine (9) key informants who included two (2) counselors and one (1) the medical officer in each of the three study sites. The size of the sample for this study was 107 PLWHAs. Descriptive Statistics was used to analyse quantitative data while qualitative data was analysed thematically, and presented in narrative form. The study established that most of the respondents (93.0%) reported they know about family planning. The most preferred family planning method was Implants (29.5%) followed by IUCD (19.3%), then Condoms (18.2%) among others mainly due to ease of accessibility and use. While use of any contraceptive method was high at about 88.6%, contraceptive method use varied widely, the mismatch between preference and actual use points to an interesting gap that needs consideration. The study recommends that the ministry of health of the national and county governments should encourage usage and make accessible double-edged such as condoms as this would give double care in case of unwanted pregnancies and further spread of the virus and other STDIs.

Key Words: Determinants, Contraceptive Preference and Use, PLWHAs

INTRODUCTION

Globally, approximately 38-39 million persons are living with HIV and AIDS (PLWHAs), with Sub-Saharan Africa bearing the highest burden at over 25 million, representing roughly 67-70 percent of the global total (WHO, 2025). In Kenya, an estimated 1.3-1.4 million (WHO, 2025) down from 1.6 million people in 2018 (UNAID, 2018) live with HIV, and about 3,350 to 22,000 new infections every year (WHO, 2025). Available data indicates that a vast majority of PLWHAs are in the reproductive age and therefore presumably sexually active (WHO, 2019). Being sexually active, PLHWAs, like everyone else, have a right to their sexual and reproductive rights, as enshrined in various international and national 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 and communities, and to the economy. These advantages include better child spacing, avoidance of reinfections, 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 PLHWAs 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.

Purpose of the Study

The main objective of this research was to investigate determinants of contraceptive preference and use among people living with HIV and AIDS in Nyamarambe sub-County in Kisii County, Kenya.

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 choice and use among PLWH

Research Questions

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

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.

Scope and Limitation of the Study

The study was focused on contraceptive knowledge, preference and use, and targeted respondents within the reproductive age of 15-49 years, who were living with HIV, and attending clinic in the three major health facilities in the study area. 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. To mitigate this limitation, the study applied on the principle of confidentiality to enhance respondents' confidence to participate in the study. Moreover, triangulation, whereby data collected using focus group

discussions (FGDs) and key informant interviews (KIIs) to complement were used to corroborate data from the Questionnaire tool. The questionnaire itself was also designed to allow for probing, with follow-up questions that were aimed at corroborating the information obtained from the main questions. Furthermore, primary data was complemented by secondary data from health facility records.

LITERATURE REVIEW

Introduction

This section is constituted of relevant empirical literature and theories to the study; the reviewed literature highlighted the knowledge and use of modern family planning methods, contraceptive preference, and the background including service provider factors influencing method use among PLWHs in the study area.

Knowledge and Use of Contraceptive Method(s)

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 indicate that the campaigns led by the government and other agencies have led to immense improvement in contraceptive knowledge and use (WFP, 2017). A study on factors that influence contraceptive use and discontinuation among people living with HIV in Kericho, Kenya revealed that many households were knowledgeable about contraception and its benefits and at least one contraceptive method was used to avoid unwanted or untimed pregnancy Imbuki et. al., (2010). Another study conducted in Kenya by RHRA (2014), also acknowledged high level knowledge of contraception. In this study, findings indicated that over 80% of respondents acknowledged the fact that contraceptive use had surpassed 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 of 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 and that contraceptive knowledge among people living with HIV was high.

The use of contraceptive among PLWHs 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 pieces of 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 by Kibuuka *et al.,* (2009), reported 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 with prior knowledge of their partner's HIV status have an upper hand in applying at least one contraceptive method to reduce vertical transmission and possible reduction of mother to child transmission among those PLWHAs (Harrington *et al.,* 2012). Other reasons have also been noted in reduction in the 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.

Contraceptive Method Preference

There is 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 ranging 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 STIs, for instance a study 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 PLWHs 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 conditioned 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).

Theoretical Framework

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 social behavioral theories that is; the Theory of social cognitive and

Protection motivation theory. The two theories were crucial as they help in addressing factors influencing knowledge, preference and use and of contraceptives among PLWHAs.

The 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 Lerners (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 PLWHAs 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 youths in Kisii County 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 that the use and preference of a contraceptive by one is influenced by the environment in which one finds him/herself including; peers, medical officers, family members among others.

The theory's strength is that it explains human behavioral change as it allows and accounts for cognitive processes, behaviors and relates individual's behaviors to the use of contraceptives and preference. One of the setbacks of this theory is that what one may view its tenents as a punishment or a reward. It also fails to explain behavioral differences among individuals that may influence one's action within and around his/her environment for example the use of FP among PLWHs may not be right with others regardless of its positives seen by others.

The 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 of 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 encourage 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).

MATERIALS AND METHODS

Description of Study Area

This study was conducted in Nyamarambe Division, South Gucha Sub County in Kisii County, 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 were easily accessible, being that they are located approximately four kilometers apart.

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.

Sampling Procedure and Size

The study targeted individuals in reproductive aged between 15 and 49 years who were living with HIV and attending antiretroviral clinic in the three; Nduru, Omogwa and Gotichak Health facilities in the study area. 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. Using Fisher *et al.,* (1998) formula, the size of the sample for this study was computed at 107 respondents. In addition to PLHWAs who were the main target in the survey, the study also purposefully selected key informants that included 1 medical officer in-charge of each three health facilities, 1 local community service organization from each study site and 1 counselor attached to the each health facility based on their wealth of knowledge in the issues under investigation.

The three health facilities of Nduru, Omogwa and Gotichak were purposively selected to form the study sites as they were the only public health facilities in the study area providing HIV counselling and also offering contraceptive services. The second step involved allocation of proportionate quotas to each of the selected health facilities based on the registered number of PLWHs; Ndiru with 915 got 93, Omogwa with 48 had 5 and Gotichak with 89 was allocated 9 participants. Finally, a sampling frame was drawn for each site using the list of PLWHAs attending clinics at the respective health centres from which a random number of respondents were selected for each site.

Data Collection

Data for this study was collected using three instruments –a semi-structured questionnaire, a focus group discussion (FGD) guide, and an interview schedule. The validity of the research tools was ensured through pilot testing conducted prior to the study in a neighbouring Moticho health centre in a different location from the area of study in Etago Sub-County. This was done in order to strengthen the quality of the questionnaire and ensure they were in line with the objectives of the study. The piloting area was chosen as it was based in rural area just like the study sites and had the similar demographic characteristics with regards to HIV and contraceptive usage. The content validity was determined through consultation of the peer researchers and health experts in the study area.

Questionnaire Interviews

To ensure a speedy collection of accurate and reliable data, three research assistants (RAs), 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 purpose, objectives and expected deliverables in the study while upholding the key tenets of responsible research, field procedures, 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. A total of 88 out of a target of 107 respondents were successfully interviewed.

Focus Group Discussions

Three (3) FGDs, one (1) in each health center were conducted in this study. Each FGD had twelve (12) discussants as guided by Smithson (2012). The discussants were randomly selected from respondents who had not participated in Questionnaire or In-depth interviews. 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 and 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 two principal investigators with the assistance of RA 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 moderators occasionally probing and guiding the discussions.

Key Informant Interviews

Principal investigator conducted a total of nine (9) interviews, three (3) from each medical center. 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.

Data Analysis and Presentation

Descriptive Statistics was employed in this study. Quantitative data was analyzed using SPSS statistical software and out puts presented in tables and charts while qualitative data were analyzed thematically, and presented in narrative form using Epi info. The two softwares were preferable because they are open-source softwares suitable for such analyses. The errors identified during the process were fixed by crosschecking entries with re-entries from five per cent of the questionnaires.

Ethical Considerations

The researcher obtained a permit to conduct the study from the National Council for Science Technology and Innovation (NACOSTI). Armed with the permit, the researchers went to the Kisii County Health Office to seek for permission to conduct a study in one of its sub-Counties. The researchers were granted permission but directed to go to the South-Gucha Sub-county Health Office to be granted further permission. Three well trained Research Assistants were involved in the study. At the health centers, the researchers sought permission from the Senior Health Officers at the three selected stations to be granted permission to conduct the study on their stations. During data collection, consent to engage in the study was sought from the respondents who were then required to sign a consent form upon accepting to participate. Study respondents were further assured of confidentiality on information availed in the entire process, that their participation was purely on voluntary basis, and that they were at liberty to disembark from the study at any time.

Data Analysis and Discussion

This section provides the analysis and discussion of the findings of this study as per the study objectives.

Response Rate

The study targeted 107 out of who some 32 respondents did not manage to return their questionnaires, that is, 88 respondents were successfully interviewed. 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.

Respondents' Demographic Characteristics

The study analyzed the demographic characteristics of the subjects, summary of its findings is contained in Table 1.

Table 1. 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: Research data, 2025

Results provided in Table 1 shows that 19.3% of the respondents were males while 80.7% were females. It is interesting to learn that females were more than men in this study. From the findings, it is expected that more women than men attend clinics many of them including antenatal and post natal care where they were exposed to relevant information concerning the use of contraceptives and their benefits to both the mother and the child. This study's findings are different from some of a related study conducted in Kathmandu, Nepal where 52% were male while 48% were female (Pokharel *et. al.,* 2018) probably due to differences in cultural contexts. However, it similar to a study conducted by Wekesa and Coast (2015) in Nairobi, Kenya where male were fewer compared to female respondents. 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 1 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 similar findings save for differences in age categorization. Respondents of middle- ages (that is, 25-39 or 30-39 years) in the two studies were prime reproductive age and were 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 mainly by those who are married or at least have been in marriage. The study sought to establish marital status where the respondents were allowed to tick options applicable to them. The result of response is as in Table 1. 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 marriage is still held strongly in African context.

Findings on level of education of respondents showed 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 1 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, 1.2% were Muslims while 14.8% belonged to other religious affiliations including 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 study also saw the need to understand the employment status of the people under study given that income to great extent determines contraceptive access. People who are economically powered are able to afford some planning methods. People with no or little income may not be able to afford or spend in some methods that involve spending, for instance, IUCD, Pills, and Injection (depo) are more likely chosen by people of economic social class who can afford them. 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 study to find out from the respondents whether they desired to have children for those who had none and those who already had children. The desire to have children is a driving factor in influencing the uptake of various contraception methods. The study's findings are as shown in table 1. 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 1 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 study 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 1 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.

Level of Knowledge of and use of Contraceptive

Objective one deals with assessing the level of knowledge and use of contraceptives. It therefore probed the respondents' knowledge and practice of contraceptive methods.

Table 2. Knowledge and Ever Use of any Contraceptive Methods

Category	Knowledge	Ever Use
Yes	82 (93.0 %)	78 (88.6%)
No	6 (7.0%)	10 (11.4%)
Total	**88 (100%)**	**88 (100%)**

Source: Research data, 2025

The status of knowledge/awareness of respondents concerning contraceptive methods was high at 93%, and only 7% indicated they didn't know of any method. Ever use of any contraceptive was also high at 88.6%. The 4.4% gap between knowledge and use presents an opportunity for program intervention for improved uptake of contraceptives in the study area. A number of factors were cited for this discrepancy as depicted in the following excerpts from two discussants from Gotichack and Nduru Health Centres respectively:

"I am a young women, was left a widow when I was only 28 years, and there is a lot of stigma in the community when it comes to HIV status, people (men) don't want to associate closely with us, but we are still young and we have feelings"

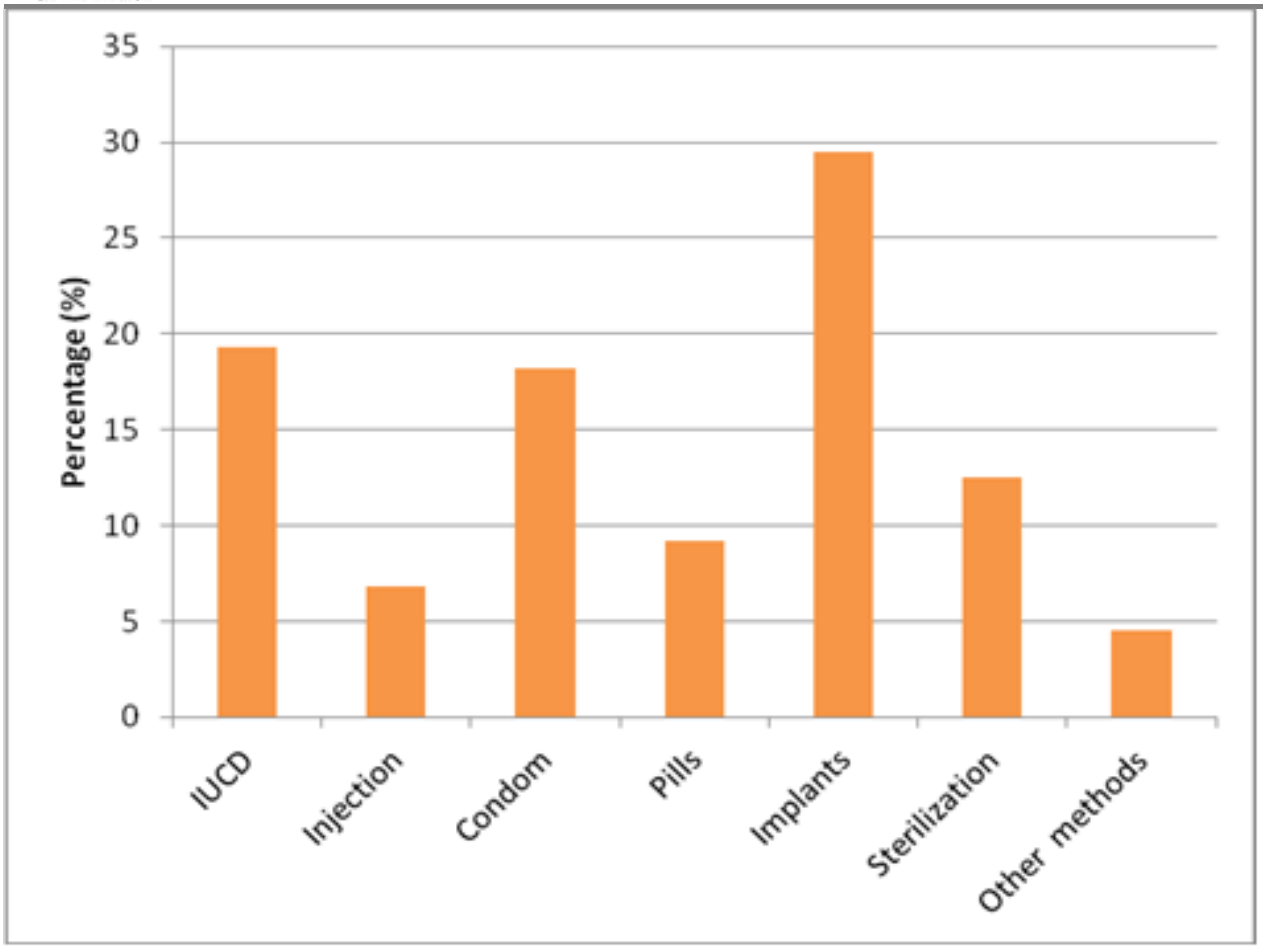
At times we (my partner and I) discuss and agree to use contraceptives but when I come here (Health Centre) I am told there is no contraceptives – it is really frustrating"

The apparent high level of contraception knowledge has been reported in a number of similar studies. In studies conducted in various health centers in Kenya and Kilimanjaro regions (Njuguna *et al.,* 2017 and Damian *et al.,* 2018) showed that only 62.5% and 84% respectively had knowledge on contraceptive methods. The 77% level found in this study was higher than the Ministry of Health's target of 62% countrywide but lower than 80% reported in Mathare Valley, an urban slum in Kenya (KDHS, 2014 and RHRA, 2015). Again, the level of knowledge and use was reportedly higher than that of a related study conducted in Uganda 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.

When the study explored the source of knowledge of the contraceptive use, the majority of respondents indicated that health centres and schools were the main source of information on contraceptive methods. Friends and the media only accounted for a small minority of the respondents. The results in this study only echoed the results previously recorded in various studies such as 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).

Contraceptive Methods Preference

Respondents who agreed they were using various contraceptive methods were probed to indicate the methods they preferred from a variety of methods as shown in Figure 1.



Source: Research data, 2025

Figure 1 shows the main respondents' contraceptive method preference where 29%; 19.3% and 18.2% preferred Implants, IUCD and Condoms respectively. Other methods preferred methods included Sterilization (12.5%); Pills (9.2%); Injection (6.8%) and other at 4.5%. A statement by one of the interviewees captured this outlook:

"While most of us men prefer condoms because of their capacity to prevent re-infection and pregnancy, ladies (partners) prefer other things, they tell us condoms hurt them and they go and hide in other things (injectable, implants etc.)"

This finding was different from the previous study conducted by Jalang'o et al., (2017) in the same (Kisii) County where injectables dominated regardless of individuals HIV status. But this result differed with another related study conducted in Busia County by Mulongo et al., (2017) where the condoms was most preferred due to its dual functionality. Others were Implants due to continuous advice by the health attendants as also pointed out by Akelo et al., (2013). IUCD was the second most preferred representing 19.3% of the respondents and its use was influenced by its availability, and the long period it could be used without any inconvenience. As shown in *Figure 1,* condoms surprisingly was third the most preferred contraceptive by PLWHAs in Nyamarambe. Its apparent unpopularity even with its dual advantage of barrier to further infection of STDs and pregnancy prevention came as a result of reported allergy among female users, inadequacy especially the female condoms and loss of sexual pleasure while those who were in support of the method said that it was readily available, easy to use, and offers dual protection of pregnancy and infections. The use of pills as a contraceptive method was reported by 9.2% of respondents, mostly by relatively young users (youth) aged between 15-24 years of age. Its popularity amongst the youth could have been as a result of its availability and ease of use as reported by a number of health officers in the study area. Previous studies conducted in Kericho and Kisii in Kenya also found that it was highly preferred by the young adults (Imbuki et al., 2013 and Jalang'o et al., 2017). Sterilization and tubal ligation represented 12.5% level of preference and was largely common among the divorced, widowed and those aged above 39 years. The discussants argued that the two

methods were mainly 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).

The study also considered the reasons for preferences in the discussions, where the majority of the discussants reportedly preferred the methods mainly due to the fact that such method could easily be found and used. Other reasons cited were; side effects including bleeding, cost, convenience and comfort among others. The above findings are in line with most findings of related studies conducted in developing countries such as Nepal and Kenya on modern contraception utilization amongst persons with HIV found that abundance and reachability of numerous contraception methods affected the use and preference of particular contraceptives methods (Pokharel *et al.,* 2018 and Wekesa and Coast 2015).

Factors that Influenced the Use of Contraceptive Method

The study purposed to find out the factors influencing decisions to use given contraceptive methods. The responses were summarized in Table 4 below.

Table 4. Factors Influencing Use of Contraceptive Method

Factor	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, 2025

Table 4 indicates some of the major common factors influencing the use of contraceptives key to which were; health officers (48.9%), Partner (23.9%), and friends at 22.7%. Other fringe factors included cultural practices (3.4%) and religion at 1.1%. These findings show health officers as the leading factor in influencing use of certain contraceptives, followed by partner closely followed by friends. The findings here were found to be consistent with findings of related studies conducted in Kathmandu in Nepal, Nigeria, Nairobi and Busia in Kenya (Pokharel *et al.,* 2018, Wekesa and Coast 2015 and Jalang'o *et al.,* 2017).

When asked about some of the challenges faced by PLWH while accessing contraception services, most discussants reported that inadequate information and limited contraceptive method options were the leading challenges. Other challenges cited include; stigma and cost of contraceptive method commodities. This is because most interventions target people living with HIV had been funded by either government or international organizations. It is worth noting that despite spirited campaigns and sensitization interventions by government, NGOs and communities, contraceptive use was still stigmatized. Inadequate information on availability of numerous contraceptive methods could have been contributed to by low literacy levels in such rural communities and aggravated by the community's myths, cultural practices and traditions concerning the use of contraception. These challenges were not only limited to the study area as similar findings in different contexts like Kathmandu in Nepal and in Busia, Kisii, and Nairobi in Kenya found that accessibility to health centers determined the choice and use of contraceptive. In these studies, however, cost, accessibility and stigma played a big role in determining the use and type of contraceptive. Contraceptives such as IUCD was deemed to be expensive and were not used commonly. 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).

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Objective One: The level of contraceptive knowledge and use to PLWHAs 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 social and other mass media remain critical and increased level of literacy among individuals has enabled many acquire knowledge on contraceptive use. However, the study also established the knowledge level was relatively higher that the user level, a fact that presents an intervention program gap.

Objective Two: 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, IUCD and condoms since they were readily available in all the three health centers. Implants were particularly thought to be reliable among the users while male condoms was popular among the male users for their low cost, ready availability, ease of use and its dual protection against re-infection and pregnancy among PLWHAs.

Objective Three: The study established that key factors influencing the use of contraceptives include facility-related (health officers) and socio-cultural in nature (partner, friends, religion, cultural practices among others) among locals in Nyamarambe. The situation was made worse by access challenges such as inadequate information, limited contraception method options in the area, stigma and cost of contraceptive commodities.

Recommendations

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.

The Ministry of Health at the National and County levels should provide numerous contraceptive methods and train health workers on their importance to enhance application among persons who have tested positive and living with HIV and AIDs.

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