

**FACTORS INFLUENCING UPTAKE OF VOLUNTARY
MEDICAL MALE CIRCUMCISION BY MALE
ADULTS IN KASIPUL SUB-COUNTY**

BY:

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DECLARATION

This research report is my original work and has not been presented for a degree or any award in any other University.

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DEDICATION

This study is dedicated to my husband, Michael Omondi whose moral support has been sufficient and to my children; David Paul, Shalom Faith and Sammy Prince with the hope that this will encourage them to go higher in their studies.

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LIST OF ABBREVIATIONS AND ACCRONYMS

- AIDS** : Acquired Immune Deficiency Virus
- BMGF** : The Bill and Melinda Gates Foundation
- CDC** : Centre for Disease Control
- DOI** : Diffusion of Innovations
- EIMC** : Early Infant Male Circumcision
- HIV** : Human Immunodeficiency Virus
- KAIS** : Kenya AIDS Indicator Survey
- MSM** : Men having Sex with Men
- MC** : Male Circumcision
- MMC** : Medical Male Circumcision
- NACC** : National AIDS Control Council
- NASCOP** : National AIDS and STI Control Programme
- PEPFAR** : The United States President's Emergency Plan for AIDS Relief
- RRI** : Rapid Result Initiative
- STIs** : Sexually Transmitted Infections
- TMC** : Traditional Male Circumcision

UNAIDS : The Joint United Nations Programme on HIV/AIDS

USAID : United States

VMMC : Voluntary Medical Male Circumcision

WHO : World Health Organization

ABSTRACT

This study was designed to establish the factors that influence the uptake of Voluntary Medical Male Circumcision (VMMC) by adult Luo men in Kasipul Sub-County within Homa Bay County. The objectives of the study were to investigate the extent to which culture, level of education, accessibility of services, and demographic characteristics, influence the uptake of VMMC by adult Luo men in this region. The gap this study seeks to fill is to establish the reasons for the trend of low uptake among adult men of 25 years and above. This study is therefore significant as it reveals some important gaps that will be helpful to the relevant bodies, both governmental and NGOs in their effort to implement and to scale up this programme. Consequently the Luo community will benefit as the program will help reduce the rate of new HIV infection and control of the same. The basic assumption of the study was that the respondents answered questions truthfully and honestly and that the data collection instruments were valid and reliable. The study was supported by Diffusion of Innovations Theory, which attempts to explain how new ideas are adopted by a population. The study adopted a descriptive survey research design with qualitative and quantitative approaches to data collection. The target group were adult Luo men of between 25 and 49 years old in Kasipul Sub-County which is an estimated 10885 men. The sample size for this population was 370 men. Stratified random sampling method was applied in data collection where questionnaire and interview schedules were administered to the respondents by the researcher and research assistants. Data was analyzed through descriptive statistics, such as frequencies and percentages and thereafter presented using frequency distribution tables. Finally a summary of findings were given and the conclusions drawn from the investigations as well as recommendations given for both policy formulation and suggestions for further research.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Voluntary Medical Male Circumcision (VMMC) mainly came up as a strategy to control the rapid spread of HIV and AIDS which had become a global pandemic. Human immunodeficiency virus (HIV) was discovered in 1984 and reached its peak in 1993. To date, the disease has spread to all the continents, that is, more than 150 countries claiming millions of lives. By 1997 an estimated 3.4 million people were already infected (WHO/UNAIDS/UNICEF, 2011). Many attempts had been made to control the spread of the disease. In 2007, WHO and UNAIDS recommended that VMMC be applied alongside other HIV prevention strategies such as: HIV testing and counseling; Provision and correct use of male and female condoms; Screening and Treatment for STIs; and, provision of antiretroviral treatment for people living with HIV or referral of HIV-positive clients to treatment and care. The VMMC recommendation was based on the three randomized controlled trials undertaken from 2005 to 2007 in Orange Farm, South Africa (2005), Kisumu, Kenya (2007), and Rakai District, Uganda (2007), and which showed that medical MC lowers the risk of HIV transmission in heterosexual relationships by approximately 60% (Auvert B et al,2005, Bailey RC et al,2007, Gray R et al,2007 , and Weiss H.A. et al 2010, WHO/UNAIDS 2011, UNAIDS 2012).

In the US, Europe and Canada, even after these successful trials of Voluntary Medical Male Circumcision, they were reluctant to make recommendations on circumcision as a preventive strategy based on observational data alone (Siegfried N. et al 2005). The other reason was that in the African trials, voluntary male circumcision was found to effectively reduce new HIV infections because the transmission was mainly through heterosexual relationships, unlike the American case and other western countries' where HIV transmission was majorly

through men having sex with men (MSM). However, Buchbinder et al (2005), conducted a study among 3257 MSM in six US cities and his findings were that uncircumcised men were almost twice likely to seroconvert than circumcised men.

On the other hand, early infant male circumcision (EIMC) was practiced in US as routine culture for many years before they gave policy statements that it had no medical significance for the children. The UK also practiced routine infant male circumcision, though based on social and economic class (Gollaher 1994). As at June 2006, the position of the British Medical Association (BMA) was that there was no clinical indication for circumcision (Sawires SR et al 2007). In Australia and New Zealand, the Royal Australian College of Physicians (RACP) also see no medical indication for routine neonatal circumcision though it remains a cultural and religious practice for some communities. Currently, only an estimated 10 to 20 % of male infants are circumcised. In recent years though, they have reported health benefits such as less urinary tract infections for the circumcised boys as compared to the uncircumcised (Sawires et al 2007). In New Zealand, Fergusson DM et al (2005) gave a report of a longitudinal study of 25 years for a cohort of more than 500 males which confirmed a reduction of STIs on circumcised males to about 50%.

Sub-Saharan Africa remains the most affected region with about 22.5 million HIV infections as at the end of 2007 (UNAIDS 2008). The global HIV report of 2010 revealed that in most West and Central African countries, the adult national HIV prevalence was about 2% as compared to about 15% in the Southern African countries (UNAIDS, 2010). This great difference was possibly explained by low levels of MC in Southern Africa as compared to Western Africa (Government of Zimbabwe, 2009; Gruskin, 2007; WHO & UNAIDS, 2007). Therefore in 2007, the WHO and UNAIDS recommendation on VMMC targeted Fourteen priority countries with high HIV prevalence, but with lower levels of male circumcision for implementation. They included Botswana, Ethiopia, Kenya, Lesotho, Malawi, Mozambique, Namibia, Rwanda, South Africa, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe. The

target was to circumcise 80% of men between 15-49 age bracket by 2015 (WHO, UNAIDS 2007, Weiss HA et al 2008). The programme would also provide services for infants and adolescents for long term benefits. This was funded by western donors such as The U.S. President's Emergency Plan for AIDS Relief (PEPFAR) and French government among others.

According to UNAIDS global report of 2013, several countries only began scaling up VMMC in 2010 and 2011. According to Njeuhmeli et al (2011), the status of VMMC Scale-up towards the 80% target in Priority Countries were as follows: Botswana, 6%; Ethiopia, 38%; Lesotho, 0.2%; Malawi, 0.4%; Mozambique, 4.7%; Namibia, 1.5%; Kenya(Nyanza), 50%; Rwanda, 0.7%; South Africa ,7%; Swaziland, 21%; Tanzania,12.7%; Uganda, 4.8%; Zambia, 11%; Zimbabwe, 3%. Though men aged 20-39 years are at the highest risk of HIV infection, only 12.5% of VMMC clients during 2010 - 2012 were aged 25 years and beyond.

In Tanzania, about 70% of the males are circumcised (WHO 2012), but some regions have as high as over 95% circumcision rate, while others are as low as 24% (Tanzania Commission for AIDS (TACAIDS): Tanzania HIV/AIDS and Malaria Indicator Survey 2007–2008. Dar es Salaam). Such differences could be explained by influence of culture, traditions and religion (WHO/UNAIDS 2010). In Iringa and Njombe in Tanzania, according to Plotkin M. et al, (2013), only about 6 % of VMMC clients were 25 years old and beyond. The reason being the shame associated with seeking services at an older age together with younger boys. The Ugandan and Kenyan VMMC programmes have also reported a similar pattern of young VMMC confirming this cultural preference for circumcision at a younger age (Herman, Bailey and Agot, 2012). According to a study in Rakai Uganda, it was however revealed that circumcision reduces transmission rates of HIV positive men with controlled viral load to their uninfected women, but if the load is high, circumcision does not protect the women. (Siegfried N et al 2005).

In response to the research findings, the Government of Kenya developed a national strategy to scale up voluntary medical male circumcision through a phased approach. Between 2009 and 2013, Kenya aimed to deliver the comprehensive package of voluntary male circumcision services to 860,000 boys and men aged 15-49 years (NAS COP, 2010a). By mid-2010, Nairobi Province had begun performing male circumcisions, and preparatory efforts were underway in Western Province. A pilot project to reach 5,000 men in the Teso area was funded by the World Bank (WHO, UNAIDS, 2010). According to Kenya Demographic and Health Survey (2003), the Coastal province (at 97.2%) and North-Eastern province (97.1%) had the highest rates of circumcised men, while Nyanza Province ranked lowest at (48.3%) with a wide ethnic variety where the Luos rate lowest at 17% and the Kisii community rates highest at 99% .

In Nyanza Province therefore, where male circumcision rates are substantially lower than the national average, Kenya performed more than 230,000 voluntary medical male circumcision procedures from November 2008 to December 2010, that is, more than 60% of previously uncircumcised adult males (NACC and NAS COP 2012). Delivery of this programme also offers an opportunity to deliver and reinforce sexual risk reduction messages, screen and treat individuals for STIs, provide free condoms as well as offer other male sexual and reproductive health services (NAS COP, 2010a). All this is towards achieving the national and global HIV goal of ensuring universal access to HIV prevention, treatment, care and support, as well as the national goal of a healthy, vibrant and productive population by 2030.

1.2 Statement of the problem.

In Kenya, it is true that regions that do not culturally practice male circumcision are leading in HIV prevalence, for example Luo Nyanza. A study of the Rapid Result Initiative (RRI, 2009) undertaken by the government of Kenya presents a challenge that 45% of the clients were below 15 years of age, and the adult men were mainly under 25 years old (NACC and NAS COP 2012). Current data on VMMC in Nyanza show the same trend of low uptake among adult men for years 2013 and January to March 2014. According to data from Nyanza

Reproductive Health Society (2014), only 3.8 % of the total clients in Nyanza and 2.9% of the total clients in Kasipul Sub-County between October 2013 and March 2014 were 25 years and above. Rachuonyo Level IV Hospital Report,(2013) established that whereas concerted efforts have been put in popularizing response to VMMC in the district, little has been achieved among males of 25-49 years. Although this would give the young people lifelong health benefits, it will not have an immediate impact on the HIV prevalence as most of such young males are not sexually active. It is therefore necessary to establish factors that cause most of the adult men above 25 years old to be reluctant to undertake circumcision, yet there is a lot of awareness campaigns going on and at the same time, there is very little economic costs involved on their part.

1.3 Purpose of the Study

The purpose of this study was to determine factors influencing the uptake of Voluntary Medical Male Circumcision by adult Luo men in Kasipul Sub County.

1.4 Objectives of the Study

The study was guided by the following objectives:

1. To establish the extent to which culture influences uptake of Voluntary Medical Male Circumcision by adult Luo men in Kasipul Sub-County.
2. To evaluate the influence of level of education on uptake of Voluntary Medical Male Circumcision by adult Luo men in Kasipul Sub-County.
3. To explore the contribution of accessibility of VMMC services to uptake of Voluntary Medical Male Circumcision by adult Luo men in Kasipul Sub-County.
4. To investigate how demographic characteristics influence uptake of Voluntary Medical Male Circumcision by adult Luo men in Kasipul Sub-County.

1.5. Research Questions

The study was guided by the following research questions:

1. To what extent does culture influence the uptake of VMMC by adult Luo men in Kasipul Sub County?
2. What is the influence of level of education on the uptake of VMMC by adult Luo men in Kasipul Sub-County?
3. How does accessibility to VMMC services influence its uptake by adult Luo men in Kasipul Sub-County?
4. What is the influence of demographic characteristics on uptake of VMMC by adult Luo men in Kasipul Sub-County?

1.6 Significance of the Study

This study sought to establish the factors that contributed to the slow uptake of Male Circumcision among adult men of 25 years old and above. The knowledge acquired is helpful to National AIDS Control Council (NACC), the National Aids and STI Control Programme (NASCOP), and other NGOs partnering in the same programme such as Nyanza Reproductive Health Society, in strategizing for the implementation of the VMMC programme in the Luo community. It revealed some of the areas that need scaling up or change of approach towards achieving the 80% target set by WHO and UNAIDS. Such a progress is also beneficial to the Luo community as more men going for MC would make a positive contribution towards reducing the rate of new HIV infections and prevention of the same, and consequently lessen related problems such as poverty and unemployment, increased number of orphans, low productivity and the resultant low social and economic development.

The study also exposed areas that require further research, whether in support of or against Medical Male Circumcision as a method of combating the HIV pandemic, for the good of all. In the final end, the contribution made will help Kenya as a nation towards the achievement

of global goals such as Millennium Development Goal 6 which is to halt and reverse the spread of HIV.

1.7 Limitations of the Study.

Kasipul Sub-County is very wide and this meant a lot of time was required to reach the expected number of respondents in order to get the required data. This necessitated the use of research assistants in data collection so as to manage within the limited time available. The weather conditions were not always favourable as the area is located within a rainfall prone area. This slowed the speed of data collection, as most roads were impassable on the rainy days. On the other hand, the sunny days got so hot that moving from person to person became exhausting hence limiting the extent of data collection within a day. This was sorted out by setting out early in the day when the weather was still favourable, dressing appropriately and use of umbrellas for light showers or hot sun. Some respondents were not willing to reveal their true circumcision status as a matter of privacy or fear of others, yet no physical examination was done to ascertain the truth, hence giving information based on what others say rather than on personal experience or conviction. Others also expected payment for sharing their views. The respondents were assured of confidentiality after clarifying the purpose of the survey. Some respondents who had a problem of language barrier were assisted by research assistants where necessary. This probably limited privacy and consequently affected their honesty.

1.8 Delimitations of the study

The research sought to establish factors that influence the uptake of VMMC by adult Luo men in Kasipul Sub-County which consisted of five wards namely; West Kamagak, East Kamagak, South Kasipul, Central Kasipul and West Kasipul wards, in Homa-Bay County. It covered both rural and urban populations. The study focused on adult Luo men of between ages 25 and 49 years old.

1.9 Basic Assumptions of the study

The study assumed that since the Luo community shared the same culture of non-circumcision, then the sample population properly represented the views of the entire population. It was also assumed that the respondents answered questions truthfully and honestly. Moreover, the study was also based on the assumption that data collection instruments were valid and reliable in measuring the desired outcomes.

1.10 Definition of Significant Terms as Used in the Study

Accessibility : This was used to mean availability of MC facilities, ease of reach by clients and safety of the operations.

Adult : Men who were 25 years old and beyond.

Culture : This is the way of life of a people. In this study it basically referred to the traditional practices and beliefs of the Luo community.

Demographic Characteristics: This referred to age, marital status, income and experience based on area of residence.

Influence : It refers to the cognitive factor that has an effect on how the men respond to VMMC.

Level of education : refers to the highest certificate attained from the formal education system for example primary school, secondary school and post secondary school meaning college training and beyond.

Male Circumcision (MC): is the removal of part or the whole foreskin of the penis for health, cultural or religious reasons.

Medical Male Circumcision: This is the surgical removal of the foreskin by trained health professionals for medical reasons rather than for religious or

cultural reasons. This can be safely done to infants, adolescents and adults.

Uptake : This has been used to mean the acceptability of male circumcision by the adult Luo men as an additional HIV prevention strategy, after creation of awareness.

Voluntary Medical Male Circumcision (VMMC): This refers to male circumcision by consent of the client without any coercion after receiving knowledge of the advantages and disadvantages of the same.

1.11 Organization of the Study

This report is organized into five chapters: Chapter one presents the background of the study, statement of the problem, purpose of the study and objectives of the study. Besides, it also features research questions, significance of the study, limitations of the study and delimitations of the study. Moreover, basic assumptions of the study and definition of significant terms as used in the study are also outlined. Chapter Two covers the literature review, broken into themes and sub-themes according to the study objectives. The theoretical framework of the study is briefly discussed and the conceptual framework is also brought out. The knowledge gap is then identified and finally a summary of the literature review is given. Chapter three presents the Research Methodology which includes the research design, the target population, sample size and sample selection, as well as methods of data collection. Under these methods, pretesting, validity and reliability of the data collection instruments are explained, and the procedure of data collection is described. The methods of data analysis are then identified. The chapter finally ends with the operational definition of variables and a statement of the ethical issues. Chapter four presents data analysis, presentation and discussions. First the questionnaire return rate is stated then the research questions are discussed in line with the responses received from the respondents. Chapter five finally gives the summary of findings, conclusions and recommendations both for policy formulation and for further research. References and appendices are then given at the end.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter covers theoretical and empirical literature on voluntary medical male circumcision in other parts of the world, Africa and other parts of Kenya. The purpose of literature review was to establish the foundation of the study and to identify a framework within which the primary data would be contextualized and interpreted. Thereafter, the theoretical framework is discussed and finally the conceptual framework given.

2.2 The Concept of Voluntary Medical Male Circumcision

Past studies have shown that adult male circumcision reduces the risk of heterosexual HIV transmission by 60% (Auvert et al., 2005; Bailey et al., 2007; Gray et al., 2007). Scientists have demonstrated connections between HIV infection and lack of circumcision. For example, according to Morris B and Wamai R. (2007), the tissue of the internal foreskin contains many special immunological cells such as Langerhans and other cells which are prime targets for HIV when the virus enters the body, causing them to multiply. Keratin, the protective coating that covers most exposed skin, is absent from the inner foreskin, thus making those target cells much more accessible to HIV.

Tears in the mucosal layer of the internal foreskin that occur during sexual intercourse increase vulnerability to HIV and other STI infections. Circumcision removes this internal foreskin, and the shaft develops extra layers of skin thereafter hence eliminating the mucosal layer, reducing the number of Langerhans cells. Circumcision reduces the likelihood of genital ulcers (Weiss H., et al 2006), syphilis (Tobian AAR ,et al 2009) , and also reduce the incidence of infection with human papilloma virus which causes penile cancer in men (Daling JR et al 2005, Morris BJ, et al 2011) and cervical cancer in female partners (Drain PK et al 2006, and Lwatula 2009). It also reduces cervical urinary tract infections in infants

and children (Shalkh N 2008), ulcerative STIs (Gray RH et al 2009), bacterial vaginosis and trichomonas among female partners of circumcised men (Gray RH et al 2009).

According to Hankins (2007) and Weiss et al (2008), a reduction in new HIV infections among circumcised men would also reduce the risk of women who are getting newly infected with HIV. At the same time women benefit as sexual partners if men have fewer penile infections. A study of Ugandan men before and after circumcision revealed that a decrease in anaerobic bacteria due to circumcision may play a role in reducing the risk of HIV acquisition (Price L. et al, 2010). Mathematical modeling shows that six million new HIV infections and three million deaths could be averted in the next 20 years if all sexually active men in sub-Saharan Africa got circumcised (Williams B.G. et al., 2006). Thus VMMC provides men a life-long partial protection against HIV and other sexually transmitted infections. VMMC also saves costs of treatment by reducing the number of new HIV infections. At the same time, it is in line with the global goals such as Millennium Development Goal 6 i.e. to halt and reverse the spread of HIV, hence it's worth the effort.

The main Challenge is that while VMMC has shown effectiveness in reducing the risk of HIV infection among heterosexual males, it does not completely eradicate the risk of acquiring HIV. Evidence from Botswana, Lesotho, and Swaziland suggest that the circumcised men must also continue practicing safe sex, such as reducing the number of sexual partners, and consistently and correctly using condoms for VMMC to be effective (USAID 2012).

On the other hand research on male circumcision and penile sensitivity by Bronselaer G.A. et al (2013), indicate overall that the foreskin plays an important role in penile sensitivity. For the glans penis, in comparison to men circumcised before puberty, those circumcised during adolescence or later reported decreased sexual pleasure and lower orgasm intensity, with more effort required to achieve orgasm. For the penile shaft, a number of circumcised men

complained of discomfort and pain, numbness and unusual sensations such as burning, prickling, itching or tingling. According to a report in Contemporary Sexuality-October 2002 Vol. 36 No. 10, circumcision deprives of the fine touch nerve receptors and consequently deprives permanently of the pleasure of natural normal sexual intercourse. For this reason, those who oppose it call it the genital mutilation of men as it is an irreparable act. Thus, according to this group, Early Infant Male Circumcision (EIMC) is therefore ethically wrong as the children are not allowed to make a choice out of knowledge. They also reason that the circumcised still have to do what the uncircumcised do e.g. wear condoms during intercourse, and avoid multiple sex partners, as VMMC does not prevent HIV infection by 100%. The critiques of VMMC advocate ABC; Abstinence, Being faithful and use of Condoms instead of circumcision (USAID 2013). On the other hand, a study carried out in Uganda by researchers from the Johns Hopkins University in the United States, led by Professor Ronald Gray reported that among the 5,000 clients where half were circumcised and half were not, there was little difference between the two parties in terms of rating sexual performance and satisfaction.

However with the high HIV infection prevalence in the priority nations VMMC has simply saved many lives over the years, of course in combination with the other preventive package. And this is priority!

2.3 Influence of Culture on uptake of Voluntary Medical Male Circumcision

In the USA, circumcision is done mainly as a cultural ritual rather than for medical reasons. Masley AJ et al (1983) and Rand CS et al (1983) carried out a survey that revealed that an educational program given to parents about the lack of medical indication for the routine infant circumcision did not seem to address important concerns parents had about the decision to circumcise. A study shows that the strongest reason was whether or not the father was circumcised as they would want the son to look like his father. The parents were also

concerned about the future attitude of peers and their son's self concept if he remained uncircumcised. This practice has continued in spite of policy statements against routine circumcision by the American Academy of Paediatrics and the American College of Obstetrics and Gynecology for about a decade (Mark S.B. and Cheryl A. B. 2001). A study by Edward O. L. et al (1997) reported in the Journal of the American Medical Association, shows that the highly educated were leading in routine circumcision of their children as a matter of class distinction. This also helped sustain the practice through the generations.

However the few who did not circumcise their new born gave reasons like: it was not medically necessary, they had fear of bleeding or infection and, leaving the decision to the child when he would be able to decide later (Herera AJ et al, 1983).

Robert Derby (2003) in his review of the historiography says that circumcision as a medically rationalized procedure is a recent invention that can be traced back to the 18th century. Therapeutic circumcision was first introduced as treatment for severe venereal infection of the penis and was only done as a last ditch amputation of the incurably diseased tissues. As a religious ritual, it was practiced by only the desert Semitic and Hermitic peoples of North and East Africa, the Middle East as well as the Aborigines of Central Australia (David L.G.2000). In the 19th century, doctors in the English speaking countries, educationists and child care experts encouraged circumcision mainly to discourage the evil of masturbation (Derby 2003, Arthur N.G.1975). This gave rise to the routine circumcision in the USA. Wolbarst's call on universal circumcision in 1914 was strengthened by reports that the Jews who practiced circumcision presented lower rates of syphilis and cancer of the penis, though he insisted on its value as prophylactic against masturbation (Wolbarst 1914). As a result of Campbell's urology (1970), parents readily recognized the importance of genital hygiene in their children due to circumcision, besides helping them against masturbation. Dr. David Gollaher (1994) advised circumcision as a preventive measure against future infections that result from adhesive foreskin

Justifying circumcision as reducing masturbation simply acknowledges that the operation reduces penile sensitivity as it deprives of the fine touch nerve receptors, and consequently deprives permanently of the pleasure of natural sexual intercourse. This gave rise to the sexual revolution of the 1960s, which saw circumcision surviving only in the USA, Canada and Australia. Doctors could only succeed if parents were reassured of significant increase of health without reducing the sexual pleasure. In the 1970s, 80% of the males were circumcised but today, the rate has fallen to 61%. It is the sensation of pain and this perceived loss of pleasure that gave rise to the anti-circumcision movement. Soon after the American Academy of Pediatrics (AAP) Committee on Foetus and New born declared in 1971 that there was no medical indication for circumcision in the neonatal period, there were organized efforts to change policy and parents' attitude against infant MC. By 1999, several medical professional groups such as the American Academy of Pediatrics, the American Medical Association and the American Association of Family Physicians opposed routine circumcision of males saying it was not necessary. As a result, twelve states in the US complied by not paying for the procedure with medical funding. They include Arizona, California, Florida, Maine, Mississippi, Missouri, Montana, Nevada, North Carolina, Oregon, Utah and Washington. Later, Leibowitz (2009) in his study found out that those hospitals which had Medicaid coverage for infant male circumcision recorded 24% higher than those without.

As recent as March 2005, groups opposing male circumcision in California, Florida and Pennsylvania bought billboards near hospitals and wrote messages urging parents not to circumcise their infant sons (Contemporary Sexuality. March 2005, Vol. 39, Issue 3). From a report in 'the Contemporary Sexuality – October 2002 Vol. 36 No 10', some Americans have even formed a foreskin-reconstruction movement, where members are trying to reattach a foreskin or stretch the existing skin to simulate one. A new survey by the International Coalition for Genitalia Integrity found out that 59% of baby boys were still circumcised.

After the three randomized clinical trials in South Africa, Uganda and Kenya that confirmed reduction of HIV infection through adult male circumcision, the American Academy of Pediatrics was prompted to do a research where they found out that they should cautiously apply the African trial results in the US context. This is because in Africa, the trial results related to HIV infections from female sexual partners to uninfected men yet in the US, only 16% of AIDS cases are linked to heterosexual transmission while 65% of infections are through male to male sexual contact (HIV/AIDS surveillance Report Cases in the US and Dependent Areas, 2005 Vol.17). On the same note, a community based survey by Chongyi Wei et.al. in San Fransisco (2010), found out that circumcision did not contribute much in lowering the risk of HIV transmission among MSM . This however contradicts Buchbinder's findings conducted among 3257 MSM in six US cities which revealed that uncircumcised men were almost twice likely to seroconvert than circumcised men (Buchbinder et al 2005). At the same time, Kreiss and Hopkins (1993), found HIV as twice as prevalent among the uncircumcised MSM as compared to the circumcised, hence supporting a protective effect for MC. Among heterosexual men with HIV positive female partners, those who were circumcised had significantly lower rates of infection (Warner S. et al 2006). According to Singh Grevoal D. (2005), Moses S. et al (1998), and Furgusson D.M. et al (2006), the circumcised men also have lower rates of other diseases such as urinary tract infection, penile cancer and syphilis. Despite these positive effects of MC on health in the US, the circumcision rates have been falling since 1980s, and is expected to continue to fall due to fewer states offering Medicaid coverage for neonatal MC.

In UK, they also practiced routine infant male circumcision, though based on social and economic class (Gollaher 1994). As at June 2006, the position of the British Medical Association (BMA) was that there was no clinical indication for circumcision. Therefore doing it for therapeutic reasons yet research had proved other techniques as equally effective and less invasive was considered unethical and inappropriate. However for religious reasons

or other cultural reasons such as incorporating a child into the community, parents are left to decide (Sawires SR et al 2007).

A community - based, self - completion survey among white British men revealed that most of the adults are circumcised and HIV prevalence is high amongst those who have sex with men (MSM) as compared to the uncircumcised ones (Fort C.I. et al 2008). Since identification of future MSM at pre-puberty is not feasible, then circumcision has little part to play in UK's HIV pandemic. In Australia and New Zealand, the Royal Australian College of Physicians (RACP) equally see no medical indication for routine neonatal circumcision though it remains a cultural and religious practice for some communities. Currently, only an estimated 10 to 20 % of male infants are circumcised. In recent years though, they have reported health benefits such as less urinary tract infections for the circumcised boys as compared to the uncircumcised (Royal Australasian College of Physicians 2004, Sawires et al 2007). Where parents make request for it, full information on risks and benefits involved are provided. Today, circumcision in New Zealand rates one of the lowest in the world after having risen to near universality (Darby 2005).

However, for many Jews and Muslims, infant circumcision is a normal practice. The Jews practice it universally at infancy as an outward sign of the covenant between them and their God as indicated in their holy book, the Torah (Genesis 17:10). According to Hankins (2007), an estimated 665 million men above 15 years of age in the world are circumcised with the majority being Muslims. He also noted that in countries like Turkey where circumcision is socially acceptable, boys do not see themselves as men until they get circumcised. The World Health Organization (WHO) and UNAIDS (2012), report that male circumcision is almost universal in North and most of West Africa which are majorly Islamic. Confirming the benefits of male circumcision, data from Orange Farm in South Africa have clearly shown lower HIV prevalence among circumcised men compared to uncircumcised men (Lissouba P. et al. 2012).

Apart from the Islamic influence especially in North and West African countries, other countries like Cameroon and the Democratic Republic of Congo which are predominantly non-Muslim, were influenced into circumcision by other cultural factors such as Colonization. In Cameroon, the Nso tribe practice circumcision with the belief that it puts the penis in readiness for coitus and procreation, it tests the courage and endurance at the start of adulthood and also moderates the male sexual instinct hence making him to act responsibly (Hellsten 2004). In Zambia, male circumcision is not a free procedure due to the economic hardships the country has been facing. Apart from costs, Christianity practiced by some tribes has also been a hindrance to uptake of circumcision e.g. in Mfulira urban. The Christians consider it an Islamic practice and also as being primitive. Culturally, the traditionally non practicing communities also fear losing their ethnic identity by accepting circumcision. On the other hand the Muslim societies practice it throughout the country. Tribes from the Northwestern Province and parts of Western province which include the Luvale, Lunda, Mbunda, Luchazi, Chokwe, Ovimbundu, and the Nkangala have been culturally practicing MC as a traditional rite of passage for centuries (USAID, 2005). In 2012, Zambia launched a national campaign to circumcise two million men by 2015. They were financially supported by The U.S. President's Emergency Plan for AIDS Relief (PEPFAR), that is, a total of \$29.4 million. Today, circumcision in Zambia is not only a male issue, but women have begun to demand for it as a way of reducing cervical cancer (Bailey S.P. 2013).

In Malawi, an estimated 12% of her 13 million people are living with HIV. In 2011, the government of Malawi launched the VMMC programme with the aim of circumcising 2.1 million people by 2016 but according to the Malawi Ministry of Health, only 15,000 males volunteered for circumcision by late 2012, that is, 0.7 % of the targeted number. The slow pace is due to poor campaigning, communication, limited human resource, as well as religion, culture and traditional beliefs. 80% of Malawian population are Christians who do not practice circumcision hence the low acceptance of VMMC. In 2012 as VMMC picked up,

new HIV infections dropped to 50000 from 70000 in 2011. Circumcision is mainly practiced in Southern Malawi where there are migrant workers with a high HIV prevalence, accounting for 70% of the country's HIV infections (Mweningue R. 2013). From the Nyasa Times of 26th January 2010, the Secretary to the Office of the President who is in charge of HIV/AIDS and Nutrition, Dr. Mary Shaba, was quoted to have said that Malawi cannot follow World Health Organization's recommendations on VMMC because only their Moslems and the Yaos do circumcise for religious reasons, and, the majority 'do not wish to become Moslems'. The big difference in the HIV pandemic between the Christian North and the Moslem South, which does not correlate to differences in circumcision prevalence, has made the people reluctant to take up VMMC programme in Malawi (LILONGWE, 13 April 2010 (PlusNews). Swaziland, a country with HIV prevalence at 26% is a non-circumcising nation but by the end of 2011, Swaziland and Ethiopia had reached at least 20% of their 80% target and they also offer infant circumcision. In 2006, the then South African president Thabo Mbeki signed into a law that no child under 16 years be circumcised except for religious or medical reasons. This was intended to take care of the serious complications including deaths which resulted from the traditional ceremonies. Between 1995 and 2004, 243 deaths and 216 genital amputations were recorded (Sawires et al, 2007).

In East Africa, circumcision is practiced as a rite of passage into adulthood by some tribes, that is, the Bantus. The Maasai see uncircumcised men as boys and timid cowards who do not have full male qualifications. Thus they associate circumcision with culturally desired marks of masculinity such as courage, maturity and sexual readiness (Turner 1967), while uncircumcised men are seen as immature and inclined to poor reproductive performance (Hellsten 2004). Tanzania records a national HIV prevalence of 5.6% (World Health Organization: World Health Statistics. 2011) with a regional heterogeneity of adult HIV prevalence ranging from 1% to 15% (United Republic of Tanzania: UNGASS REPORTING FOR 2010). About 70% of the males are circumcised (WHO 2012), but similarly some

regions have as high as over 95% circumcision rate, while others are as low as 24% (Tanzania Commission for AIDS (TACAIDS): Tanzania HIV/AIDS and Malaria Indicator Survey 2007–2008. Dar es Salaam). Such differences could be explained by influence of culture, traditions and religion (WHO/UNAIDS 2010). According to Tarimo et al (2012), in their research on the perception on MC as a preventive measure against HIV infection in Tanzania, they found out that women tended to disrespect uncircumcised men as they did not know what disease is carried in the white powder (dry seminal fluid) during sexual intercourse. They also added that uncircumcised penis needs regular cleaning in order to avoid accumulated fluids which produce an offensive smell. The religious beliefs influenced their practice in that the Christians link it to circumcision of Jesus when he was eight days old, while the Muslims believe that they cannot participate in the mosque services or in the burial ceremonies since it is compulsory for all as a confirmation of their relationship with God (WHO/UNAIDS 2012). For some of them, circumcision is a cultural practice for transition from childhood into adulthood. Most of the individuals however have a negative attitude towards male circumcision after childhood saying it is shameful to be seen by others, seeking services at an older age together with younger boys. For example in Iringa and Njombe in Tanzania, only about 6% of the VMMC clients were 25 years old and beyond (Plotkin M et al. 2013). The Ugandan and Kenyan VMMC programs have also reported a similar pattern of young VMMC clients hence confirming this cultural preference for circumcision at a younger age (Herman, Bailey and Agot, 2012). The majority of uncircumcised men reside in the villages, and those who move to cities where circumcision is a common practice become prone to stigmatization and discrimination. Thus they feel inferior and incomplete as men. Overall, knowledge, beliefs, perceptions and attitudes influenced acceptability of MMC in Tanzania.

In Kenya, according to data from Kenya Aids Indicator Survey (KAIS) (2007), about 85% of adult men have been circumcised mainly as a rite of passage, but also for religious and medical reasons, with an exception of a few tribes such as the Turkana and the Luo. According to a USAID Project search by Macintyre K. et al (2013), among the Turkana of Kenya, circumcision is not a cultural practice. A study amongst them found out that respondents consistently spoke of circumcision as a practice of other ethnic groups. Adopting it carried negative symbolism, as most of Turkana's traditional territorial enemies such as the Pokot, Samburu and Marakwet do circumcise men as a rite of passage. Thus accepting circumcision is seen as cultural infidelity and devaluing a long-established physical means of marking tribal membership. The Turkana instead practice a different ceremony known as Asapan which is intended to raise certain men into status of a senior elder. (Macintyre K. et al, 2013). However the few who accepted circumcision acknowledged disease prevention as outweighing cultural practice. A survey done in Kenya by Mwandu Z. et al. (2007), revealed a national prevalence of HIV infection in uncircumcised men as being 13.2% compared to 3.9% among circumcised men. Out of 19840 individuals involved in the survey, prevalence was higher among uncircumcised men aged 25 to 54 years compared to those aged 15 to 24 years. The Coastal province (97.2%) and North-Eastern (97.1%) province had the highest rates of circumcised men, while Nyanza Province ranked lowest at (48.3%) with a wide ethnic variety where the Luos rate lowest at 17% and the Kisii community rate highest at 99% (Kenya Demographic and Health Survey, 2003). VMMC program implementation in Nyanza began in October 2008. By the end of September 2011, 50% of the target for 2014 had been achieved, that was about 210000 men circumcised. Generally it has not been easy to get the Luo community to accept circumcision as this has been used to deride them and even undermine their political leadership. At the initial stages, the Luo Council of Elders had to be brought on board since they are the custodians of culture. Thus VMMC had to be popularized as a public health intervention rather than a cultural practice. The practitioners also used

those who have been circumcised to mobilize others but at a cost per recruit though the clients coming for circumcision get no incentives.

2.4 Influence of Level of Education on uptake of Voluntary Medical Male Circumcision.

Just as it was in the United States in the last century, the United Kingdom also practiced infant male circumcision. Circumcision in the UK was based on economic and social class. Thus before the Second World war, army records show that 50 % of the working class and 85% of the upper class men in England were circumcised (Gollaher 1994, Gairdner 1949). According to Rickwood and Walker (1989), 35% of these procedures were done for medical reasons. In Australia the practice of circumcision followed the British pattern, but lasted longer. Darby (2005) says that by the 1920s, circumcision was considered as part of responsible parenting by most doctors and child-care manuals. While the practice sharply declined in the UK thereafter, in Australia it rose to its peak at over 80 % in the 1950s (Darby 2005). In 1971, the recommendation of the Australian Paediatric Association against routine circumcision marked the start of the decline in neonatal circumcision rates (Australian Paediatric Association 1971). They instead preferred allowing the children to grow up to make a personal decision based on knowledge of advantages and disadvantages of circumcision (Leditschke ,1996).

Lack of awareness of the importance of circumcision as an intervention strategy against HIV transmission has been one of the major challenge to its adoption in many African communities. A Christian tribal chief in Lusaka, Zambia, decided to become a campaigner of circumcision after reading about the medical benefits of circumcision such as hygiene and reduction of HIV infection rates. He supported his decision with the Biblical practice of the Old Testament. Tanzania launched her VMMC programme in areas where they don't practice circumcision as part of their religion, or as a rites of passage during infancy, puberty or adolescence stages. By 2012, they had reached at least 47% of their target. However this

involved mainly the younger men of 15 to 25 years old from the affluent and the educated sector.

2.5 Influence of Accessibility on uptake of Voluntary Medical Male Circumcision

Papua New Guinea is a country that culturally practices a number of diverse penile cutting such that interest in aligning MC with other HIV intervention programmes has already been raised (Kelly A. et al., 2012). The National Department for Health has however been facing many challenges including geographical isolation of populations; limited road infrastructure and rugged terrain, and limited funding. They also face difficulties in establishing and maintaining appropriate health information systems for proper monitoring, especially in the rural areas (Barclay A. 2010). Yet still, they have managed to establish a MC program for HIV prevention in East Sepik Province (ESP) and showing varying degrees of success (Tynan A. et al., 2011).

From the result of the study in Orange Farm in South Africa, demand for safe and affordable circumcision went up in Botswana, Lesotho, Swaziland, Zambia, South Africa and in the United Republic of Tanzania where there was high HIV prevalence and low circumcision rates and HIV transmission was predominantly through heterosexual involvements. For example at the University Teaching Hospital in Zambia, there was increased demand from 1 to 15 people in a month , while at one Swaziland hospital, demand rose from less than one in a month to 40 (Wise J 2006). As a result, the health ministry in Swaziland had to organize training for 60 doctors and nurses in circumcision (Wise J., 2006). In South Africa and Zimbabwe, clinicians who provided STI or contraceptive services also performed male circumcisions or offered referrals as well as counseling male patients about circumcision. Circumcision services were mainly in urban than in rural areas, and at hospitals as compared to clinics. The two countries both have high HIV prevalence i.e. 18% and 14% respectively, yet relatively few adult men have been circumcised, that is, 35% in South Africa , and 10% in Zimbabwe. A major challenge in both countries has been training of enough clinicians to

perform the operations. In 2000, a study in Zimbabwe revealed a much lower acceptability to MMC at 45% as compared to 60% in Kenya, Uganda, South Africa, and Tanzania (Halperin; Fritz; McFarland & Woelk, 2005). The main reasons given for increased acceptability in these countries were safety of operations, affordability of the process and evidence that MC has a protective effect against HIV and STI's. As for Zimbabwe, being a non circumcising nation, recent findings concluded that the most common barriers to uptake of VMMC included fear of pain, lengthy healing and sexual abstinence period, fear of complications and perceived costs, lack of partner support and not believing that they were at risk of contracting HIV. The motivators included improved hygiene, prevention of cervical cancer and enhanced sexual performance (Karin H. et al, 2014). In Botswana, they integrated VMMC within existing health services. This may explain why it has not performed as many VMMCs as expected.

In Iringa Tanzania, while ensuring service quality and efficiency they met the challenge of timely matching of supply to demand so that men don't seek unsafe procedures because of waiting too long (Mahler et al 2011). Both Traditional Male Circumcision (TMC) and Medical Male Circumcision (MMC) are practiced in Tanzania. However the level of hygiene was a concern because of shared instruments, and so those who opted for TMC which is economically cheaper, carried their own instruments to avoid the risk of infection. MMC would cost between US 9 \$ to US 13 \$ depending on the age of the boy. Thus economic status could be a barrier to one getting circumcised until they become adults.

Motivation of Health Workers in developing countries to engage in the recently introduced adult MC programmes is an important component of programme success (Strachan D.L. et al 2012). Effective engagement of human resources has also been widely discussed in the implementation of a MC programme in African countries (Hargreave T. 2012). Many clinicians, counselors and support staff are required to do the work (Kurran K et al 2012). In some African countries, surgical steps are delegated to trained non-physician clinicians such

as nurses or clinical officers in order to expand the workforce, while in other countries, non-physicians are not allowed to do the operation.

Existing data suggest that circumcisions done during childhood result in fewer adverse events as compared to those done to adults. For example in Jamaica, the complications were recorded in 2.4% of the cases (Duncan ND et al 2004), 2.0% in Tanzania (Manji KP et al 2000), 0.3% in Nigeria, and in the Comoros 2.4% at ages 3–8 years (Ahmed A 2000). A study in three major hospitals in Kenya and Nigeria where 249 adolescents and young adults were circumcised, found complications of wound infection (2.8%), severe haemorrhage (1.2%), retention of urine (1.2%) and swelling (1.2%) (Magoha GA 1999). Political leadership is an important factor in making headways. Recently, a number of national leaders have stepped forward to endorse VMMC. For example, in 2011, South African President Jacob Zuma announced plans for scale-up of VMMC services. A similar support was given by Zimbabwean President Robert Mugabe and his vocal parliamentarians, Swaziland's King Mswati III and Tanzanian political leaders. Even countries that previously lagged behind such as Botswana, took steps in 2011 to expedite service expansion (A Call to Action on VMMC 2012).

According to an argument between Richard and Goldman (2013), those who oppose circumcision do it on the basis that it is painful and traumatic. Anesthetics, if used, do not eliminate pain. Other studies have revealed the experience of many surgical risks which include in rare cases, death. The fact that circumcision removes some of the erogenous tissue on the penile shaft, hence reducing sensitivity is a deterrent to some. Some circumcised men have reported erectile dysfunction, difficulties in reaching orgasm and premature ejaculation. Some female partners have also indicated problems with fulfillment and painful intercourse. Such men express regrets, feelings of loss, sexual anxieties, and reduced emotional expression. But on the other hand, according to Goldman (2013), the health benefits of circumcision far outweigh its minor risks. They include protection against sexually

transmitted infections, including HIV. Furthermore, a circumcised penis has been found to increase sexual function in some men, and is more appealing to women for reasons of hygiene. When done for religious reasons or as a rite of passage, it gives a sense of identity and belonging.

This means people's experiences differ thus bringing out the significance of creating awareness and educating the masses on the advantages and disadvantages of MC so that they can voluntarily choose to be circumcised as a step towards reduction of new HIV infections.

A study carried out in Bungoma, Kenya where circumcision is culturally practiced, was concerned with the safety in providing large numbers of adult males with circumcision in developing countries (Bailey et al, 2008). This was because two-thirds of the operations are done by traditional or unqualified practitioners in informal settings. Such rates are quite high for example, up to 90% in Uganda, 74% in Kenya and 63% in the United Republic of Tanzania. Out of six studies on complications related to traditional MC in Eastern and Southern Africa, only two reported overall complication rate of 35% in Kenya and 48% in South Africa. This included infection, incomplete circumcision requiring re-circumcision hence leading to excessive removal of skin, excessive scarring, delayed wound healing and loss of penile sensitivity (Bailey R.C. et al 2008). A few cases of excessive bleeding and severe pain were also reported. According to Magoha (1990), four patients in South Africa lost the glans of the penis and two lost the entire penis. A higher percentage had penile injury due to poor post-operative wound care such as tight bandages to stop bleeding. A study in Kenya and Nigeria reported loss of the penis in 6% of the hospitalized patients while related deaths were at 0.2% e.g. resulting from dehydration after circumcision as a way of further test of the client's endurance. Even though the beneficial effects of male circumcision are now widely recognized, these must be weighed against the potential harms.

Kenya began implementing her national VMMC program through PEPFAR and BMGF support in September 2008 with a goal of circumcising 860000 males of between 15–49 years old by 2013 (NASCO 2014) . A National Guidance for Male Circumcision was developed by the Ministry of Health for policy makers and implementers, a document that provides a framework to ensure provision of safe, accessible and sustainable male circumcision services. Since then, Kenya has circumcised approximately 290000 men, majorly in Nyanza province to reach 61.5% coverage. By December 2010, 1300 health care workers (including surgeons and their assistants, counselors and infection prevention officers) had been trained to provide comprehensive medical male circumcision services, a quality improvement team had been established, a communications strategy and harmonized communications materials were developed, and a framework for monitoring and evaluation was put in place (WHO, UNAIDS, 2010). According to Mwandu et al. (2011), Kenya has achieved over 66% of its target for Nyanza Province. From his acceptability studies, Robert Bailey says that approximately 60% of Luo men would accept circumcision if they would be assured of safety, and if done at minimal cost. The other barriers included cultural identification, fear of pain and excessive bleeding (Bailey R. C. et al. 2002). However KAIS report (2014) still reveals that one in every five circumcisions was performed by non medical staff, thus there is need to carry out sensitization so that health facilities and quality staff are used by interested clients. Some challenges faced by Kenya in implementing the program, include human resource constraints, inadequate infrastructure, shortages of equipment and supplies, and difficulty with data management (National AIDS and STI Control Programme (2010).

2.6 Influence of Demographic characteristics on uptake of Voluntary Medical Male Circumcision.

Plotkin M. et al 2013 reports that in Iringa and Njombe in Tanzania, a mere 6% of the VMMC clients were 25 years old and beyond. The reason being the shame associated with seeking services at an older age together with younger boys. It was thought to be improper to

go for circumcision after puberty, and particularly after marriage and after having children. They also feared partner infidelity during the post-surgical abstinence period as the men heal up, loss of income as they miss to go to work during the healing period, and fear of pain associated with post-surgical erections. The Ugandan and Kenyan VMMC programs have also reported a similar pattern of young VMMC clients hence confirming this cultural preference for circumcision at a younger age (Herman, Bailey and Agot 2012). Among the Turkana of Kenya who don't practice Circumcision, older men consider circumcision as disregarding tradition and assimilating to other cultures, and since the older men are the keepers of culture, they are expected to uphold Turkana traditions and they keep to it (Macintyre K. et al. 2013).

2.8 Theoretical Framework

Behavioral theories help programme implementers to understand why people behave the way they do. Programmes therefore seek to develop strategies based on theories that reinforce healthy behavior or change unhealthy behavior. This study was guided by the theory of Diffusion of innovations (DOI) which was first developed by Everett Rogers in 1962. Rogers defined an innovation as an idea that is perceived as new by an individual (Rogers, 2003). The DOI theory defines diffusion as the process of communicating an innovation among members of a social system (Rogers E. 1995). For Rogers (2003), adoption means a decision to fully use an innovation as the best course of action.

The theory is a framework that explains how new ideas are adopted by a population. It gives insight on: what qualities make innovations to spread; Instead of persuading people to change, it sees change as reinvention of products and behavior to fit people's needs. The invention should therefore have relative advantage, e.g. economic advantage or social prestige. Another important component is compatibility with existing values and practices: the innovation should be consistent with the existing values, past experience and the people's needs. Simplicity and ease of use is equally important: innovations that require new skills and

understanding are adopted at a slower rate than the simpler ones. The theory also considers trial ability i.e. if an innovation can be experimented with, then it presents less uncertainty to those considering it. Finally the results must be observable. If the results of an innovation can be easily seen, then people are more likely to adopt it as peers are able to discuss it more openly. Continuous improvement is the key to spreading an innovation.

Secondly, peer-peer conversations are very important: according to this theory, impersonal methods like media advertisements can spread information about new innovations, but adoption is spread by conversation. This is because it is those who have successfully adopted the innovation that will assure others of less risk or uncertainties e.g. embarrassment, financial losses etc. The exception to this risk are the early adopters who usually see the risks as low, either because they are better informed or are financially secure. The rest see high risks in change and would therefore need reassurance from trusted peers that the innovation is beneficial. Many diffusion-style campaigns therefore tend to use peer networks where well connected individuals are recruited to spread new ideas through their own social networks.

The strength of the theory is that it is a product of successful integration of a vast amount of empirical research. Moreover it is very practical and continues to be relevant in this present age and even later because new ideas are daily occurrences and they continue to be diffused for people to adopt. This theory laid the foundation for promotional communications and marketing theory. It has provided a practical guide for information campaigns in many countries in the US, for example, USAID used it to spread agricultural innovations to the developing countries as they competed with USSR for influence (Anaeto 2008).

The theory however has weaknesses of being linear and source dominated as it sees communication process from the elite's point of view, who then decides to diffuse the innovation. It also underestimates the power of the media by limiting it to influence innovators and early adopters who in turn influence others, yet media is very instrumental in providing a basis for group discussion led by change agents. Its other weakness is the fact

that the theory stipulates adoption even by those who do not want the innovation. Such do not guarantee long term success in adoption and implementation of innovations. Rogers also failed to recognise that people may have features of innovators and early adopters but may not quickly adopt an innovation due to certain other reasons such as religion and culture (Babatunde V. 2011). Such types can be taken care of by incorporating the Zero tolerance category into the adopters' categories.

In spite of all these weaknesses, DOI theory is still very useful as the opinion leaders and change agents have a lot of influence on the early majority, the late majority and the laggards, especially at the persuasion and decision stages. However, the role of mass media should be recognised at every stage, from knowledge creation, persuasion, decision, implementation and confirmation stages. VMMC is a new idea to the Luo community as it was never part of their culture. Thus to accept or reject it, the information has to move through the various stages by the help of the different adopters categories. The Fourteen priority countries have applied the concept of DOI theory to analyze the adoption of VMMC policies, strategies, and initial program implementation as well as to comparatively assess progress towards scale-up among them.

2.9 Conceptual Framework

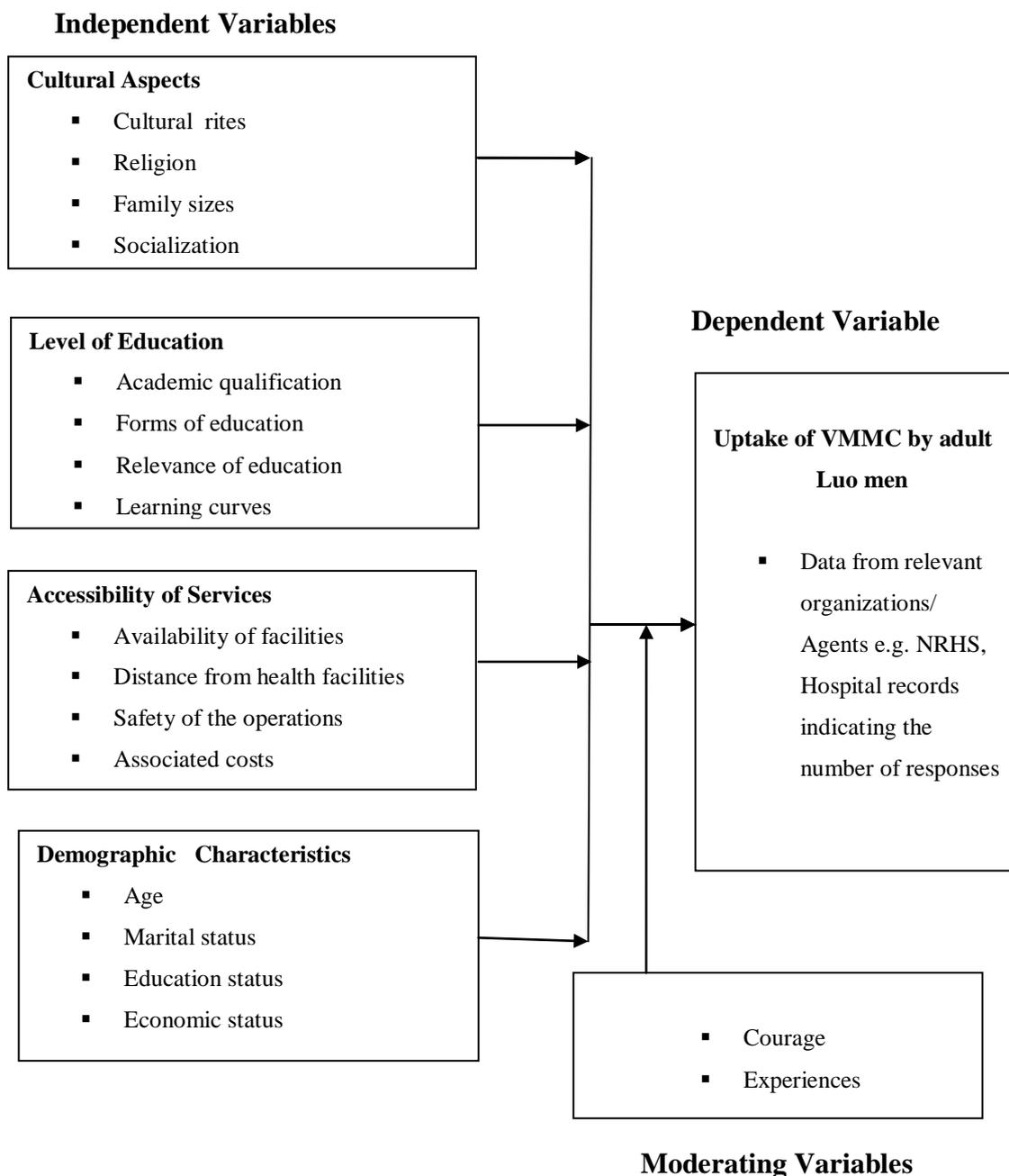


Fig. 2.1 Conceptual Framework

According to Mugenda and Mugenda (2003), a conceptual framework is a hypothesized model that shows the relationship between the variables under study, that is the independent and dependent variables.

In this study, the uptake of VMMC by adult Luo men was the dependent variable and was hypothesized to be influenced by independent variables such as culture which is indicated by

cultural rites, religion, family sizes, and the nature of socialization. It could also be influenced by one's level of education which is reflected in one's academic qualifications, the forms of education that a person went through, the relevance of education received and, one's learning curves. Response also depended on how available the VMMC services are to the people, for example in terms of how far the centres for operation are from the people, availability of VMMC services to the people, the safety of the operations and the associated costs. The demographic characteristics such as age, marital status, educational status and economic status were also assumed to have an influence on VMMC uptake.

2.10 Knowledge Gap

There was little data on reasons for slow uptake of VMMC among adults especially those of 25 years and beyond, particularly among tribes that do not practice circumcision as part of their culture and religion (NACC and NASCOP 2012). The Rapid Result Initiative (RRI) undertaken by the government of Kenya between 9th November and 20th December 2009 revealed that 45% of the clients were below 15 years old and the adult men were mainly under 25 years old (NACC and NASCOP 2012). Current data for VMMC in Nyanza has continued to show the same trend, (See Tables 1.1, 1.2 and 1.3). This study sought to establish some of the reasons for this trend.

2.11 Summary of the Reviewed Literature

Male circumcision is practiced in different countries in different styles and for different reasons. In some countries especially those of the west, infant male circumcision was practiced for many years as part of their culture. Thus, a high percentage of their men were circumcised. Later they stopped for lack of medical reasons. Those who campaigned against it gave reasons such as denial of the child's right to sexual enjoyment without his consent, as a result of the loss of penile sensitivity, and also because of certain risks involved during the operations. Those who were pro-circumcision based it on medical reasons such as hygiene and reduction in the rate of HIV infection and other STIs, both for the heterosexual men and MSM.

In some countries, circumcision is practiced as part of their religion especially the Islamic ones, or as a rite of passage into adulthood. In the African set up, countries in Sub-Saharan and especially eastern and Southern Africa, VMMC was recommended by WHO and UNAIDS for regions that had high HIV prevalence and low circumcision rates as a preventive strategy against high HIV infection rates ,but this must be done along other protective measures such as proper and consistent use of condoms.

VMMC implementation has been positive in most countries with Kenya leading at 50% towards the 80% target by 2015. Some countries have dragged but scale-up activities are in place. However, a number of studies in the priority countries show that most of the VMMC clients are adolescents and young adults of below 25 years old while the adults of beyond age 25 years, who are sexually active and who record highest HIV prevalence are slow at taking up VMMC. Limited data is available to explain the reason for this trend, for example in a few areas, they fear the shame of being seen circumcised at adulthood alongside the adolescents.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methodology that was used to conduct the study. This included the research design, target population, sample and sampling procedure. Besides this section also featured data collection instruments, instruments validity and instruments reliability. Moreover, data collection procedures, methods of data analysis, operational definition of variables and ethical issues were also captured.

3.2. Research Design

A research design is a scheme, outline or plan that is used to find answers to research problems (Orodho, 2003). The study adopted descriptive survey research design which is both qualitative and quantitative. According to Lovell and Lawson (1971), descriptive research is concerned with conditions that are already existing, practices that are held, processes that are ongoing and trends that are developing. Mugenda and Mugenda (1999) define a survey as an attempt to collect data from members of a population with the aim of determining the current status of that population with respect to one or more variables. Mugenda and Mugenda also say this design is appropriate when the purpose of study is to create a detailed description of an issue. The quantitative approach helped reveal the relationship between the variables, while the qualitative approach helped in bringing out the attitudes, the opinions and the experiences that explain the behavior of the population, hence obtaining an in-depth understanding of factors that influence the response to VMMC uptake.

3.3. Target Population

According to Mugenda and Mugenda (1999), a target population is that population which the researcher needs in order to be able to generalize results. The study targeted specifically Luo men of ages 25-49 years within Kasipul Sub-county since Luo Nyanza is a major target for VMMC programme. This is because it has high HIV and low male circumcision prevalence, and studies have revealed that a greater percentage of the VMMC uptake is with youths and adults of under 25 years old. From Kenya National Bureau of Statistics and the final report by IEBC as ratified in: National Assembly Constituencies and County Assembly Wards Order 2012, and, Strategic Plan for Homabay county 2013 – 2023 (2012), the population of men in the age of 25-49 years in Kasipul Sub County is 10885. This then became the target population for the study.

3.4 Sample Size and Sample Selection.

3.4.1 Sample Size

According to Krejcie & Morgan in their 1970 article “Determining Sample Size for Research Activities” (*Educational and Psychological Measurement*, #30, pp. 607-610), sample size for a population of 10,000 at 95% confidence level with a margin error of 5.0% is 370. This is what was used for a population target of 10885.

3.4.2 Sample selection

This study used Stratified Random Sampling, where stratification was done on the basis of the five wards within Kasipul Sub-County, and thereafter random sampling done in each ward, where all men between 25 - 49 years had equal chance of being selected until the required sample size was reached as displayed in Table 3.1.

Table 3.1 Sample size and target population.

Ward	Target Population	Sample Size
East Kamagak	7088	49
West Kamagak	9971	68
South Kasipul	12370	84
Central Kasipul	12509	85
West Kasipul	12337	84
Total	54275	370

3.5 Data Collection Instruments.

According to Bell (1998), research that is mainly concerned with views, opinions, attitudes and feelings are best collected through use of questionnaire and interview schedules.

The research study basically used Questionnaires which were administered to individuals in person. The questionnaire were both structured (closed ended), where the respondents were required to select answers from the choices given, and unstructured (open ended) where they were free to respond in their own words. The questions were geared towards answering the research questions. Interview schedule or key informant guide was also used with key informants from the ministry of health, VMMC department, and from Nyanza reproductive Health Society.

3.5.1 Instruments' Pre-testing

The Instruments were pre-tested in a neighboring ward within Kabondo-Kasipul Sub-County, namely Kakelo ward basically because it carries rural and urban population which offers similar characteristics of a population as in the study area, for example, varying levels of education, accessibility to VMMC facilities and exposure to information. According to Mugenda and Mugenda (1999), 1% - 10% of the sample size suffices. In this case therefore,

3% of the population which is 11 people were interviewed. This helped reveal any discrepancies that needed to be filled and ambiguities in the questionnaire corrected.

3.5.2 Validity of the Instruments

Validity of research instruments refers to the extent to which the instrument measures what it was intended to measure (Mbweza, 2006, Nachmias and Nachmias, 1996). First there was adequate coverage of the study objectives in the questionnaire and the interview schedule. The questions were clearly constructed to avoid ambiguity. The research instruments were then validated by expert judgment from the academic supervisors of the study. A few peers with knowledge in the field of research were also allowed to review the questionnaire with a critical outlook and made suggestions. Proper sampling techniques were applied to ensure that selection bias was avoided.

3.5.3 Reliability of the Instruments

According to Mugenda and Mugenda (1999), reliability of research instruments refers to the degree to which the instrument yields consistent results or data after repeated trials. In this study, split half reliability method which involves dividing the items into two halves on the basis of odd and even appearances and subsequently administering each part to the same pretest sample was used. The results of the two tests were compared using Spearman's product moment of correlation (r). By obtaining a coefficient value of 0.68 and above, the instrument was considered reliable. This method was preferred because it requires one testing session, thereby guarding against possible interference by other external factors such as maturation.

3.6. Procedures of data collection

A research proposal was written then taken for approval by the academic supervisors after which the researcher applied for research permit from National Council of Science and Technology. This permit was presented by the researcher to the authorities relevant to the

study such as the hospital administration, Nyanza reproductive Health Society branch office and the local chiefs of the area of study. The researcher and the research assistants then got to the field to administer the questionnaires in person. The researcher also contacted the key informants for interview using the interview schedule.

3.7 Methods of Data Analysis

Data analysis refers to examining raw data and making deductions and inferences (Kombo and Tromp, 2006). This study used descriptive statistics to analyze the data obtained. This included use of frequencies and percentages. Mugenda and Mugenda (1999) explains that this technique enables the researcher to meaningfully describe a distribution of scores using a few indices. For quantitative data, once the data was collected, editing was done to limit the errors then coding was done where each category was assigned a code. Entry was then done, followed by transformation, analysis and finally interpretation of the data. The Statistical Package for Social Sciences (SPSS) was used to get frequencies and percentages. Data was presented using frequency distribution tables.

3.9 Operational Definition of Variables.

Table 3.1

Research Objectives	Type of Variable	Indicator	Measures	Level of Scale	Data Collection Method	Data Analysis Method
To establish the extent to which culture influences the uptake of Voluntary Medical Male Circumcision by adult Luo men in Kasipul Sub-County.	Independent variable	-Cultural activities -Religion -Family sizes -Socialization	.Types of activities -Types of religion -Number of members -Groups involved	Nominal Interval	Survey/ Questionnaire Interview schedule	Quantitative and Qualitative

To evaluate the influence of level of education on uptake of Voluntary Medical Male Circumcision by adult Luo men in Kasipul Sub-County.	Independent variable	<ul style="list-style-type: none"> -Academic qualifications -Forms of education -Relevance of education -Learning curves 	<ul style="list-style-type: none"> -Certificates -Certificates -Certificates -Number of trainings attended 	Ordinal	<ul style="list-style-type: none"> Survey/ Question naire Interview schedule 	Quantitative
To explore the contribution of accessibility of services to uptake of Voluntary Medical Male Circumcision by adult Luo men in Kasipul Sub-County.	Independent variable	<ul style="list-style-type: none"> -Availability of facilities -Distance from health facilities -Safety of operations -Associated costs 	<ul style="list-style-type: none"> -Presence of facilities -Actual distance -Records of complications reported 	Nominal/ Interval	<ul style="list-style-type: none"> Survey/ Question naire Interview schedule 	Quantitative
To investigate how demographic characteristics influence uptake of Voluntary Medical Male Circumcision by adult Luo men in Kasipul Sub-County.	Independent variable	<ul style="list-style-type: none"> -Age -Marital status -Educational status -Economic status 	<ul style="list-style-type: none"> Birth certificates, ID cards, School leaving certificates, Marriage certificates, Type of employment 	Ordinal/ Interval/ Nominal	<ul style="list-style-type: none"> Survey/ Question naire Interview schedule 	Quantitative

3.10 Ethical Considerations

The Oxford Dictionary defines ethics as the moral principles that govern a person's behaviour or the conducting of an activity.

First, authority to carry out the research was sought from the University of Nairobi, through the academic supervisors. This enabled the researcher to get permission from the relevant sub-county directors to carry out the study. The research assistants were trained to handle respondents in a professional way for example, not insisting on asking on individuals' detailed private life or irrelevant questions that don't answer the research questions, avoiding unethical relationship with respondents of the opposite sex, being kind to the respondents, to safeguard anonymity, and to treat all information given as confidential.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

4.1 Introduction

This chapter focuses on an in-depth data analysis, presentation, interpretation, and discussion of the results of the research process. Data analysis was done against the prism of the key study variables: the influence of culture, level of education, accessibility of VMMC services and demographic characteristics on uptake of Voluntary Medical Male Circumcision by adult Luo men in Kasipul Sub-county.

4.2 Questionnaire Return Rate

Copies of the questionnaire were self administered to the respondents by two well trained and motivated research assistants, with close supervision of the researcher and the following return rate realized as depicted in table 4.1.

Table 4.1: Questionnaire Return Rate

Target population	Sample size	Return Rate	Return Percentage
54275	370	365	98.6

Table 4.1 reveals that out of the 370 copies of questionnaire administered to the respondents, 365 were received back duly completed giving a response rate of 98.6%. Response rate refers to the percentage of subjects that respond to a questionnaire. A response rate of 50% is deemed adequate for analysis and reporting, a response of 60% is good and a response rate of 70% and over is very good (Mugenda and Mugenda, 2003).

In the light of this, the study returned an excellent questionnaire response rate with only five not well filled. This was attributed to the fact that copies of the questionnaire were administered and collected back by two well trained and motivated research assistants, who consistently distributed the copies of the questionnaire to the respondents in batches of

twenty until all were administered. The research assistants emphasized to the respondents the need to fill the questionnaire as instructed, as well as assisting some in completing the questionnaire in cases of certain unavoidable circumstances.

4.3 Demographics of the respondents

This section outlines the respondent’s demographic features that were believed to be significant to the study. Such demographic characteristics include, age, marital orientation, level of education, and their areas of residence. The demographic characteristics of respondents were considered significant to the study on the basis that such variations could influence choice of uptake of VMMC or not.

4.3.1 Characteristics of the respondents by age

In this study, it was assumed that age variations of the respondents would be of great significance to the study on grounds that the younger people are usually more responsive to new ideas than mature men and especially those that can prevent a shorter life span since they still have many years to live. The young are also more exposed to varied cultures and are not tied by traditions hence less rigid to changes as compared to the old. Besides, age differences of the respondents could also reveal the different attitudes and values held by different generations in the same community. The respondents were subsequently requested to complete the questionnaire indicating their ages, and their responses recorded in table 4.2

Table 4.2: Characteristics of respondents by age

Age in years	Frequency	Percentage
25 – 30	148	40.70
31 – 35	97	26.60
36 – 40	54	14.80
41 – 45	31	8.50
46 -49	25	6.90
Total	365	100.00

As indicated in table 4.2, 148 (40.7%) of respondents whose questionnaire copies were received were between age 25-30, 97 (26.6%) were in the age of 31-35years, 54 (14.8%) were in the age of 36-40, 31 (8.5%) fell between 41 – 45 years while only 25 (6.9%) were between age 46 and 49. The statistics in table 4.2 imply that the population consists of a greater number of younger men which consistently reduces with increase in age. This could be a pointer that the young are probably more actively interested in receiving or participating in new ideas in their environment than their older counterparts.

4.3.2 Marital orientations of the respondents

This characteristic was of great importance to the study as it would help reveal the extent to which marital status of the respondents would influence acceptability of Voluntary Medical Male Circumcision. The married people, unlike the singles and the widowers may be positively or negatively influenced by their spouses in whether to accept VMMC or not. At the same time, they are assumed to have greater responsibility in taking care of their immediate families hence the need to ensure better reproductive health through every means possible unlike the single young adults. On the other hand the singles have comparably less worries related to VMMC uptake, for example, they don't suffer any unfaithfulness of the wife during the healing period, or the strain of abstaining from sexual intercourse for the six weeks healing period. In the light of this reality, the respondents were asked to complete questionnaire indicating their marital status and their responses were captured as illustrated in table 4.3

Table 4.3: Marital status of the Respondents

Marital status	Frequency	Percentage
Single	136	37.30
Married	209	57.30
Widower	20	05.50
Other	0	00.00
Total	365	100.00

In table 4.3, of the 365 copies of questionnaire duly completed by the respondents, 136 (37.3%) were single, 209 (57.3%) were married, 20 (5.5%) were widowed and none was found to be in the other marital orientations such as divorced or separated. The statistics in the table reveal that majority of the respondents were married and hence would be expected to take initiative in accepting VMMC as a role model to the younger adults.

4.3.3 Characteristics of the respondents by level of education.

In the study, the researcher believed that the level of education would significantly influence respondent's acceptability of VMMC because of level of exposure to other cultures and of awareness of the medical benefits of circumcision. In this respect, the respondents were asked to fill the questionnaire stating their level of education and table 4.5 presents their responses.

Table 4.4. Characteristics of the respondents by level of education.

Level of education	Frequency	Percentage
Below Primary school	8	2.20
Primary School	36	9.90
Secondary School	168	46.00
Tertiary	149	40.80
Missing	3	0.80
Total	365	100.00

Table 4.4 reveals that 8 (2.2%) of the respondents did not attain primary level of education, 36 (9.9%) attained primary education, 168 (46%) had secondary education, while 149 (40.8%) obtained tertiary education. 3 respondents (0.8%) did not indicate their level of education. The implication of these statistics is that most of the respondents were well exposed to reproductive health education in secondary schools and tertiary institutions hence well able to make informed decisions on uptake or rejection of VMMC. Moreover they are also exposed to both print and electronic media for more information on benefits of VMMC as well as to greater cross cultural interactions.

4.3.4: Characteristics of respondents by area of residence

In this study, the researcher attempted to establish whether differences in areas of residence could influence acceptability of VMMC. This was because some areas are a little interior with more rural influence and consequently stronger cultural attachment as compared to areas that are closer to or that fall within town which have greater inter-ethnic exposure. Moreover town areas attract residents with higher levels of education who are employed in the various institutions. Those who are closer to health facilities in towns could also be more motivated to undertake circumcision as they would have easy access to medical attention in case of complications. On account of this, the respondents were requested to complete the

questionnaire stating their area of residence, and their responses were noted as illustrated in table 4.5

Table 4.5. Respondents’ characteristics by area of residence

Area of residence	Frequency	Percentage
West Kamagak	65	17.80
East Kamagak	49	13.40
South Kasipul	82	22.50
Central Kasipul	85	23.30
West Kasipul	84	23.00
Total	365	100.00

Table 4.5 reveals that, out of the 365 respondents who completed the questionnaire, 65 (17.8%) resided in West kamagak, 49 (13.4%) were from East Kamagak, 82 (22.5%) from South Kasipul, 85 (23.3%) lived within Central Kasipul, while 84 respondents (23%) hailed from West Kasipul. West Kamagak and South Kasipul share parts of Oyugis town besides their rural parts, while the other three areas are basically rural.

4.4 Influence of culture on uptake of VMMC by adult Luo men in Kasipul Sub-County

Culture is a way of life of a community. This study sought to establish the extent to which culture influences uptake of VMMC by adult Luo men in Kasipul Sub-County. The Luo do not practice circumcision which is a major cultural identity for other tribes, hence this is likely to be a major hindrance to VMMC acceptance. On the other hand, it is expected that though most people are deeply entrenched in their culture, other factors such as education level, awareness creation and urbanization have neutralized the cultural identity to the extent that reason can prevail over beliefs and cultural practices where necessary. Culture was

therefore measured on the basis of; cultural rites practiced, religion, family sizes and socialization.

4.4.1 Influence of cultural rites practiced on VMMC uptake

In measuring the influence of culture on VMMC uptake by adult Luo men in Kasipul sub-County, the cultural rites still held and practiced are seen as a clear pointer to the extent to which culture is respected and upheld in this community. In the light of this, the respondents were asked to complete the questionnaire indicating the types of cultural rites still practiced today, and their responses captured as depicted in table 4.6.

Table 4.6: Influence of cultural rites practiced on VMMC uptake by adult Luo men

Cultural Rite	Frequency	Percentage
Wife inheritance	85	23.30
Ancestral veneration	74	20.30
Removal of six lower teeth	11	3.00
Polygamy	122	33.40
Other	2	0.50
Missing	71	19.40
Total	365	100.00

Table 4.6 reveals that, out of the 365 respondents who completed the questionnaire, 85 (23%) still practice wife inheritance today, 74 (20.3%) still believe in ancestral veneration for example death anniversaries, only 11 (3%) still embrace removal of six lower teeth, while 122 (33.4%) believe in and practice polygamy. 2 respondents (0.5 %) indicated the others category such as respect to the elders . 71 (19.4 %) respondents did not indicate any cultural rites being practiced which could mean that they don't hold on to Luo traditional culture.

4.4.2 Influence of religion on VMMC uptake among adult Luo men

The Christian faith does not teach circumcision as a prerequisite for membership because of the new covenant. However a few of them base their acceptance of circumcision on the Old Testament command to Abraham by God which has continued to be a Jewish practice to date. This means that most Luo Christians only accept circumcision on medical grounds if exposed to its benefits. Other faiths like Islam have circumcision as compulsory for all its faithful. One's religion therefore tends to contribute a lot to the decision for or against VMMC. On this account, the respondents were asked to complete the questionnaire indicating the faith they profess and their responses captured as depicted in table 4.7

Table 4.7 Influence of religion on VMMC uptake among Adult Luo men

Religion	Frequency	Percentage
Christianity	338	92.60
Islam	16	4.40
Traditional African	2	0.50
Atheist	5	1.40
Other	0	0.00
Total	365	100.00

Table 4.7 reveals strikingly that out of the 365 respondents who completed the questionnaire indicating the faith they professed, 338 (92.6%) were Christians, 16 (4.4%) were Moslems, 2 (0.5%) were traditionalist, and 5 (1.4%) professed no religion at all.

Implied by these statistics is that most of the respondents are likely to resist male circumcision on account of their faith unless otherwise convinced by other factors.

4.4.3 Influence of family size on uptake of VMMC by adult Luo men

Having a large family of one's own biological children, adopted children or extended family members is an aspect of Luo culture. The size of family was therefore thought to be an indicator of the extent to which culture still permeates the people's lives. In the light of this, the respondents were asked to complete the questionnaire indicating the size of their families and their responses noted as displayed in table 4.8.

Table 4.8 Influence of family size on VMMC uptake by adult Luo men

Family Size	Frequency	Percentage
Less than 6 members	189	51.80
Between 6 and 10 members	96	26.30
More than 10 members	18	4.90
Not indicated	61	16.70
Total	365	100.00

Table 4.8 reveals that, of the 360 respondents who filled the questionnaire disclosing the number of family members they have, 189 (51.8%) had less than 6 members, 96 (26.3%) indicated 6 – 10 members while 18 stated that they had more than 10 members. 61 (16.7%) respondents did not indicate the size of their families, probably implying that they were still single and had no children. Implied by these statistics was that most clients are shifting away from the traditional trends of large families and embracing other modern cultural practices such as smaller families. This is an indication of flexibility possibly even towards VMMC acceptance.

4.4.4 Influence of socialization on VMMC uptake by adult Luo men

Socialization is one of the major ways of diffusing innovation. Interacting with the circumcising tribes as well as with members of the Luo community who have undergone circumcision has a great influence in the decisions made by individuals, depending on the

peoples' experiences. Considering this eventuality, the respondents were asked to complete the questionnaire indicating whether they have intertribal marriages in their immediate families, whether they talk freely about circumcision at their work places, and the attitude of workmates towards the same. Their responses were recorded as displayed in table 4.9 and table 4.10 respectively.

Table 4.9 Influence of socialization on uptake of VMMC by adult Luo men

Inter-tribal marriages	Frequency	Percentage
Kisii	44	12.10
Luhya	37	10.10
Kalenjin	7	1.90
Kamba	12	3.30
Others	15	4.10
Missing	4	1.10
No	246	67.40
Total	365	100.00

Table 4.9 indicates that out of the 365 respondents who completed the questionnaire on inter-tribal marriages, the majority inter married with Kisiis and Luhyas who are the neighboring tribes, that is, 44 (12.1%) and 37 (10.1%) respectively, while a few, that is, 7 (1.9%) intermarried with Kalenjins, 12 (3.3%) with Kambas and 15 (4.1%) stated the others category which included the Kikuyu, Swahili, Kuria and others. 4 (1.1%) did not state the tribes they intermarried with. The rest of the respondents which form the majority out of the 365 who completed the questionnaires, that is, 246 (67.4%) said they did not have inter-tribal marriages. The implication of these statistics is that the extent of inter-tribal marriages was small but could exert some positive influence on men towards acceptance of VMMC as they

interact with their wives and her relatives. However the majority missed this kind of influence.

Table 4.10 General attitude of workmates

Attitude of workmates	Frequency	Percentage
Circumcised Luos are ridiculed	17	4.70
Non-circumcised Luos are ridiculed	21	5.80
Individual's choice is respected	230	63.00
They don't want to hear about it	13	3.50
Missing	84	23.00
Total	365	100.00

Table 4.10 indicates that most of the respondents, that is, 281 (77%) stated that they share about VMMC at their work places. Out of the 365 who completed the questionnaires, 17 (4.7%) said that the circumcised Luos amongst them are ridiculed, possibly mainly by fellow Luos. 21 (5.8%) indicated that the non-circumcised Luos are ridiculed, while 230 (63.0%) maintained that the individual's choice is respected. However, a small number, 13 (3.5%) said that the workmates do not want to hear talk on VMMC. This statistics implies that the level of socialization is generally high, exposing people to greater awareness and sharing of experiences which would eventually have a significant influence on uptake of VMMC.

4.5. Influence of level of education on uptake of VMMC by adult Luo men

Level of education attained by a person changes one's concept of life as he gets more exposed to the rest of the world, their lifestyles and values. Education gives opportunity for wider readership hence acquiring more knowledge and facts about different issues of life

such as advantages and disadvantages of medical male circumcision. The level of education is therefore assumed to have a greater influence on one's decision on such matters that are contrary to the general culture in a given community. This variable was viewed against such parameters as academic qualification, forms of education, relevance of education, and learning curves.

4.5.1 Influence of academic qualification on VMMC uptake by adult Luo men

More often, the higher the level of education, indicated by a higher academic qualification, the more one is ready to adopt new ideas, of course based on reason and facts. In the light of this reality, the respondents were asked to complete the questionnaire indicating their level of education and their responses recorded as displayed in table 4.11

Table 4.11 Influence of academic qualification on VMMC uptake by adult Luo men

Academic qualification	Frequency	Percentage
Certificate	182	50.10
Diploma	87	24.00
Degree	67	18.50
Other	06	1.60
Missing	23	6.30
Total	365	100.00

Table 4.11 indicates that of the 365 respondents who completed the questionnaire citing their academic qualifications, 182 (50.1%) had attained certificate level, 87 (24.0%) had attained diploma level, while 67 (18.5%) were degree holders. A small number, 6 (1.6%) had other levels such as masters degree. 23 respondents however did not indicate their academic qualifications. Table 4.4 also indicated that a majority of the respondents, that is 87.8 % had gone through secondary and tertiary education. The implication of these statistics is that most

of respondents are well educated and therefore able to make informed choices on uptake of circumcision.

4.5.2. Influence of forms of education on VMMC uptake.

The forms of education received determines the type of information one acquires, for example informal education tends to impart more of cultural values while formal education offers a variety of knowledge and exposure. On this account, the respondents were asked to complete the questionnaire indicating the form of education they received and their responses recorded as displayed in table 4.12

Table 4.12 Influence of forms of education on VMMC uptake

Form of Education	Frequency	Percentage
Formal	347	95.10
Non formal	8	2.20
Informal	5	1.40
Missing	5	1.40
Total	365	100.00

Table 4.12 indicates that of the 365 respondents who filled the questionnaire disclosing the form of education they received, 347 (95.1%) received formal education while 8 (2.2%) and 5 (1.4%) received non-formal and informal education respectively. 5 (1.4%) respondents did not indicate their type of education. Implied by these statistics was that most of the respondents had a great exposure to other cultures and more awareness on reproductive health.

4.5.3. Influence of relevance of education on VMMC uptake by adult Luo men

In the process of acquiring formal education, it is expected that one receives health education at different stages and different fora. In order to ascertain whether reproductive health education was received and to what general extent, the respondents were requested to fill the questionnaire indicating when they received the most detailed information on reproductive health that they hold today, and what their main source of information was, and they responded as illustrated in table 4.13 and 4.14 respectively

Table 4.13 When knowledge on reproductive health was best acquired

Level of Education	Frequency	Percentage
Primary school	42	11.50
Secondary school	161	44.10
College/ University	91	24.90
After college	43	11.80
Missing	28	7.50
Total	365	100.00

Table 4.13 reveals that out of the 365 respondents who completed the questionnaire on when they acquired knowledge on reproductive health, 42 (11.5%) did at primary school level, 161 (44.1%) at secondary school level, 91 (24.9%) at college level while 43 (11.8%) received the best of it after college. 28 (7.5%) did not indicate, most probably meaning that they lacked awareness on medical male circumcision. The statistics show clearly that most respondents received knowledge on reproductive health at secondary and college levels where majority of the population manage to pass through. Concerning their main source of information, the following responses were received;

Table 4.14 Main source of information on VMMC

Source of information	Frequency	Percentage
Electronic / Print media	158	43.30
Ministry of health / NGO campaigns, visits to health centers, clinics, VCT centers.	152	41.60
Worship centers	3	0.80
Work place, peers, teachers, relatives	37	10.10
Missing	15	4.20
Total	365	100.00

Table 4.14 shows that 158 (43.3%) mainly received information from electronic and print media, 152 (41.6%) mainly received information from health workers and collaborating NGO campaigns on VMMC, 3 people (0.8%) received information at worship centres, while 37 (10.1%) received VMMC awareness through their friends and peers, school and college teachers, relatives, and colleagues at the work place. 15 (4.2%) respondents did not state their main source of information. From the knowledge acquired throughout one's education, the respondents were asked whether they agree or disagree with the main reason for VMMC scale up activities in non-circumcising regions, that is, male circumcision offers partial protection (up to 60%) against HIV infections through heterosexual relations, and also protects from other sexually transmitted infections. Their responses were as displayed in table 4.15

Table 4.15 Attitude towards MC as partial protection against HIV and STIs

MC partially protects from	Frequency	Percentage
HIV and STIs		
Strongly agree	68	18.60
Agree	192	52.60
Neutral	34	9.30
Disagree	38	10.40
Strongly disagree	33	9.00
Total	365	100.00

Table 4.15 reveals that out of the 365 respondents who completed the questionnaire on the extent to which they agreed or disagreed with the fact that male circumcision offers partial protection (up to 60%) against HIV infections and other STIs through heterosexual relations, 68 (18.6%) strongly agreed, 192 (52.6%) agreed, with 38 (10.4%) disagreeing and 33 (9.0 %) strongly disagreeing. 34 (9.3 %) respondents remained neutral. From these statistics the majority that is, 71.2 % believed the research findings.

Statistics from Tables 4.13, 4.14 and 4.15 therefore confirm that the education received by most respondents was instrumental in creating awareness on Voluntary Medical Male Circumcision and therefore had an influence on uptake of VMMC in this region.

4.5.4 Influence of learning curves on uptake of VMMC by adult Luo men

Learning curves simply refers to the continuous or regular training offered to employees after a given length of time to keep them relevant in their work, hence giving a true picture of the correlation between their level of education and their output. The trainings are expected to give more exposure, awareness as well as greater levels of socialization. It is therefore expected to make a contribution in influencing uptake of VMMC. In respect to this, the

respondents were therefore asked to indicate if they go through any training at their work places after the initial training they received. Their responses are indicated in table 4.16

Table 4.16 Frequency of trainings attended

Frequency of training	Frequency	Percentage
At least once every year	168	46.20
At least once every two years	29	8.00
At least once every five years	24	6.60
No trainings attended	130	35.70
Missing	14	3.90
Total	365	100.00

Table 4.16 revealed that 168 (46.2%) respondents had regular training of at least once every year and another 29 (8%) attended training at least once every two years. 24 (6.6 %) attended training at least once every five years while 130 (35.7%) did not attend any training. This could probably be due to the kind of occupation or type of employment they hold. A good number of respondents are involved in self employment in the business sector and in farming as indicated in table 4.17 and hence may not have the time to go for training or to sponsor themselves.

Table 4.17 Occupation of respondents

Occupation	Frequency	Percentage
Business	113	31.00
Farmer	56	15.30
Health	13	3.60
Teaching	62	17.00
Other	76	20.80
Missing	45	12.30
Total	365	100.00

The statistics on learning curves however display that a majority of respondents are exposed to regular trainings and therefore it should have some positive influence on VMMC uptake.

4.6 Influence of accessibility of VMMC services to uptake of VMMC by adult Luo men

If the MMC services are within easy reach by the populace then those who are decided to undergo circumcision are motivated to take up the operation, but if they are not available then it becomes difficult to look for it from very far. Moreover one may not be certain of what to do in case of complications if the facilities are far away and hence this becomes a deterrent to possible uptake. In view of this eventuality, this variable was measured on the prism of; availability of facilities, distance from health facilities, safety of the operations and associated costs.

4.6.1 Influence of availability of VMMC services on uptake of VMMC by adult Luo men .

Availability of these services means the facilities are well equipped to meet the demand for circumcision. It also implies taking the services to where the people are particularly for those who come from the interior areas. This is also important as some adult Luos may not want to expose themselves at the main hospitals for circumcision alongside younger people. On this

account, the respondents who had undergone circumcision were asked to fill the questionnaire disclosing who provided the service for them and their responses are indicated in table 4.18.

Table 4.18 Availability of VMMC services

Service providers	Frequency	Percentage
Traditional experts	12	3.30
Medical personnel	265	72.60
Missing	88	24.10
Total	365	100.00

Table 4.18 indicates that of the 365 respondents who filled the questionnaire disclosing their service providers 12 (3.3%) were attended to by traditional circumcision experts while 265 (72.6%) were serviced by qualified medical personnel. 88 respondents did not indicate, meaning that they probably had not undergone circumcision. Implied by the statistics was that the medical circumcision services have been available to those who wanted it.

4.6.2 Influence of distance from health facilities on uptake of VMMC by adult Luo men

Distance from the facilities, whether mobile or permanent can either be a motivation or deterrence to VMMC uptake. The further it is from the people, the less the number that will seek their services. In light of this, the respondents were requested to state how far the nearest VMMC facility was from their area of residence and the results are indicated in table 4.19.

Table 4.19: Distance from place of residence to the nearest VMMC facility

Distance	Frequency	Percentage
Less than 4 km	179	49.00
5 to 10 km	108	29.60
Beyond 10 km	74	20.30
Missing	4	1.10
Total	365	100.00

Table 4.19 reveals that out of the 365 respondents who filled the questionnaire indicating the distance to the nearest VMMC facility from their residences, 179 (49.0%) stated less than 4 km away, 108 (29.6%) stated between 5 and 10 km away while 74 (20.3%) respondents indicated that they were as far as beyond 10 km from their homes. 4 respondents (1.1%) were not aware of the distances of the VMMC facilities. These statistics indicate that slightly more than half of the respondents are struggling to reach the facilities and most probably at their own costs. This is not motivating enough and is likely to lead to procrastination even by those who would have otherwise taken up VMMC by now.

4.6.3 Influence of safety of operations on VMMC uptake by adult Luo men in Kasipul Sub-County.

Every individual would only undertake a new experience if they are assured of safety and that any risks would be extremely minimal, and more so if the undertaking is not a matter of life and death. It is expected that MMC performed by competent medical personnel in a hospital facility with proper equipments should not pose any risks or complications unless the client fails to follow instructions after the operation. To ascertain that this type of knowledge was also with the people, the respondents were requested to complete the questionnaires indicating the extent to which they agreed or disagreed with the fact that circumcision is still

considered a highly risky operation even when performed by medical personnel in a hospital that is properly equipped. Their responses were as indicated in table 4.20

Table 4.20: Safety of operations when performed by medical personnel.

Highly risky	Frequency	Percentage
Strongly Agree	25	6.80
Agree	28	7.70
Neutral	24	6.30
Disagree	205	56.20
Strongly disagree	84	23.00
Total	365	100.00

Table 4.20 reveals that, of the 365 respondents who filled the questionnaire giving the extent to which they agreed or disagreed that medical circumcision is highly risky, 25 (6.8%) strongly agreed, 28 (7.7%) agreed, while 205 (56%) disagreed as 84 (23%) strongly disagreed. 24 (6.3 %) respondents remained neutral. The statistics in table 4.20 give the impression that many respondents, about 80 % believe it is safe to be circumcised by medical personnel in a properly equipped hospital facility.

The respondents were further asked to indicate the number and type of complications they have heard about if any, and their responses were as indicated in tables 4.21 and 4.22 respectively.

Table 4.21 Number of complications

Number of complications	Frequency	Percentage
None	287	78.60
Between 1 and 5	54	14.80
Between 6 and 10	10	2.70
More than 10	10	2.70
Missing	4	1.10
Total	365	100.00

Table 4.21 reveals that out of the 365 respondents who completed questionnaire stating the number of complications they have come across or heard about, 287 (78.6%) said there was none they knew about, 54 (14.8%) stated between 1 and 5 complications, 10 (2.7 %) stated between 6 and 10 complications and yet another 10 (2.7%) indicated that they had heard of more than 10 complications. These statistics show that MMC is in most cases a safe operation apart from a few instances where there is probably need to find out under which circumstances those complications occurred.

Table 4.22 Type of complications

Type of complications	Frequency	Percentage
Delayed healing beyond six weeks, excessive pain	61	16.70
Wound infections,	37	10.10
Excessive bleeding	11	3.00
Loss of penis/ amputation	7	1.90
Sexual dysfunction	2	0.50
Death	1	0.30
None	246	67.40
Total	365	100.00

Table 4.22 reveals that out of the 365 respondents who completed questionnaire stating the kind of complications they have either experienced or heard others experience, 61 (16.7%) indicated delayed healing of beyond six weeks as well as excessive pain, 37 (10.1 %) stated wound infections, 11 (3 %) indicated excessive bleeding, while 7 (1.9%) claimed extreme cases of loss of penis or amputation, 2 (0.5%) stated sexual dysfunction and 1(0.3%) stated a death case .The majority of the respondents, that is 246 (67.4) did not state any knowledge of complications. These statistics also confirm a high level of safety in circumcision by medical experts.

4.6.4 Influence of associated costs on uptake of VMMC by adult Luo men

Voluntary Medical Male Circumcision is a sponsored programme in Kenya and therefore should bear no costs. However, there are certain associated costs such as transport costs to and from the health centers for the operation and later medical checkup as well as cost of medication such as painkillers. Other costs could arise in the form of taking a few weeks off from work during the healing period depending on the type of work, and for the self

employed, even just a day at home means loss of income. Others may have to bear the cost of stigmatization by friends or relatives, or even bear the cost of shame of being circumcised in old age alongside youths and children. These associated costs could be deterrent to VMMC uptake depending on one's priority and the value one attaches to circumcision. In line with this, the respondents who were not circumcised but intended to do it in future were requested to complete a questionnaire stating what their current hindrances were, and their responses were as indicated in table 4.23.

Table 4.23 Influence of associated costs on uptake of VMMC by adult Luo men

Current hindrance to VMM uptake	Frequency	Percentage
Fear of pain	56	36.40
Distance from service delivery points	11	7.10
It's expensive	1	0.60
Busy work schedule	27	17.50
Fear of possible complications	31	20.10
Stigmatization	7	4.50
Resistance from spouse	1	0.60
Not sure of benefits	8	5.20
Shame of doing it in old age alongside youths	12	7.80
Total	154	100.00

Table 4.23 reveals that out of the 154 respondents who completed questionnaire stating the reason for their delay in taking up circumcision, 56 (36.4%) feared the pain associated with it, 11 (7.1%) cited distance from service delivery points, 1 person (0.6%) said it was expensive,

27 (17.5%) had a busy work schedule, 31 (20.1%) were afraid of possible complications after the operation, 7 (4.5%) respondents feared stigmatization, 1 person (0.6%) faced resistance from his wife, 8 (5.2%) were not sure of the benefits of circumcision, while 12 (7.8%) were ashamed of being circumcised in old age alongside young people. The statistics in table 4.23 imply that associated costs on VMMC has contributed to its slow uptake even by those who have accepted its benefits.

4.7 Influence of Demographic characteristics on uptake of VMMC by adult Luo men

Demographic characteristics of the targeted population has been found to influence uptake of VMMC in other countries and in particular, the age of the client. The main concern of this study is why the adults of 25 years and above are very reluctant to accept circumcision among the Luo communities yet other factors affect all age groups. The number of positive responses so far continue to decrease with increasing age. This variable was measured on the basis of age, marital status, education status as well as economic status.

4.7.1 Influence of age on uptake of VMMC by adult Luo men .

In most of the circumcising tribes in Kenya and other African countries, male circumcision was done between puberty and age 19, while a few communities and those of the western countries did infant circumcision. Among the non-circumcising cultures such as the Luo and Turkana, the VMMC scale up activities began only recently, that was in 2007 when most adults today were already adults. In line with this, the respondents who were already circumcised were asked to indicate the age when they got circumcised and their responses were as indicated in table 4.24

Table 4.24 Influence of age on uptake of VMMC by adult Luo men

Age when circumcised	Frequency	Percentage
Infancy / Childhood	88	24.10
Adolescent / Youth (12-19 years)	96	26.30
Young Adult (20-24 years)	52	14.20
Adult (25 years and beyond)	34	9.30
Missing	95	26.10
Total	365	100.00

As indicated in table 4.24, out of the 365 respondents who completed the questionnaires, 88 (24.1%) were circumcised at infancy or in childhood, 96 (26.3 %) were circumcised between ages 12 to 19, 52 (14.2 %) were young adults when circumcised while only 34 (9.3 %) got circumcised as mature adults, that is, after age 25. The statistics in table 4.24 confirms the trend established in research that a greater number of those who accept circumcision are in the younger ages, and this number reduces steadily with seniority in age group. This could probably be explained by the fact that the young generation is more flexible to receiving new ideas and effecting change while the older members are more attached to their culture and stick to them hence finding it difficult to accept change. Table 4.23 also reveals that some adults also find it shameful to go for circumcision with their younger members or children at the same time and this explains the low uptake of VMMC amongst them.

4.7.2 The influence of marital status on uptake of VMMC by adult Luo men

The researcher believed that marital status has a significant influence on uptake of VMMC by adults depending on the direction of argument. It is generally expected that the married are more serious with life as they have a family to care for as compared to the singles. As such, they have a greater propensity to keep to one sexual partner in the sense of faithfulness to

their spouses and hence are not highly vulnerable to HIV infections and other STIs which is the main reason for VMMC campaigns. Therefore they are likely to be reluctant to take up VMMC. Moreover they may not find it easy to abstain from sexual intercourse for the six weeks healing period. Some may even fear for the unfaithfulness of their wives during that long period. Therefore the singles are in this respect assumed to be more flexible in taking up circumcision as compared to the married.

Table 4.24 showing the ages when the respondents got circumcised indicates that a total number of 270 were circumcised at some age in life, that is, either married, single or widowed. Out of these, 60 respondents stated that they were married or widowed, and at the same time, they got circumcised at age 20 years and above which is the marriageable age. This implies that most respondents got circumcised at 19 years and below, most probably when they were still single even though they were married as at the time of the interview. From this, it can therefore be deduced that most uncircumcised married people are reluctant to take up circumcision.

4.7.3 The influence of education status on uptake of VMMC by adult Luo men

Education status reflects the extent of knowledge one is assumed to have acquired, for example through greater exposure and experience and through wider readership for the highly educated as compared to those in the lower levels. Education is also believed to be having the ability to liberate from certain cultural ties if reason and facts supersede. It is therefore expected that education status has a significant influence on VMMC uptake by adult Luo men. The respondents were therefore requested to fill the questionnaires showing their professional qualifications and their responses were as displayed in table 4.25.

Table 4.25 Influence of education status on uptake of VMMC by adult Luo men

Professional qualification	Frequency	Percentage
Certificate	182	49.90
Diploma	87	23.80
Degree	67	18.40
Other	6	1.60
Missing	23	6.30
Total	365	100.00

Table 4.25 reveals that, out of the 365 respondents who filled the questionnaire indicating their professional qualifications, 182 (49.9%) had attained certificate level, 87 (23.8%) had diplomas, 67 (18.4 %) had acquired first degree , while 6 (1.6%) indicated having attained masters degree. 23 (6.3%) did not indicate any, meaning they had not undertaken any professional training. Implied by the statistics in table 4.25 is that most clients had a high education status which influenced their decision for or against VMMC uptake.

4.7.4 Influence of economic status on uptake of VMMC by adult Luo men

In western countries such as UK, circumcision was mainly practiced by the upper economic and social class for medical reasons since they could afford it. In Kenya, though circumcision is performed without cost on the part of the clients, there are associated costs which may discourage those with low income. Moreover most low and middle income earners who form majority of the rural population are very busy looking for money to meet basic needs such that they don't have time to spare for foreign practices. As such MMC may be considered a secondary issue and only the high income earners may be favourable to it. In line with this, the respondents were requested to fill a questionnaire revealing their main source of income and levels of income per month. The results were as shown in table 4.26 and 4.27 respectively.

Table 4.26 Main source of income

Main source of income	Frequency	Percentage
Employed by government or NGO	114	31.20
Large scale farming	32	8.80
Small scale farming	66	18.10
Business	135	37.00
Other	10	2.70
Missing	8	2.10
Total	365	100.00

Table 4.26 revealed that out of the 365 respondents who filled the questionnaire indicating their main source of income, 114 (31.2%) were employed by either government or nongovernmental organizations, 32 (8.8%) were involved in large scale farming, while 66 (18.1%) practiced small scale farming. 135 (37%) were self employed in the business sector and 10 (2.7%) indicated the other category. 8 (2.1 %) did not reveal their main source of income probably because they were not engaged in some form of employment.

Table 4.27 Level of income

Level of income	Frequency	Percentage
Below Ksh 1000 per month	31	8.50
Between Ksh 1000 and 5000 per month	110	30.10
Between Ksh 5000 and 10,000 per month	107	29.30
Above Ksh 10,000 per month	113	31.00
Missing	4	1.10
Total	365	100.00

Table 4.27 shows that out of the 365 respondents who filled the questionnaire revealing their levels of income, 31 (8.5%) received below Ksh 1000 per month, 110 (30.1%) received between Ksh 1000 and 5000 per month, 107 (29.3%) indicated between Ksh 5000 and 10,000 a month, while 113 (31%) mentioned above Ksh 10,000 per month. From the statistics in tables 4.26 and 4.27, we can infer that most of the population were self employed and were in the low income levels.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter focuses on the summary of the study findings against the backdrop of the key study variables. In this study, the researcher sought to investigate the influence of culture, level of education, accessibility of VMMC services and demographic characteristics on uptake of Voluntary Medical Male Circumcision by adult Luo men in Kasipul Sub-County. Besides, this section also features the conclusions drawn from the investigations, as well as the study recommendations, both for policy formulation and suggestions for further research.

5.2 Summary of the findings

Demographic characteristics held vital to the study included age, marital orientation, level of education, and area of residence. The study revealed that the population consisted of a greater number of younger men which consistently reduced with increase in age. Since the population was randomly sampled, this may imply that the young are probably more actively interested in receiving or participating in new ideas in their environment than their older counterparts hence they readily accepted to fill the questionnaires.

Furthermore the majority of the respondents were married and hence would have been expected to take initiative in accepting VMMC as a role model to the younger adults. Most of them were well educated meaning they were well exposed to reproductive health education in secondary schools and tertiary institutions hence able to make informed decisions on acceptance or rejection of VMMC. Moreover they were also exposed to both print and electronic media for more information on benefits of VMMC as well as to greater cross cultural interactions. Besides, a good number particularly from West Kamagak and South Kasipul wards live within Oyugis town, giving them cross cultural interaction. To an extent

this could also positively influence their worldview on matters pertaining to male circumcision.

Focusing on the major study variables, cultural aspects were measured on the basis of cultural rites practiced, religion, family size and socialization. As revealed in the data, it is deductible that a vast majority of the respondents still value their cultural practices and may not easily accept circumcision which is a cultural identity for other tribes. On matters of religion, it was strikingly revealed that the respondents were mainly Christians. Unlike Moslems and traditionalists, Christianity does not teach on circumcision as a requirement for its faithful and instead considers it as an Old Testament practice for the Jews only. It therefore becomes a major drawback to the VMMC scale up activities. Other factors such as level of education are a good intervention as awareness would make a people to accept circumcision on the basis of medical reasons .However it can still be concluded that religion has played a major negative role in VMMC uptake in this region.

On family sizes, it was clear that the majority had small families of less than six members. Besides economic reasons, this could also imply that most people are shifting away from the traditional trends of large families and embracing other modern cultural practices such as smaller families, an indication of flexibility possibly even towards VMMC acceptance. Finally under cultural aspects, the extent of socialization was low in terms of intertribal marriages as only 115 respondents out of 365 who filled the questionnaires had intermarried with the neighboring Kisii, Luhya, Kikuyu, Kamba, Kalenjin and others, while the majority had pure marriages. The respondents however shared freely about circumcision at their work places and for most of them, the individual's choice was respected. This high level of socialization at work place implies that the people are exposed to greater awareness and sharing of experiences which eventually has a significant influence on uptake of VMMC. However, the choice is an individual affair without coercion from others.

Level of education was also considered as a major variable influencing uptake of VMMC as it helps create awareness on facts about male circumcision. It was measured against the parameters of academic qualification, forms of education, relevance of education and learning curves. On academic qualifications, the data revealed that most of the respondents are well educated and therefore able to make informed choices on uptake of circumcision. Indicating the forms of education they passed through, again a larger number undertook formal education as compared to those who received either non-formal or informal types. This implied that most of the respondents had a great exposure to other cultures and more awareness on reproductive health hence this had an influence on their decision. At the same time, the education received by the majority was relevant as knowledge on VMMC was imparted at every level of study, right from primary school up to tertiary colleges and universities. Moreover even after employment, many have continued to undergo regular trainings where it is expected that they get more exposed and socialized. Concerning their main source of information, it was clear that print and electronic media as well as information from the health workers for example through ministry of health campaigns alongside cooperating NGOs' campaigns, and visits to hospitals, clinics and HIV voluntary counseling and testing centers served the majority. Others received VMMC awareness through their friends and peers, school and college teachers, relatives, and colleagues at the work place. Finally given a chance to state whether they agreed with the research findings that VMMC is a tool for partially controlling the spread of HIV and other STIs (up to 60%), the majority, that is, 71.2% believed the research findings. Therefore from these statistics one can confidently conclude that the level of education has had a great influence on uptake of VMMC in this region. However, the reports from relevant scale up programs such as Nyanza Reproductive Health Society show that only a small percentage of adults above 25 years of age have responded positively to circumcision, that is 2.9% in Kasipul Sub County. This therefore means that education has not contributed positively to VMMC uptake as other

factors such as culture have come in stronger and instead the knowledge acquired has led many to argue away from it. On the other hand it is possible to deduce that the kind of awareness created or acquired at the basic secondary school level of education where the majority of the population manage to reach, is not significant in convincing people of the value added by circumcision.

Another main variable that the researcher believed influences uptake of VMMC is accessibility of VMMC services. When services are accessible to the people, it becomes a motivating factor to take up circumcision while the absence of it is deterrent more so because there are many other concerns of life to be sorted out. This variable was measured on the prism of; availability of facilities, distance from health facilities, safety of the operations and associated costs. On availability of VMMC services, most of the respondents were serviced by qualified medical personnel with only a few attended to by traditional experts. This implied that the medical circumcision services were available to those who wanted. Concerning distance, the statistics indicated that half of the respondents are struggling to reach the facilities, which is not motivating enough and is likely to lead to procrastination even by those who would have otherwise taken up VMMC.

On safety of operations, the respondents stated the extent to which they agreed or disagreed that circumcision remains a highly risky operation even when performed by professional surgeons. In their responses about 80 % believed it is safe to be circumcised by medical personnel in a properly equipped hospital facility. The respondents were further asked to indicate the number and type of complications they have had or heard about if any, and from their responses one concludes that medical male circumcision is in most cases a safe operation when done in the right way, apart from a few instances where there is probably need to find out under which circumstances those complications occurred. The type of complications reported mainly included delayed healing that goes beyond six weeks, excessive pain, wound infections, and excessive bleeding. Few people however claimed

extreme cases of loss of penis or amputation, sexual dysfunction and death. Associated costs, to some extent was also found to influence VMMC uptake as those who said they intended to go for circumcision cited hindrances such as fear of pain, distance from service delivery points, a busy work schedule hence fearing time loss as well as profit loss during the healing period. Others also cited the cost of possible complications after the operation, bearing the shame of being circumcised at old age alongside youths and, stigmatization as well as resistance from wife.

In the study it was assumed that demographic characteristics had a great influence on VMMC uptake, the main concern being that the adults of 25 years and above are very reluctant to accept circumcision among the Luo communities yet other factors affected all age groups. This variable was therefore measured on the basis of age, marital status, education status as well as economic status. Indicating the age when they got circumcised, the research revealed that the younger were more receptive to circumcision compared to the older whose numbers decreased consistently with increase in age. The statistics confirmed the trend established in research that a greater number of those who accept circumcision are in the younger ages, and this number reduces steadily with seniority in age group. This could probably be explained by the fact that the young generation is more flexible to receiving new ideas and effecting change while the older members are more attached to their culture and stick to them hence finding it difficult to accept change. The details on hindrances for those who intended to go for circumcision (Table 4.23) also revealed that some adults found it shameful to go for circumcision with their younger members or children at the same time and this contributes to low uptake of VMMC amongst them. On marital status, the married were reluctant to accept circumcision as the greater number of uptakes fell in the singles' category. Out of the 270 who indicated they were circumcised at particular ages, only 60 respondents stated that they were married or widowed as at the time they got circumcised at age 20 years and above which is the marriageable age. This implied that most respondents got circumcised at 19

years and below, most probably when they were still single. From this, it can be deduced that most uncircumcised married people are reluctant to take up circumcision. Perhaps they are not worried about contracting HIV and other STIs hoping they and their spouses remain chaste. Concerning their education status, the respondents were generally well educated having attained certificate level, diplomas, first degree, and even a master's degree for a few. Since education exposes one to vast knowledge in various fields, higher levels of reasoning, and liberates from unreasonable cultural practices, it therefore had a significant influence on VMMC uptake by adult Luo men as they are able to make informed choices on either direction.

On the economic status, most of the respondents who filled the questionnaires indicating their main source of income were self employed in farming and business activities while only a few (31.2%) were employed by either government or nongovernmental organizations. Their level of income was generally low with a majority earning below Ksh 10,000 a month. These statistics reflect low economic status which is likely to pose a negative influence on VMMC uptake as people get busy with the very basics of earning a livelihood and being able to educate their family members.

5.3 Conclusion

Drawing conclusion from the study findings, it is crucial to observe that the key study variables that informed this work, in a great measure, were found to have had significant influence on uptake of voluntary medical male circumcision by adult Luo men in Kasipul Sub-County. Demographic characteristics held vital to the study included, age, marital orientation, level of education and area of residence. Culture stands out as a major obstacle to acceptability of VMMC because circumcision is foreign to the Luo community and yet it is a major cultural identity for most of the tribes in Kenya. Culture was therefore noted to influence VMMC uptake on the basis that the cultural rites practiced, the religion professed,

the family sizes and the extent of socialization were found to considerably influence the uptake of VMMC.

The level of education was pointer to how far one is exposed to relevant information that could lead them to make informed decisions. This variable was viewed against such parameters as, academic qualifications, forms of education, relevance of education, and learning curves, each of which had substantial influence on acceptability of VMMC among the adult Luo men since most of respondents had good level of educational experience.

Given that people are very keen on things that affect their lives permanently, they will only accept what adds value and whose opportunity cost is minimal. In the introduction of new ideas, the propagators must bring the services within the people's reach to get good result. Accessibility of VMMC services was therefore a major determinant of its uptake. This variable was measured against the parameters of availability of facilities, distance from the health facilities, safety of the operations and associated costs. Mostly circumcision services are found permanently in towns where a greater number of the populace are younger people, with occasional mobile services to the rural areas. Hence this variable had an influence on the greater number of the young age who take up circumcision compared to the reducing numbers with increase in age. The educational status was above average with most of the respondents qualified with certificates and diplomas, while a few had degrees and post graduate degrees. This offered both positive and negative influence depending on the reasoning one had. However, the economic level was generally low, with a number of respondents earning below Ksh 10,000 a month, which most likely had a negative influence.

5.4 Recommendations.

From the study findings, recommendations both for policy formulation and further research were drawn.

5.4.1 Recommendation for policy formulation.

On scale up activities, most of the VMMC campaigns by the Ministry of Health and the cooperating NGOs have been concentrated on youths in secondary schools and young people in tertiary colleges which explain the very positive response among the younger ages. The study recommends that such should be intensified to areas where mature adults are found, for example at work places, in church congregations and through more electronic media discussions. Sensitive and common barriers such as fear of pain, resultant complications including myths of infertility should be addressed. The government of Kenya should think of making VMMC a national project with an independent budget so that we do not only rely on donor funding which is limited to the NGOs.

Circumcision services should be made more available for easy reach especially to the rural areas as many people find it difficult to travel long distances (4km and beyond) for and after circumcision. This also builds confidence when one knows they can get quick help in case of any complications arising from the operation.

There is need for closer follow up of clients to avoid complications that result after successful operations such as wound infections.

Women should also be targeted as they play a great role in decision making around VMMC particularly for the married men.

5.4.2 Recommendation for further Research.

The study recommends the following areas to be considered for further research:

1. What is the influence of women on uptake of VMMC by adult men in the Luo community?
2. Since VMMC is majorly done by professional and qualified medical personnel in the context of proper equipments, why are there still complications arising? And how can this be eradicated so that the adults can confidently venture into this new experience?

3. What could be the influence of other sources / causes of death among the Luos on the fight against HIV and AIDS through VMMC?
4. Why do some people still resort to Traditional Male Circumcision yet there are medical facilities and professionals available throughout the nation?

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APPENDIX I: LETTER OF TRANSMITTAL

FLORENCE OMOLO,
P.O Box 539,
OYUGIS.
02/08/2014.

Dear Sir/Madam,

I am a student of Master of Arts in Project Planning and Management at the University of Nairobi. I am undertaking a research study on Factors Influencing Uptake of Voluntary Medical Male Circumcision by Male Adults In Kasipul Sub-County. The study is done purely for academic purposes. Kindly complete the questionnaire enclosed herein following instructions given after each item and return completed copies. Your co- operation will be highly appreciated and any information provided shall be treated with utmost confidentiality.

Thanks,

Yours Sincerely,

Florence Omolo.

APPENDIX II

QUESTIONNAIRE

QUESTIONNAIRE ON FACTORS THAT INFLUENCE UPTAKE OF VMMC BY ADULT LUO MEN IN KSIPUL SUB-COUNTY.

Declaration: Answers to the questions contained in this questionnaire will be kept confidential.

Kindly read this section carefully before you proceed.

This survey is a study being conducted by Omolo Florence Akinyi, a student of Masters in Project Planning and Management at the University of Nairobi. The purpose of the study is to determine the factors that influence the uptake of Voluntary Medical Male Circumcision by adult Luo men within Kasipul Sub-County. There is no right or wrong answers. Only be sincere to share your experience and your ideas with utmost honesty as your responses will be treated with confidentiality. Your answers will help in the understanding of the reasons for the slow/fast uptake of the VMMC programme in this region.

DEMOGRAPHIC INFORMATION

1. Your area of Residence _____ in (Tick one)

- a) West Kamagak Ward
- b) East Kamagak Ward
- c) South Kasipul Ward
- d) Central Kasipul Ward
- e) West Kasipul Ward

2. Your age (Tick one)

- a) 25-30 b) 31-35 c) 36-40 d) 41-45 e) 46-49

3. Marital status (Tick one)

- a) Single b) Married c) Widower d) Other (specify) _____

4. State your level of education (Tick one)

- a) Below Primary school
b) Primary school
c) Secondary school
d) Post Secondary school

5. What cultural rites do you still accept or participate in?

- a) Wife inheritance
b) Ancestral veneration (e.g. Death anniversaries)
c) Removal of six lower teeth
d) Polygamy
e) Other (specify) _____

6. What is your religion?

- a) Christianity
b) Islam
c) Hinduism
d) Traditional African
e) Atheist
f) Other (specify) _____

7. What is the size of your Family? (tick one)

- a) Less than 6 members
- b) Between 6-10 members
- c) More than 10 members

8. Do you have mixed marriages with Bantus in your immediate family?

Yes No

9. If Yes, indicate the tribes

- a) Kisii
 - b) Luhya
 - c) Kalenjin
 - d) Kamba
 - e) Other (specify)
-

10. Do you freely share about VMMC at your place of work?

Yes No

11. If yes, what is the general attitude of your work mates?

- a) The circumcised Luos are ridiculed / stigmatized
- b) The non-circumcised Luos are ridiculed/ stigmatized
- c) Individual's choice is respected.
- d) They do not want to hear about it.

12. What is your professional qualification?

- a) Certificate
- b) Diploma
- c) Degree
- d) Others (specify) _____

13. What form of education did you go through?

- a) Formal
- b) Non formal
- c) Informal
- d) Other (specify) _____

14. In your educational life, did you acquire knowledge on reproductive health?

Yes No

15. If yes, at what level did you get the best understanding on the same? (tick one)

- a) Primary school
- b) Secondary school
- c) College/ University
- d) After college

16. Have you heard about Voluntary Medical Male Circumcision (VMMC)?

Yes No

17. If yes, what was your main source of information? (Tick the relevant one)

- a) Electronic Media (Radio/TV) / Print Media (Newspapers/ Magazines)
- b) Visits to clinics/ hospitals/ Ministry of Health Campaigns /
NGO campaigns /HIV VCT Centers
- c) Worship Centers
- d) At work place/ Friends/Peers / Relatives / School/ College teacher
Traditional Leaders

18. Male Circumcision offers partial protection against HIV and other Sexually Transmitted Infections (Tick one)

- a) I strongly agree
- b) I agree
- c) I disagree
- d) I strongly disagree

19. What is your occupation?

- a) Business
- b) Farmer
- c) Health
- d) Teaching
- e) Other (specify) _____

20. How often do you attend trainings in your area of specialization?

- a) At least once every year
- b) At least once every two years
- c) At least once every five years
- d) No trainings attended

c) Between 6-10

d) More than 10

28. If any, would you specify the complications or difficulties they experienced?

a) Delayed healing, beyond six weeks

b) Wound infections

c) Excessive bleeding

d) Loss of penis / amputation

e) Sexual dysfunction

f) Death

f) Other (specify)_____

29. Do you have any regrets for having accepted circumcision ?

Yes

No

30. If Yes, kindly share your reasons for it

a) Stigmatization

b) Loss of penile sensitivity

c) Sexual dysfunction

d) Breach of culture

e) Other (Specify)_____

31. If you are not yet circumcised, do you intend to go for it? Yes No

32. If yes, what are the current hindrances? (Tick the relevant ones)

- a) Fear of pain
 - b) Distance from the service delivery points
 - c) Stigmatization
 - d) Busy work schedule
 - e) Not sure of the benefits
 - f) Fear of possible complications from the operation
 - g) It 's expensive
 - h) Resistance from my wife
 - i) Shame of doing it in old age alongside youths
 - j) Any other (state)
-

33. If your answer in 31 above is No, kindly give your reasons against circumcision (Tick the appropriate ones).

- a) I am not aware of its advantages
- b) It is against the culture of my community
- c) The operation is painful
- d) I fear complications that I have seen others experience
- e) It is against my religious beliefs
- f) Stigmatization by friends
- g) Shame of doing it at old age
- h) The VMCM facilities are not readily available
- i) Am married and I cannot abstain from sex for six weeks during the healing period
- j) Fear of wife's unfaithfulness during the healing period
- k) It is difficult to get a few days off from work to heal up
- l) I don't believe in the said advantages

m) Any Other (Kindly state) _____

34. If you are circumcised, at what age did you do it? (Tick one)

- a) Infancy/ childhood
- b) Adolescent/Youth (12 – 19 years)
- c) Young Adult (20 – 24 years)
- d) Adult (25 years and beyond)

35. What is your main source of income?

- a) Employed by government or NGO
- b) Large scale farming
- c) Small scale farming
- d) Business
- e) Other (specify) _____

36. Kindly state your level of income

- a) Below Ksh 1,000 per month
- b) Between Ksh 1,000 and 5,000 per month
- c) Between Ksh 5,000 and 10,000 per month
- d) Above 10,000 per month

END

Thank You for your cooperation.

APPENDIX III

INTERVIEW SCHEDULE FOR KEY INFORMANTS

Work place _____

Role Played in VMMC implementation _____

1. When did you begin implementing the VMMC programme in this region (Kasipul Sub-County)?
2. What methods do you use to create awareness?
3. What is the general response of the people?
4. What are some of the challenges you have met during implementation of this programme?
5. Any complications during or after the operations reported?
6. Have you been able to measure up to the demand for MC?
7. How do you compare demand for MC for children, adolescents and youths, with the adults'?
8. What are some of the hindrances towards uptake of VMMC by adults in this region?
9. Kenya has achieved so much of its target, up to 50% since 2008. Do you see this trend continue in this sub-county or is it on the decline. What are the possible reasons for that trend?

10. Comment on the influence of the following on uptake of VMMC by adult Luo men in this region:

- a) Culture and Religion
- b) Awareness/ level of education
- c) Availability of VMMC facilities
- d) Distance from the providers
- e) Safety in terms of professional service, without complications
- f) Age, Marital status and Experience
- g) Type of employment held by the people / economic status

END

Thank You

APPENDIX IV

Table 1.1 Data on VMMC

REGION	AGE COHORT (Years)	YEAR	
		2013	2014(Jan-March)
Nyanza Province			
	0-14	43217	1681
	15-24	65619	7699
	25 and above	16820	1910
TOTAL		125656	11180
Rachuonyo South District			
	0-14	1493	40
	15-24	4174	809
	25 and above	714	26
TOTAL		6281	1235
Kasipul Sub-County			
	0-14		30
	15-24		582
	25 and above		38
TOTAL			650

Source: District Health Information Software,
Rachuonyo South, HomaBay County.

Table 1.2

Age group	Frequency	Percentage
0 to 9 years	101	1.50
10 to 14 years	1490	22.30
15 to 19 years	4530	67.90
20 to 24 years	295	4.40
25 to 49 years	239	3.60
50 years and above	12	0.20
TOTAL	6667	100.00

Number of clients attended to for VMMC by NRHS in the period Oct 2013 to March 2014 for Nyanza province. (Source: Nyanza Reproductive Health Society.)

Table 1.3

Age group	Frequency	Percentage
0 to 9 years	7	0.50
10 to 14 years	374	28.40
15 to 19 years	869	66.00
20 to 24 years	28	2.10
25 to 49 years	36	2.70
50 years and above	2	0.20
Total	1316	100.00

Number of clients attended to for VMMC by NRHS in the period Oct 2013 to March 2014 for Kasipul division. (Source: Nyanza Reproductive Health Society.)

