FACTORS INFLUENCING UPTAKE OF VOLUNTARY MEDICAL MALE CIRCUMCISION SERVICES AMONG MEN IN SOROTI SUB COUNTY, SOROTI DISTRICT

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DECLARATION

I declare that this research report on the **Factors influencing uptake of voluntary medical male circumcision services among men in Soroti Sub County, Soroti District**, is my own effort and it has never been presented in any other institution for any academic award.

Signature …….

Date ……..……

APPROVAL

I acknowledge that this research report about the **Factors influencing uptake of voluntary medical male circumcision services among men in Soroti Sub County, Soroti District**, is done under my supervision:

Signature ……..…

Ms. NANTALE GRACE

SUPERVISOR

Date ……

DEDICATION

I dedicate this report to my father Mr. Celestine Egonu and my mother Mrs. Bernadette Ironga, and my brothers; Patrick, Simon, Ivan and Isaac, Sisters Sarah, Martha, Winifred and children Caleb, Aldo and Letisha.

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DEFINITION OF OPEARTIONAL TERMS

Circumcision: The act of cutting off the fore skin of males that is practiced as a religious rite by jews and muslims and by others as a social custom or for potential health benefits (such as improved hygiene).

Voluntary Medical male circumcision: The surgical removal of the foreskin of the penis by trained health care providers.

Attitude: Is a mental disposition or mindset. A tendency based on one's beliefs and experience to react to events in certain ways and approach or avoid events that confirm or challenge personal values.

Client: is a person or organization using services of another profession

Knowledge: Is a familiarity, awareness or understanding of something, such as facts, information, descriptions, or skills, which is acquired through experience or education, by perceiving, discovering or learning

LIST OF ABBREVIATIONS

AIDS	**:**	Acquired Immune-Deficiency Syndrome
AVERT	**:**	Anti-Virus Emergency Response Team
CDC	:	Centers for Disease Control and Prevention
HIV	:	Human Immunodeficiency Virus
IDI	:	Infectious Diseases institute (IDI).
MMC	:	Medical Male Circumcision
PEPFAR	:	The President's Emergency Plan for AIDS Relief
STIs	:	Sexually transmitted infections
SUSTAIN	:	Strengthening Uganda's System for Treating AIDS nationally
TACAIDS	:	Tanzania Commission for AIDS
UNAIDS	:	United Nations on Acquired Immune Deficiency Syndrome
USAID	**:**	United States Agency for International Development
VMMC	:	Voluntary Medical Male Circumcision
WHO	:	World Health Organization
SMC	:	Safe Male Circumcision
MC	:	Male circumcision
IHSU	;	International Health Sciences University

ABSTRACT

Introduction: In Uganda, by the end of 2015 the country's health ministry aimed to circumcise 80% – or 4.2 million – men aged between 15 and 49. But between 2008 and 2013 the country only managed to circumcise 50% of this population (MOH, 2015). The level of uptake of VMMC services was low in Soroti Sub County. This motivated the researcher to carry out a study about the factors influencing uptake of voluntary medical male circumcision services among men in Soroti Sub County Soroti District. It was based on specific objectives that included; to assess the social demographic, knowledge, attitude and health care factors influencing uptake of voluntary medical male circumcision services among men in Sub County Soroti district.

Methods: The study employed a descriptive cross sectional study design using quantitative methods of data collection. A sample size of 409 respondents who were men were selected by simple random sampling. Data was collected using structured questionnaire administered by the researcher.

Results: The level of uptake of VMMC services among men in Soroti Sub County was low as compared to the national target. This was due to lack of adequate sensitization about the importance of the service. Social demographic characteristics of the respondents that influenced the utilization of VMMC services were age, marital status, level of education, religion, monthly income and tribe. Knowledge factors that influenced the uptake of VMMC services among men included; Source of information, awareness of importance of VMMC, knowledge about the places where to get VMMC services, VMMC reduce sexual pleasure, knowledge about the hygiene benefits of VMMC, knowledge about the care given to circumcised males and awareness of expected duration of recovery. Attitude factors that influenced the uptake of VMMC services among men in Soroti subcounty included; being very free to undergo circumcision, a belief that VMMC is not painful, a belief that VMMC does lead to heavy bleeding, a mind-set that VMMC is ideal because it reveals respondents' HIV status, a perception that VMMC is free of infections during surgery, a belief that a circumcised male stands less chances of STIs infection, a mind-set that a circumcision wound takes short time to heal and that a circumcised male doesn't experience reduced sexual pleasure. Health care related factors that influenced uptake of VMMC services included; availability of VMMC services, distance to health facility, ever been face to face health educated about VMMC services, adequacy of health workers, provision of information about VMMC, extortion of

additional fees for VMMC services, provision of counseling and testing services about STIs and regularly attended health care services.

Conclusion: The level of uptake of VMMC services in Soroti Sub County was low. It was found out that majority of the respondents had low knowledge and negative attitude towards the uptake of VMMC services among men. Also, the health care related factors never favoured men's utilization of VMMC services.

Recommendations: The Ministry of health should work hand in hand with the health care workers at sub county and village level to educate and sensitize men more about VMMC services so that they positively perceive it and utilize it. The VMMC services should also be extended to all health care facilities so that accessibility is increased.

CHAPTER ONE: INTRODCUTION

1.0 Background

Voluntary Medical Male circumcision (VMMC) is the surgical removal of the foreskin of the penis-the retractable fold of tissue that covers the head of the penis. Male circumcision is one of the oldest and most common surgical procedures worldwide that is performed for a variety of cultural, religious, social, and medical reasons (World Health Organization, 2016). On one hand, there are communities that do not traditionally circumcise and who see such campaigns to take up MC as an affront on their culture (Miiro, et al., 2017).

Circumcision in this study is meant for medical reasons that include; maintain good hygiene and prevent HIV infection and is described as Voluntary Medical Male Circumcision (VMMC). The inner aspect of the foreskin is highly susceptible to HIV infections (WHO, 2016). Voluntary medical male circumcision (VMMC) is the surgical removal of the foreskin of the penis by trained health care providers on consent of the male. It was found to reduce female-to-male sexual transmission of HIV by 60% (WHO, 2016).

Since 2007, WHO and UNAIDS recommended VMMC as an additional important strategy for HIV prevention, particularly in settings with high HIV prevalence and low levels of male circumcision, where the public health benefits will be maximized. Fourteen countries in eastern and southern Africa with this profile, initiated programs to expand male circumcision (WHO, 2016). Despite VMMC being cost-effective, it should be included alongside behavioural and structural strategies, as part of a comprehensive HIV prevention plan.

Global surveys suggest that scaling up medical male circumcision to 80% coverage in priority countries can avert approximately 22% HIV infections by 2025, resulting in a net savings of US$16.51 billion (Njeuhmeli, Emmanuel, Forsythe, 2011). The proportion of men who are circumcised varies by country from less than 5% to more than 80%, with an estimated 30% to 40% of adult men circumcised worldwide by the end of 2015 (WHO, 2016).

Globally medical male circumcision rates are; from 1% in Japan, to 2% in Spain and Sweden, to 58% in the United States, to more than 80% in Muslim-majority countries. Worldwide it is estimated that 25% to 33% of males are circumcised (WHO, 2017). By 2007, it was estimated that 33% of adult males worldwide (aged 15+) were circumcised, with almost 70% of those being Muslims.

In the United States of America, in 2013, The Centers For Disease Control and Prevention (CDC) reported that hospital circumcision rates declined in the United States: from 64.5% in 1979 to 58.3% in 2010. The overall decline was almost entirely due to decline in Western states, from 63.9% in 1979 to 40.2% in 2010 (Weiss et al., 2015). The Western Region reported an incidence of 24.6% in 2009, while the North Central Region reported an incidence of 76.2%, while the overall incidence of circumcision in the United States stood at 54.5%, the lowest figure reported over the previous two decades (Stover and Kripke, 2014). The Northeast Region reported an incidence of 67% and the Southern Region reported 55.7%. There was also significant variation between rural and urban areas. Rural areas reported an incidence of circumcision of 66.9% while urban areas reported an incidence of 41.2% (WHO, 2016).

In Asia More than 80% of males are circumcised. These are found in countries that include; Afghanistan, Azerbaijan, Bahrain, Bangladesh, Brunei, Indonesia, Iran, Iraq, Israel, Jordan, Kuwait, Kyrgyzstan, Lebanon, Malaysia, Oman, Pakistan, Palestine, the Philippines, Qatar, Saudi Arabia, Syria, Tajikistan, Turkey, Turkmenistan, Uzbekistan, United Arab Emirates, Yemen. The overall prevalence of circumcision in the Philippines is reported to be 92.5%. Most circumcisions in the Philippines are performed between the ages of 11 to 13 (Darby, 2011).

Achieving 80% of male circumcision coverage and maintaining it thereafter would avert more than 20% of projected new HIV infections in developing countries such as; Botswana, Lesotho, Malawi, Namibia, Rwanda, Swaziland, Uganda, Zambia and Zimbabwe. Achieving this benchmark will meet 80% of the estimated demand for medical male circumcision by 2010 (Hankins et al, 2011).

The status of VMMC Scale-up towards the 80% target in priority countries in sub Saharan Africa were as follows: Botswana, 6%; Ethiopia (Akinyi, 2014), 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, majority of VMMC clients are younger men; for example, 76% of VMMC clients in 2014 were under 20 years of age (Akinyi, 2014), but some regions have as high as over 95%

circumcision rate, while others are as low as24% (Tanzania Commission for AIDS (TACAIDS): Tanzania HIV/AIDS and Malaria Indicator Survey 2007–2008. Dar es Salaam). Uptake of voluntary medical male circumcision (VMMC) is increasing but South Africa has only attained 20% of its target to circumcise 80% of adult men by 2015 (Humphries et al., 2015). HIV prevalence in South Africa is estimated at 12.2% (all ages), and fewer than half (46.4%) of men ages 15–49 report being circumcised (Kirpke et al., 2016).
AVERT, (2018) note that, Zimbabwe has the poorest VMMC coverage rates in sub Saharan Africa with 14.3% of men aged between 15 and 49 years circumcised as of 2016. However by the end of 2018, 1.3 million men are expected to be circumcised.

In Uganda, by the end of 2015 the country's health ministry aimed to circumcise 80% – or 4.2 million – men aged between 15 and 49. But between 2008 and 2013 the country only managed to circumcise 50% of this population (MOH, 2015). Most of these were young boys. However, research show that religious and cultural beliefs compete with the medical messages about the purpose of circumcision. This makes it difficult for men to decide whether or not to be circumcised medically and also affected the way they behaved afterwards. VMMC is not strictly taken into account by the local believers. Local, religious and social group leaders and women have not been fully involved in the roll-out. This could be responsible for over 7% of HIV prevalence in the general population.

Only 20% of men practice traditional male circumcision for cultural and religious reasons. This is considerably lower than Kenya (80%) or Tanzania (70%) but similar to many other southern African countries. Two-thirds of the circumcision 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 (Kong et al., 2014). In Soroti County, VMMC has not been given due attention due to a number of factors that this study seeks to identify.

1.1 Problem statement

The world health organization recommended Voluntary Medical Male Circumcision as part of the comprehensive HIV prevention strategy in 2007 (Galukande et al., 2017). Voluntary Medical Male Circumcision was found to reduce the risk of HIV sexual transmission by 60% and other hygiene purposes (WHO, 2016).

Despite efforts by the government of Uganda and development partners such as health education of the public about the benefits of VMMC, and the provision of free VMMC services, the utilization of VMMC service in Soroti is still below the national target of circumcising by . This could lead to increased prevalence of HIV and other STIs, increased HIV related morbidity and mortality.

Despite the fact that, prevention of STIs can be achieved by being faithful to one sexual partner, using a condom for sexual intercourse with person whom one is not sure of their safety and abstinence from sex are the ideal modes of prevention of sexually transmitted infections (WHO, 2016). Every sexually active male individual is advised to seek VMMC services to minimize STIs infection (Matovu and Ssebadduka, 2012).

In Soroti Sub County, uptake of male circumcision is unknown. Health reports from Obuku Health Centre III in Soroti subcounty indicate that, STIs such as Candidiasis, HIV, syphilis and Gonorrhea are more prevalent (22%) among non-circumcised males compared to 3% among circumcised males coming to seek health services at the health Centre These threatens their lives as it accounts for many social, health and psychological challenges. As a result, there are increasing cases of STIs especially HIV among non-circumcised males; leading to social stigma, high medical costs and discrimination. (Obuku Health Centre III, 2018). The actual factors impeding uptake of VMMC services in the area are not well known.

This study seeks to quantify the level of utilization of VMMC and the associated factors in the sub county.

1.2 Objectives of the study

1.2.1 Main objective

To assess the factors influencing uptake of voluntary medical male circumcision services among men in Soroti Sub County Soroti District.

1.2.2 Specific objectives

i. To assess the level of uptake of voluntary medical male circumcision services among men in Soroti Sub County Soroti district.
ii. To assess the socio- demographic factors influencing uptake of voluntary medical male circumcision services among men in Sub County Soroti district.
iii. To assess the knowledge towards the uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County Soroti district.
iv. To examine the attitude towards the uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County Soroti district.
v. To assess the health care related factors influencing uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County Soroti district.

1.3 Research Questions

i. What is the level of uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County Soroti district?
ii. What are the socio- demographic factors influencing uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County Soroti district?
iii. What are the knowledge factors influencing the uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County Soroti district?
iv. What are the attitude factors influencing the uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County Soroti district?
v. What are the health-care related factors influencing uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County Soroti District?

1.4 Significance of the study

The government/Ministry of Health will use research findings to initiate community mobilization campaigns on undertaking VMMC basing on the information given in this study. This may be a basis for raising awareness on the importance of VMMC to vulnerable groups of people and thus solicit funds from the national treasurer to promote the campaign.

Also, policy makers may use the information in this study to design appropriate policies that will help in formulating action plans for the making people more aware about the availability and safety of circumcision. This may be used as a basis to encourage more people in the country undergo VMMC.

Results from this study will provide the baseline information about the perception and awareness of men towards V M M C in Soroti Sub County which may be used by the district health department to avail more medical help such that all men uptake circumcision which would be beneficial in minimizing the spread of STIs.

The administrators and program managers could learn from the research and improve on the strategy of formulation and implementation of advocacy programs to improve utilization of safe male circumcision services.

The study results will also benefit the communities themselves as they will learn more about the value of safe male circumcision

The study is a partial fulfillment for the requirements for the award of the bachelor's degree in Nursing Sciences of International Health Sciences University (IHSU).

1.5 Conceptual framework of the study

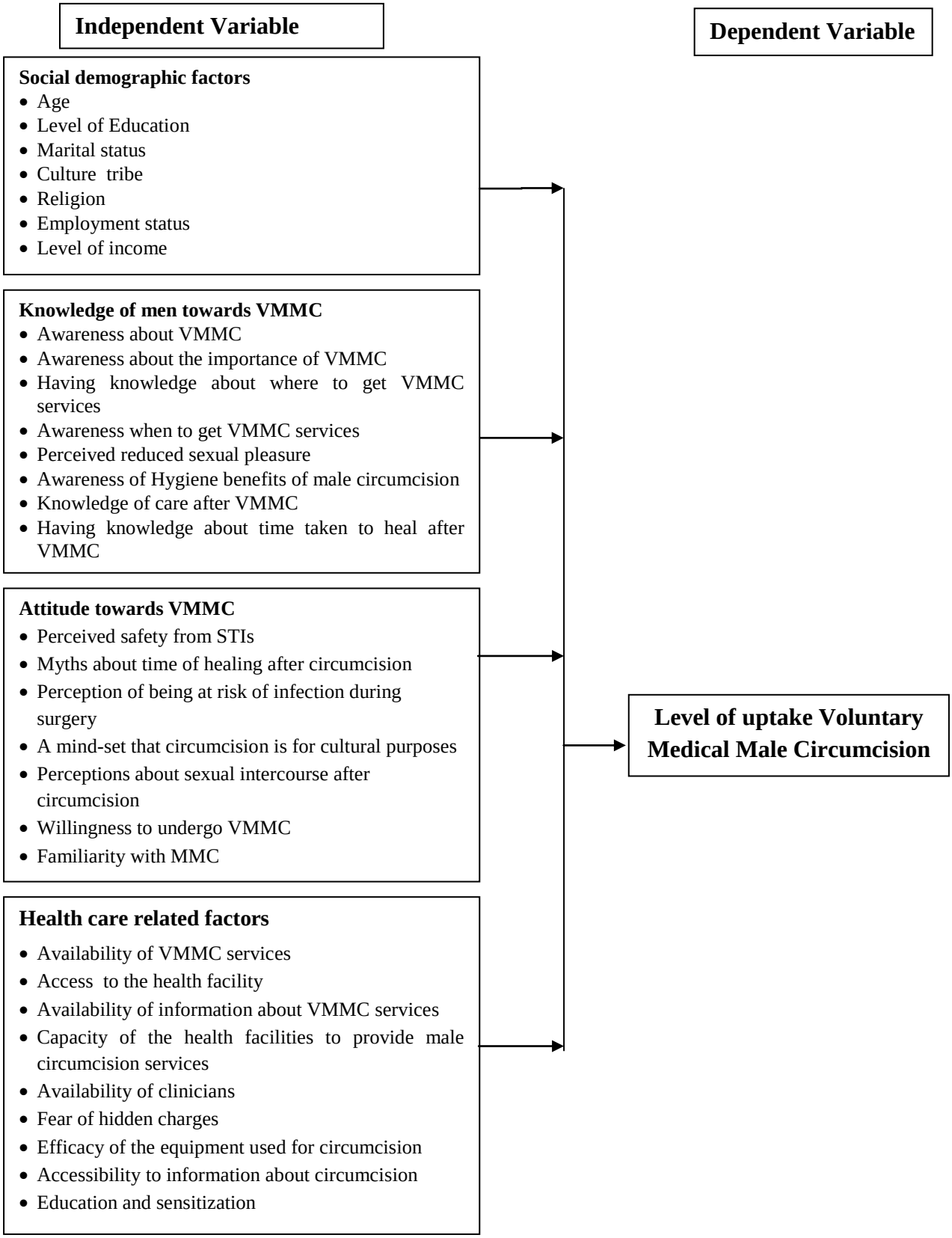


Figure 1: A conceptual framework showing the factors influencing uptake of voluntary medical male circumcision services among men in Soroti Sub County Soroti District

Description of the conceptual frame work

The frame work highlights the relationship between the independent and dependent variables of the study. The independent variables include; social-demographic, personal and health related factors influencing uptake of voluntary medical male circumcision services among men. The dependent variable will be the level of uptake of voluntary medical male circumcision.

Socio-demographic factors will be measured by age, level of education, marital status, religion, cultural norms, tribe and occupation.

Knowledge of men will be measured by; awareness about VMMC, awareness about the importance of VMMC, having knowledge about where to get VMMC, services, awareness when to get VMMC, services, perceived reduced sexual pleasure, awareness of hygiene benefits of male circumcision, knowledge of care after VMMC, and having knowledge about time taken to heal after VMMC.

Health related factors will be measured by; availability of VMMC services, health education about VMMC, availability of health care providers, user fees, privacy at the health care facility, availability of counseling and testing services, waiting time at the health facility, distance to the health facility, level of government funding for VMMC services and Specific days of operation.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This chapter contains information reviewed from acknowledged documents in relation to study specific objectives. These are; to assess the level of uptake of voluntary medical male circumcision services among men in Soroti Sub County between April and May 2018, to assess the social demographic, individual and health care related factors influencing uptake of voluntary medical male circumcision services among men in Soroti Sub County between February and March 2018.

2.1 Level of uptake of voluntary medical male circumcision services among men in Soroti Sub County

Male circumcision is almost universal in the Middle East and Central Asia and in Bangladesh, Indonesia and Pakistan. In addition there are an estimated 120 million circumcised men in India. In all these countries, male circumcision is undertaken primarily for religious and cultural reasons. There is little non-religious circumcision in Asia, with the exception of the Republic of Korea and the Philippines where circumcision is routine and widespread (WHO, 2016).

As a result, 14 countries in East and Southern Africa were identified as priority countries and initiated programs to expand the provision of male circumcision (Botswana, Ethiopia, Kenya, Lesotho, Malawi, Mozambique, Namibia, Rwanda, South Africa, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe). The Central African Republic was subsequently identified as a high priority country for VMMC programs, taking the total to 15 (Kundi et al., 2013).
This massive public health intervention called for 80% coverage of male circumcision by 2016 in the original 14 priority countries (aiming to reach 20.8 million people). By the end of 2015, the last time global data was reported, nearly 11.6 million men in these countries had been medically circumcised. However, the annual number of circumcisions performed within eight of these 14 priority countries declined in 2015 (Thirumurthy et al., 2014).

Rupfutse, et al., (2014) in a study on the factors associated with uptake of voluntary medical male circumcision, Mazowe District, Zimbabwe, note that the prevalence of male circumcision is higher than the 10% that was reported by the WHO in 2009.
In Zambia and Zimbabwe, since 2007, VMMC has been pushed by the World Health Organization (WHO), UNAIDS and PEPFAR, and especially in southern and eastern Africa,

where 14 countries have initiated programmes. But while initial uptake of VMMC was positive with around 12 million boys and men circumcised in these countries alone, this only constitutes 56% of the global target of 20.8 million circumcisions by 2016 (AVERT, 2016).

In Kenya, the level of uptake of VMMC was high at 75% (Nyaga, et al., 2014). The study considered respondents between 18-50 years in Kibera Division and 62% were married. A total of 54% of the respondents had completed secondary and tertiary level of education. Fifty nine percent of the respondents (95% CI = 0.54-0.64) knew about VMMC. Of these, 31% had obtained information about VMMC from TV and radio. The most frequently mentioned reason for undergoing VMMC was prevention of HIV and sexually transmitted infections.

In a study carried out in Rakai District/Uganda, medical male circumcision prevalence was 28% with an annual increase of 4%. This prevalence was lower among men who were regularly using condoms and those who had never tested and counseled for HIV infection (Miiro, et al., 2017).

In Soroti district, the level of uptake in Soroti district is 12% which still very low compared to the district target of circumcising 2500 men in Soroti District by 2017 (Dr Etolu)

2.2 Socio-demographic factors influencing uptake of voluntary medical male circumcision services among men

Social demographic factors influencing uptake of voluntary medical male circumcision services among men that will be considered in this study will include; age, level of education, marital status, religion, cultural norms, occupation and tribe. These are discussed as follows;

2.2.1 Age

Voluntary medical male circumcision is recommended for all males between 10 and 65 years (WHO, 2017).

Njeuhmeli, et al. (2011) in a study carried out in South Africa noted that about three-quarters (71%) of participants were over 30 years of age (Mingo et al., 2012). Another explanation is that this age group is highly exposed to sexual activities that predispose them to STIs infection thus need to circumcise.

In a study carried out in Kenya by Akinyi, (2014) on the factors influencing uptake of voluntary medical male circumcision by male adults in Kasipul Sub-County reveal that, overall, 60.5% of males who underwent MMC were between 25 and 54 years of age. Ideally,

uptake of MMC services is recommended from 4 years of age which correlates with the age groups identified in the present study.

Local statistics in Uganda show that VMMC is not highly accepted by adult males due to a number of perceive personal and community conceptions.

In a study carried out in Rakai District in southwestern central region of Uganda on male circumcision coverage, knowledge and attitudes after 4 years of program scale-up found out an increase of VMMC coverage in adolescents aged between 15 and 19 years (Kong et al., 2014). This implied that, VMMC services utilization had increased among younger boys because it was easy to convince them to utilize the service unlike adults above 20 years who denied the service in disguise of lack of time and inconveniences at work caused by delayed wound healing and adverse events.

2.2.2 Level of Education

Uptake of MMC is also related to male literacy levels indicated by their levels of education. Rural males are less educated, underserved and have low uptake of MMC services, while the frequency of getting circumcised was higher among urban males (Ngo and Obhai, 2009). This is because males based in rural areas never have enough information regarding MMC and prevention of STIs due to poor information dissemination systems and illiteracy. On the contrary, Njeuhmeli, et al., (2011) in a study carried out in South Africa noted that urban males are better placed at the center of information and nearer to services delivery centres especially health care facilities as also reported by Ndejjo and colleagues in a study carried out in Uganda (Ndejjo, et al., 2016). This implies that, increased access to information and services correlated with increased uptake of MMC services.

In a study carried out in Mazowe district, Zimbabwe by Rapfute et al., (2014) revealed that in a study carried among 300 participants, more than two thirds of the respondents were married and 72% of the respondents had at least secondary education.

2.2.3 Marital status

Most males who are married cannot easily consent to VMMC without their wife's knowledge and consent. This is because it would cause disagreements in their marital life. The husbands may fear that they would appear unfaithful to their wives if they undergo such a serious medical (Akinyi, 2014). This may explain the reasons why some of those who had not seek MMC services pointed out that lack of finance as a reason for that. Studies conducted in other parts of the world have indicated that economic status of an individual is a great determinant

on the uptake of MMC services in a study carried out in Philadelphia, Pennsylvania as the male may be laid off work for proper recovery (Stover and Kripke, 2014).

Binagwaho, Pegurri, Muita and Bertozzi, (2010), in a study carried out in Rwanda found need to first require wife's permission before up taking MMC. In Rwanda its highly believed any spouse that takes a medical decision on reproductive health without the consent of the other maybe accused of committing adultery. MMC is among the most feared medical practices to males one would not risk to take with a sole decision as it may even lead to infection and death.

In a study carried out in Uganda, on male circumcision coverage revealed that utilization of VMMC services was more among married men compared to non-married males (Kong et al., 2014). This was attributed to the fact the married men wanted to minimize the chances of contracting sexually transmitted infection which was a topical issue among couples.

2.2.4 Culture and Religion

In a study carried out by MacLaren, et al., (2013) on foreskin cutting beliefs and practices and the acceptability of male circumcision for HIV prevention in Papua New Guinea, revealed that, despite that fact that majority of the males in Papua New Guinea never associated circumcision to culture, a quarter of the respondents agreed that allowing the blood to flow when the skin is cut is important in their culture/custom. Majority of the men agreed that it was important to eat special food and to reduce the amount of water in the days following the cut. More than 89% of men agreed that men need to stay away from women after having a foreskin cut. Around 40% of men agreed that a cut foreskin makes a man's body grow strong and the penis grow bigger; less than 20% women agreed with the majority unsure.

Bottoman et al., (2009) in a study carried out among the South African Xhosa men show that, men would accept MMC for cultural reasons. Circumcision in traditional Xhosa is taken as an initiation ritual and a rite of passage from childhood into manhood. This was done to identify children from men which a sign of responsibility.

In a study carried out in Botswana, cultural and religious reasons were not significantly associated to undergoing medical male circumcision among most of the participants. About 62 (73.8%) of the respondents did not agree that circumcision should be done for religious purposes. Only, 5 (6%) of the respondents believed religion was the reason for undergoing circumcision and this was mainly among Muslim respondents (Jayeoba et al., 2012).

In a study carried out in East Africa, male circumcision was highly associated to cultural norms. In a study carried out in Bungoma, Kenya, it was found out that circumcision was mainly done for cultural purposes. It was believed that circumcision was done for providing safety against sexually transmitted infections (Barclay, 2010).

In a study carried out in Uganda, on male circumcision coverage revealed that despite the fact that circumcision is traditionally known to be for Muslims, from 2007 to 2014 coverage increased from 28.5% to 52% in all men and increased from 18.7% to 45.7% in non-Muslim men (Kong et al., 2014).

2.2.5 Level of income

Voluntary medical male circumcision is meant to be free of charge service. This is performed in both public and private health care institutions under USAID and Infectious Diseases institute (IDI). It is however observed that, concern about the financial burden of VMMC was especially common among men who earned a daily wage such as fishermen and those in the transport sector which hindered them from utilizing the VMMC services (Kwena et al., 2012). While the focus on high-risk groups, including daily laborers, is a potential limitation of this study, this group is significantly represented in Nyanza which has unemployment rates of approximately 72%. However, it is important to note that study results, especially those related to financial concerns, may not be generalizable to men who earn regular salaries or work in office environments.

2.2.6 Peer Pressure

In most cases peer groups do not positively advice their group members. In context of male circumcision, peer group influence has negatively influenced uptake of VMMC due to a number of reasons (Kong et al., 2017).

Peer pressure was found to be one of the greatest influencing factors when deciding to undergo circumcision. The study found that about 12 (14.3%) of respondents responded that they did not want to be circumcised because of peer pressure, while 68 (80.9%) of respondents were not influenced by peer pressure. Peer pressure is not always a barrier to MC uptake; it has been found to be a very common facilitator of MC uptake among young men (Herman-Roloff et al., 2011).

2.2.7 Occupation

In a study carried out in Uganda, on male circumcision coverage revealed that voluntary male medical circumcision services were more likely to be utilized by males occupied in jobs of low payment compared to males employed in jobs of high payment (Kong et al., 2014). This was due to the fact that men of low incomes had more time to attend to VMMC services as compared to respondents with high incomes.

2.3 Knowledge factors towards influencing uptake of voluntary medical male circumcision services among men

2.3.1 Knowledge about the importance of VMMC

In the same line, Hoffman et al., (2015) in a study carried out in South Africa where 87.8% of the respondents knew that, a man was still susceptible to HIV infection even if he is circumcised. This implied that respondents had good knowledge about the relationship between medical male circumcision and HIV infection. This knowledge could also be attributed to the fact that 93% of the participants had ever heard that circumcision minimizes HIV infection as illustrated by the World Health Organization report that VMMC reduces the chances of HIV infection by 60% (WHO, 2016).

On the contrary, in a study carried out in Botswana, majority of the respondents were not aware that medical male circumcision reduces the risk of HIV infection (Tapera et al., 2013).

In a study carried out in Eastern Uganda, some men never realized the value in medical male circumcision when they are advised to continue using condoms after the procedure. They had a view that, if VMMC is not 100% a preventive measure to HIV infection, never seriously perceived the importance of VMMC. This could be attributed to rigid cultural beliefs and lack of civilization among some males that they cannot easily interpret some medical information.

2.3.2 Awareness that VMMC reduces risk of HIV infection

Ngodji (2010) in a study carried out in Namibia found out that majority (84.6%) of the respondents did not out rightly know that circumcision reduces the risk of HIV infection. However, many believed that it was true when they were asked directly whether circumcision minimizes HIV infection.

2.3.3 Awareness that circumcision minimizes STIs infection

Ideally, medical male circumcision minimizes HIV infection rate by 60% (WHO, 2016). However these facts are not known to many males especially those in rural areas among illiterate people. In an exploratory survey where data was collected by convenient sampling carried out in Haiti about the knowledge, attitudes and beliefs about Male Medical Circumcision among a sample of health care providers showed that majority 90% of the participants said that MMC would reduce STIs (Devieux et al., 2015). This could be attributed to the fact that, respondents were health care providers who are expected to have attained training about the efficacy of medical male circumcision.

In the same line, Hoffman et al., (2015) in a study carried out in South Africa where 87.8% of the respondents knew that, a man was still susceptible to HIV infection even if he is circumcised. This implied that respondents had good knowledge about the relationship between medical male circumcision and HIV infection. This knowledge could also be attributed to the fact that 93% of the participants had ever heard that circumcision minimizes HIV infection as illustrated by the World Health Organization report that VMMC reduces the chances of HIV infection by 60% (WHO, 2016).

On the contrary, in a study carried out in Botswana, majority of the respondents were not aware that medical male circumcision reduces the risk of HIV infection (Tapera et al., 2013).

In a study carried out in Eastern Uganda, some men never realized the value in medical male circumcision when they are advised to continue using condoms after the procedure. They had a view that, if VMMC is not 100% a preventive measure to HIV infection, never seriously perceived the importance of VMMC. This could be attributed to rigid cultural beliefs and lack of civilization among some males that they cannot easily interpret some medical information.

2.3.4 Source of Information about VMMC

Hoffman et al., (2018) in a study on the perceptions and knowledge of VMMC for HIV prevention in traditionally non-circumcising communities in South Africa, revealed that though majority 93.3% of the respondents had heard about male circumcision, few of them were circumcised. Majority (64.4%) knew of VMMC from someone in the community who was circumcised, others from a family member (46.2%) while 28.8% heard from government campaigns and less than one fifth through formal contact with the health care system either directly or through the media. Having heard of VMMC from fellow community members by

majority of the respondents may not have put courage among them to equally seek VMMC because different community member sought circumcision for different personal, cultural and religious needs.

In a Kenyan newspaper analysis of the limitations of VMMC and the importance of sustained condom use revealed the major source of information on MMC was radio (Muzyka et al., 2012). This was attributed to the liberalization of the media where there are many radio stations across the country which increased radio accessibility to residents in Kenya. This was however met with challenges of mis information about the reality regarding VMMC since some radios do not censor their programs.

On the contrary, in a cross sectional study carried out in Uganda revealed that half 76 (50.6%) of the respondents had undergone VMMC at the health care facility (Mukama, Ndejjo, Musinguzi and Musoke, 2015). This implies that respondents never had adequate knowledge about circumcision despite having the service at the health care facility. Lack of adequate knowledge can be attributed to poor health care seeking bahaviour among majority of the males.

2.3.5 Awareness of Hygiene benefits of male circumcision

In a cross sectional study carried out in Cameroon and Senegal on early infant males where data was collected through a policy desk review, key informants interview and focus group discussions, found out that lack of awareness about the hygiene benefits of male circumcision limited parents from consenting for their children to be circumcised. Respondents who were parents revealed that, they would be willing to circumcise their children if they are assured of the hygiene benefits associated with male circumcision.

In a qualitative study among police officers carried out in Dar es Salaam, Tanzania revealed that majority of the respondents knew that VMMC improves penile hygiene (Tarimo et al., 2012). This was attributed to the fact that a circumcised penis does not have the foreskin which harbours urine and other fluids which favours the development of different pathogens and subsequently higher chances of developing penile cancer. Given that majority of the respondents were Muslims, knew the hygiene benefits of circumcision because it is also religiously talk as one of the major reasons for circumcision.

2.3.6 Awareness of the safety of voluntary medical male circumcision

In a study carried out in Papua New Guinea about foreskin cutting beliefs and practices and the acceptability of male circumcision for HIV prevention in Papua New Guinea, found out

that majority 90% and 95% of women agreed that foreskin cutting in a village by a friend or relative was not a safe procedure (MacLean et al., 2013). Almost all men and three quarters of women disagreed that it is safe to use the same blade or razor to cut the foreskin of many men at one time. Most men (88%) and women (71%) agreed that having a foreskin cut by a health professional in a health facility is a safe procedure. This implies that majority of the respondents were aware of the safety of VMMC to men.

In a study carried out in Rwanda on the determinants of circumcision and willingness to be circumcised by Rwanda men showed that in Rwanda, Swaziland and Kenya cultural variations of foreskin cutting that do not completely remove the foreskin and that many of these men consider themselves circumcised and regard themselves safe from any knid of infection during and after surgery (Gasasira et al., 2012).

Similar findings were reported in a study carried out in Uganda, most of the men who were health educated about VMMC were aware of the safety of VMMC during surgery (Kigozi et al., 2009). Health educated men were aware that, health care providers who performed VMMC in safe health care environment maintained high levels of infection control thus provided safety for males.

2.4 Attitude factors towards influencing uptake of voluntary medical male circumcision services among men

2.4.1 Perceived reduced sexual pleasure

Circumcision does not reduce sexual pleasure (Earp, 2016). In a study carried out carried out in Australia on male circumcision and HIV prevention revealed that most men never took up circumcision because they were concerned that the surgery would reduce their sexual pleasure (Brooks et al., 2010). They believed that, if they are circumcised, they would not enjoy sex anymore which would threaten their marital life. Since most of the males were married, they did not want to risk their marriages and their ability to reproduce.

In a study carried out in Denmark revealed that, most 154 (66%) of the women preferred having sex with uncircumcised men because sex circumcised men would lead to vaginal dryness with a circumcised partner (Frisch, Lindholm and Gronbeck, 2010). This could be attributed to inadequate information about VMMC among most of the respondents that participated in the study.

In a study carried out in China, concluded that circumcision decreases sexual enjoyment due to loss of nerve endings (Mantell et a., 2013). It was however revealed that, VMMC doesn't adversely affect the sexual function among men (Sacham, Godlonton and Thornton, 2014).

This was attributed to observations from some respondents who really confirm change in sexual function. Changes in sexual enjoyment, penile sensitivity, and mean ejaculatory latency time explained this perception among majority of the respondents especially the Muslims.

In a study carried out in South Korea, it was found out that majority of the respondents believed that men were twice more likely to experience diminished sexuality rather than improved sexuality when they are circumcised (Pang and Kim, 2002 in Chiringa et al., 2016).

In a study carried out in Zimbabwe about the factors contributing to the low uptake of VMMC in Mutare Rural District, it was found out that, majority 204 (87%) of the respondents believed that circumcision diminishes sexual pleasure which would eventually lead to loss of their partners (Chiringa, Ramathuba, and Mashau, 2016). This was attributed to community misconceptions about circumcision.

On the contrary, in a study based on focus group discussions carried out in Nyanza Province particularly in Kisumu East and rural (Nyando and Kisumu West), Kenya on acceptability of medical male circumcision among uncircumcised men found out that majority of the respondents had a perception that circumcision enhances sexual pleasure (Herman-Roloff et al., 2011). Findings showed that most respondents thought that the removal of the fore skin of the penis enhances sexual pleasure which would help them to strengthen their marriages.

On the contrary, in a study carried out in Uganda on circumcision for HIV prevention, it was found out that most of the respondents never believed that male circumcision diminishes sexual pleasure (Wilcken et al., 2010). Young men felt that circumcision enhanced sexual pleasure and satisfaction for women which increased their acceptance to VMMC.

2.4.2 Fear of pain and healing complications

In a study carried out among men who were willing have have sex with their fellow men revealed that, the feared having pain during sex with their fellow men if they were circumcised (Lau et al., 2016). This was attributed to the fact that, anal sexual intercourses were reported to have a lot of friction that if they are circumcised, they feared injuring the scars this were less likely to utilize VMMC services.

In a study carried out in Uganda, on male circumcision, most participants mentioned that fear of excessive pain during circumcision and healing complications could be a major obstacle to seeking the procedure. In one of the FGDs many discussants held a perception that pain was a key characteristic of circumcision practices in neighboring tribes. The participants said that

they had heard of circumcision ceremonies in these communities, in which endurance of pain was an indicator of being a man and an important experience (Obure, et al. 2009).

2.4.3 Fear of surgical complications

In a qualitative study carried out in Botswana on evaluation of a male circumcision strategy for HIV prevention where data was collected by audio-taping from the focus group discussions showed that, some males who were not medically circumcised feared surgical complication such as sepsis and loss of penile sensitivity. Majority of the respondent cited pain as the major complication they would face after circumcision which would disturb them during work while others cited infections following surgery.

Similar findings were reported in a study carried out in the Eastern Cape and Limpopo in South Africa where circumcision was linked to pain, infections and death of the circumcised males (Humphries et al., 2015). Results indicated that, most of the respondents associated any illness that one would develop after circumcision as being caused by the surgery underwent through. Some of the most feared infections were tetanus and foniers gangrene. Most of the respondents did not believe that anesthesia relieved pain thus could not risk standing for that perceived pain. This implied that most of the respondents were not aware of the efficacy of VMMC.

In a cross sectional qualitative study carried out in Kenya among men on identifying and addressing barriers to uptake of VMMC in Nyanza, Kenya revealed that most men who associated circumcision with pain were less likely to utilize the service (Evan et al., 2014). Most respondents revealed that pain and uneasiness were normal in the theatre especially during the introduction of local anaesthesia. However, much males were assured of not experiencing pain during surgery, many never believed they would still experience pain during surgery.

In a survey carried out in Eastern Region of Uganda about male circumcision found out that there were some cultural norms that hindered males from accepting medical male circumcision. The Bagisu tribe, carry out their traditional circumcision called ‘Imbalu’ which entails removing almost all the skin of the penis and the male is expected to first have sexual intercourse with another woman others than his official wife yet voluntary circumcision does not concur with such perceptions (Iputo, 2017). Males instead

2.4.4 Fear of hidden charges

Voluntary medical male circumcision is meant to be free of charge. It is a World Health Organization initiative through different government that is meant to minimize the spread of sexually transmitted infections and promote hygiene (WHO, 2016). Thus it's a prepaid service in both public and private health care facilities under the Infectious Disease Institute (IDI). Under this circumstance, large numbers of men would be expected to adhere but there are other hidden costs that limit men from up taking the service (WHO, 2015). For instance, in a study carried out in Mazowe District, Zimbabwe associate low uptake of VMMC to failure of some men to meet the costs such as transport to access circumcision centres. Most centres were located as far as 10 km from some individuals yet lacked immediate cheap public transport means to reach circumcision centres.

Similar findings were reported in a study carried out in Zambia showed that lack of out-of-pocket payment for non-emergency health care needs are not attended to which led to low utilization of MMC services (Leiby et al., 2016). Given that most of the males in most areas in the country were low income earners and yet VMMC services were not reliably available in all public health care facilities led to low utilization of VMMC services.

Similarly, in a study carried out in Zambia by Leiby, et al., (2016) show that, uptake of MMC services is low among most males in rural settings in low income settings with poor health care systems. There is lack of out-of-pocket payment for non-emergency health care needs are not attended to which led to low utilization of MMC services.

Similar findings were reported in a cross sectional study carried out in Rupfutse, et al., (2014) in a study on the factors associated with uptake of voluntary medical male circumcision, Mazowe District, Zimbabwe revealed that, the availability of health education about medical male circumcision significantly affected their awareness for the importance to uptake MMC services. Findings indicate that, males who had health education about MMC presented higher compliance to seeking MMC services as compared to respondents who had lower levels of training. In another study carried out in (Herman Roloff, et al. 2012) in a study on medical male circumcision in Nyanza Province Kenya, revealed that higher education levels correlated with utilization of MMC services (P=0.0002). This was investigated in Soroti Sub County among men to establish the factors for the uptake of MMC services.

Similar findings were reported in a study carried out in Kenya that analyzed the delivery of male circumcision through Marie Stopes' reproductive health mobile outreach programme in Kenya by Ngo and Obhai (2009) were males who never circumcised feared the hidden costs associated with surgery. Most of the male could not meet the costs at any moment of their wish because they had wait for payment which was mostly on a monthly basis. Majority of them were not pain on time thus were not sure thus had unreliable income.
Ngo and Obhai, (2009) in a study that analysed the delivery of male circumcision through Marie Stopes' reproductive health mobile outreach programs in Kenya found that most males who never circumcised feared the hidden charges associated with surgery. Majority of the male could not meet the charges at any moment of their wish because they took long to be paid.

Another cross sectional study carried out by Gray, et al., (2010) on male circumcision decreases acquisition and increases clearance of high-risk human papilloma virus in HIV-negative men: a randomized trial in Rakai, Uganda found out that most males never had adequate knowledge about MMC and the few who had knowledge was not translated into actual utilization of MMC available in the area due to misconceptions that they had about the efficacy of the equipment used to perform the service. This was attributed to the fact that, there was inadequacy of the screening equipment and human resource in most health care facilities in most rural area. This will be investigated among men in Soroti Sub County.

2.4.5 Myths about time of healing after circumcision

In a study carried out in Europe, Smith et al., (2010) noted that long wound healing time would not hinder them from undergoing circumcision. This is because fear of long wound healing time was reported that 40 (47.6%) of respondents did not regard long healing time as an obstacle to circumcision. There is the possibility that wound healing could be delayed during MC, particularly when there is an infection.
On the contrary, in a study conducted in Kisumu, Kenya, the perception of long healing period following the procedure of circumcision was identified as a barrier to the uptake of circumcision (Westercamp et al., 2012). Therefore, improving the quality of MC services could reduce healing times and, consequently, facilitate MC uptake.

AVERT Uganda, (2016) cited medical experts also blame misconceptions about circumcision for its low uptake. Some men are put off by the time it will take for them to heal, while some

women think it will lessen their partner's sexual performance. Similarly, (Etolu, 2017) notes that most males associated circumcision with pain, which will cause them to wear skirts and walk with a staggering gait. Most men refuse to be circumcised because they think that they will take long to heal which could limit them from their day today work.

2.4.6 Belief that they are at risk of infection during surgery

Voluntary medical male circumcision is meant to minimize infections to males. The most feared infections are sexually transmitted infections that mainly include HIV. Despite the fact that circumcision is meant to avoid STIs and hygiene infections, there are also other infections that are feared by males during the surgical process. For instance, in a study carried out in South Africa on the factors influencing the uptake of male circumcision as HIV prevention strategy among adolescent boys in Nanogang Community Junior secondary school found fear it infections as a hindrance to accepting VMMC (Yewondwossen, 2012). Males feared acquiring infections that would lead to risks of penile cancer which would lead to loss of manhood and eventual death.

Similar findings were reported in Namibia where respondents who were not circumcised feared acquiring infections during surgery. Respondents feared acquiring (Katangolo, 2014).

2.4.7 Willingness to undergo VMMC

One's will to accept circumcision would base on a number of factors that mainly include; medical, religious and cultural reasons. However, with VMMC, one would be expected to fully agree if he is well educated about the benefits he will get after circumcision and the dangers he is likely to face if he remains uncircumcised. The Ministry of Health in Uganda under the SUSTAIN project educates males over the media, in health care facilities and other avenues about the advantages of VMMC which has attracted many men to circumcise (MOH, 2016).

In a study carried out in Rakia District located in South- Western Central Region of Uganda showed that, very few (27%) of the studied population were willing to undergo circumcision. The main reason they cited out was pain and injury. They revealed that, they could stand the pain during the surgery where most of them were doubtful of the efficacy of anaesthesia.

2.4.8 Familiarity with MMC

Familiarity with MMC among Men is expected to be attained through education and sensitization by trained health care providers. This is done in health care facilities and other avenues such as the media.

In a study carried out in Southern Florida, United States of America on male circumcision rates in patients from sexually transmitted disease clinic and acceptability of circumcision among Hispanics revealed that majority were familiar with circumcision (Castro et al., 2014). Few participants had misconceptions about circumcision; for example, a male participant thought circumcision was a surgical procedure to increase the size of the penis and another thought it was a surgical procedure to sterilize men. Three male focus groups and three females focus groups were held.

Stover and Kripke, (2014) in a study on estimating the effects of targeting voluntary medical male circumcision (VMMC) programs to different age groups in Australia, show that, males who have ever had a family member who underwent MMC were more likely to utilize MMC services. This implies that, they are more familiar with different health care complications which can lead to their awareness about the importance of up taking MMC. Formally males who undergo MMC are health educated about its importance and the different wound care practices which makes them to have general knowledge about MMC.

2.4.9 Peer Pressure

In most cases peer groups do not positively advice their group members. In context of male circumcision, peer group influence has negatively influenced uptake of VMMC due to a number of reasons (Kong et al., 2017).

Peer pressure was found to be one of the greatest influencing factors when deciding to undergo circumcision. The study found that about 12 (14.3%) of respondents responded that they did not want to be circumcised because of peer pressure, while 68 (80.9%) of respondents were not influenced by peer pressure. Peer pressure is not always a barrier to MC uptake; it has been found to be a very common facilitator of MC uptake among young men (Herman-Roloff et al., 2011).

2.5 Health care related factors influencing uptake of voluntary medical male circumcision services among men

Health care related factors influencing uptake of voluntary medical male circumcision services among men that will be considered in this study include; capacity of the health

facilities to provide male circumcision services, availability of clinicians, fear of hidden charges, efficacy of the equipment used for circumcision, level of communication and education and sensitization. These are discussed as follows;

2.5.1 Distance to the health facility

Majority of the study participants (85%) lived more than 5km away from the nearest VMMC centre. Unlike in other areas where transport to VMMC centres is provided for free (Adam, 2012), in Zimbabwe no transport is provided to visit VMMC centres. Long distance was cited by 70% of the participants, transport availability and unaffordable transport costs were cited by 60% of the participants. These results were supported in other studies that cited lack of access to health care facilities (Ngalande et al., 2006).

According to Kighoma (2011), a cohort study conducted in Uganda-Rakai district revealed that despite transport being provided to carry clients from community to the facility and back, still they would not turn up for VMMC surgery. When a follow up on the client was made to ascertain the reasons for not turning up, the following were elicited: too busy to attend, refused by spouse, no longer interested, fear of injury, fear of pain, against traditional beliefs, still undecided, had health problems, refused by parents, was at school, turned up but was not circumcised and forgot appointment.

2.5.2 Capacity of the health facilities to provide male circumcision services

Most of the voluntary medical male circumcision services are offered in public health care facilities because they are prepaid for services and are stationed in health care facilities that have the capacity to offer them. This includes having enough and suitable equipment plus well trained human resource in offering circumcision services. In a study carried out in Namibia, on the attitude of male circumcision found out that more men were willing to undergo medical male circumcision if the health care facilities had enough and competent health care providers offering the service at free of charge (Pappas-DeLuca et al., 2009). The challenge was that most health care facilities never had enough man power to provide the service and where it was provided it was not free of charge.

In a study carried out in the neighbourhood of Zimbabwe found that, among respondents who were not circumcised similarly reported lack of health care providers to offer the service at the nearby health care facilities (Mavhu et al., 2011).

2.5.3 Availability of clinicians

Similar findings were reported in Zimbabwe where low circumcision among males was associated to shortage of health care providers mostly the doctors (Rapfute et al., 2014). Findings showed that, there was high shortage of medical doctors performing surgical male circumcision from all the seven districts where VMMC was carried out. This was because doctors were also responsible for other crucial duties at their respective hospitals thus giving VMMC the last priority since it was not an urgent surgery.

Similar findings were reported in Zimbabwe where shortage of medical doctors who are the ones performing surgical male circumcision from all the seven districts was a hindrance to male uptake of VMMC. These doctors are also responsible for other crucial duties at their respective hospitals thus prioritizing VMMC last since it is not as urgent as other duties. This has also resulted in some of the districts halted the male circumcision programme due to absence of medical doctors as also reported by Kong, et al., (2017) in a study carried out in Uganda. There is need for training of nurses to perform surgical male circumcision. This is consistent with other author who cited shortage of personnel as a barrier to uptake of male circumcision in Botswana (Sabone et al., 2013).

Muzyka, Thompson, Bombak, Driedger and Lorway, (2012) in a study where a Kenyan newspaper analysed the limitations of voluntary medical male circumcision and the importance of sustained condom use in Kenya, findings show that shortage of clinicians to perform surgical male circumcision found to be a barrier to uptake of male circumcision in many rural communities in Kenya.

According to the Ministry of Health, health care providers are allocated in accordance to the number of patients or individuals who need such service. The USAID Strengthening Uganda's System for Treating AIDS nationally (SUSTAIN) project supports the Uganda Ministry of Health to strengthen sustainable and innovative approaches for supporting the delivery of VMMC services for HIV prevention in Uganda through adequate availability of health care providers in circumcision centres.

2.5.4 Efficacy of the equipment used for circumcision

Medically all equipment are supposed to be sterilized before and after every surgical procedure. This is done to avoid cross infections between patients and infections to the health care providers. However given the compromised health care systems in many countries

especially developing countries where infection control guideline may not be strictly due to resource inadequacies, cross infection is a fear to many patients who undergo surgery.

In a study carried out in Rakai, in Southwestern central region of Uganda found out that some males were not circumcised because they were not confident with the efficacy of the equipment used during the process (Gray et al., 2010). Findings also cited lack of knowledge about VMMC among most males as a source of fear for the efficacy of the equipment used for circumcision. There is no well documented data in Soroti about the factors associated with uptake of VMMC. This makes it imperative to have this study carried out to identify the empirical factors among males in Soroti district.

2.5.5 Accessibility to information about circumcision

Zanolini, et al., (2016) in a study on the feasibility and effectiveness of a peer referral incentive intervention to promote male circumcision uptake in Zambia note that there is higher utilization of MMC services among males with good communication and information about the values of MMC services. Findings showed that, men with higher levels of education in formal employment had better access to information sources such as radios and telephones which were vital in transmitting the information in the community.

Similar results were reported in a study carried out in Tanzania where males who resided in urban areas and other trading centres were more likely to accept VMMC as compared to their colleagues who stayed in rural areas where information about VMMC was not common (Bazant, et al., 2016). This will be investigated in among males in Amen Parish in Soroti Sub County.

2.5.6 Education and sensitization

In a study carried out in the United States of America, Sansom, et al., (2010) found lower rates of circumcision, not only in Hispanics but also in other at-risk populations in Southern Florida. This was attributed to lack of sensitization sessions about VMMC among many African Communities which could be attained through MC HIV prevention campaigns directed toward men at high risk for HIV infection. It can be legitimately argued that the failure to inform Hispanics about the medical benefits of MC represents an unfair deficit in public health education—as evidenced in this study's focus groups—in which only a few participants had knowledge of the existence of circumcision, much less the association between circumcision to avert HIV infection.

2.5.7 Level of communication

In a study carried out in the United States of America, Sansom, et al., (2010) found lower rates of circumcision, not only in Hispanics but also in other at-risk populations in Southern Florida. This was attributed to lack of sensitization sessions which could be attained through MC HIV prevention campaigns directed toward men at high risk for HIV infection. It can be legitimately argued that the failure to inform Hispanics about the medical benefits of MC represents an unfair deficit in public health education—as evidenced in this study's focus groups—in which only a few participants had knowledge of the existence of circumcision, much less the association between circumcision to avert HIV infection.

Zanolini, et al. (2016) in a study on the feasibility and effectiveness of a peer referral incentive intervention to promote male circumcision uptake in Zambia note that there is higher utilization of MMC services among males with good communication and information about the values of MMC services. These are vital in transmitting the information to other people in the community as also reported by in Tanzania (Bazant, et al., 2016). This will be investigated in among males in Amen Parish in Soroti Sub County.

2.5.8 Actual and opportunity costs

It has been observed that apart from the actual cost of the procedure, there are a myriad of additional associated costs that could obstruct circumcision-seeking behavior in the community (Khumalo-Sakutukwa, 2012). These included expenses for wound dressing, medications, and transport costs to visit the health facility. Moreover, circumcision was least among household priorities and its effects long-term. In addition, there is a misplaced fear that circumcision may temporarily immobilize economically productive males thus resulting in loss of working hours and money. In the study done by Collins (2013) participants in every Kisumu indicated that a lower cost or free operation or some gift for participation would encourage them to get circumcised or circumcise their child. In motivating circumcision-seeking behavior, people proposed that the service be offered free, in the nearest health facility, and that medicine and hygiene incentives like soap be offered.

CHAPTER THREE: METHODOLOGY

3.0 Introduction

In this chapter, the description of the research method is given. It includes the study design, study setting, study population, sample size determination, sampling method, definition of study variables, data collection method and tools, quality control for data, data presentation and analysis, ethical issues, limitations of the study, and plan for dissemination of the study results.

3.1 Study design

This was a descriptive cross sectional study conducted in June 2018. It was cross sectional because data was collected at a single point in time which is suitable for determining the factors influencing uptake of voluntary medical male circumcision services among men in Soroti Sub County Soroti District.

3.2 Sources of data

The study used both primary and secondary data. Primary was used to collect data for the study. Primary data was collected from men in Soroti Sub County who are 18 years and above through the use of interviews. Here, information was derived directly from the respondents using structured interviews which generated quantitative data. Secondary data was sought from already acknowledged documents that included journals, reports and websites.

3.3 Study setting

The study was carried out in Soroti Sub County, Soroti District. Soroti District is bordered by Amuria District to the north, Katakwi District to the east, Ngora District to the southeast, Serere District to the south, and Kaberamaido District to the west. Soroti, the district headquarters is located approximately 116 kilometres (72 mi), by road, northwest of Mbale, the nearest large city.

Soroti District is made up of 10 sub counties that include; Arapai, Asuret, Eastern Division, Gweri, Kamuda, Katine, Northern Division, Soroti, Tubur and Western division. Soroti Sub County has three parishes ; Amen, Opuyo and acetgwen. Amen Parish consists of the following villages; Amen A, Amen B, Obuku, Oderai A., Oderai B., Opia, Orwadai and Pamba . Opuyo parish consists of the following villages; Alaki, Omirio.Orimai, Omuron,

Omalera, Omuron Owelaiomalera A, Opiro, Omalera B. Acetgwen parish consists of the following villages, owelai, Amecet,Agule and Agiri.

3.4 Study population

The target population comprised of all adult males in Soroti subcounty. These were preferably household heads who were males. Adult males were selected for the study because they have final decision over the health care services they seek.

3.5 Eligibility criteria

3.5.1 Inclusion criteria

The study population included any consenting men who were in the age group of 18 years and above and were residents of the study area.

3.5.2 Exclusion criteria

Men who had lived in the area for less than a year, unwilling to participate or with deaf or dumb or mentally ill or very ill members were not considered for the study.

3.6 Sample size determination

The sample size of respondents was determined using the Kish Leslie sample size formula given below was employed in the study, (Kish Leslie, 1965).

$$n = \frac{Z^2PQ}{d^2}$$

Where:

n = Minimum required sample size

Z = Is the required Z-value in 2 tails at $\alpha = 0.05$ which is = 1.96 approximately 2

d = Margin of error which is 0.05.

P= Prevalence of 59% of men who were circumcised (Miiro et al., 2017).

Q= 1-P

By substituting the formula;

$$n = \frac{1.96 \times 1.96 \times 0.59 \times (1- 59)}{0.05 \times 0.05}$$

$$n = \frac{1.96 \times 1.96 \times 0.59 \times 0.41}{0.0025}$$

$$n = \frac{0.92928304}{0.0025}$$

n= 372 Respondents

However, to cater for the non-respondence, a 10% addition was included on the sample size.

$= \frac{10}{100} \times 372 = 37.2$ therefore the sample size will be 37 + 372= 409 respondents

Sample size was 409 respondents

3.7 Sampling

3.7.1 Sampling Technique

Both probability sampling method (simple random sampling for respondents) and non-probability sampling method (purposive sampling for the three parishes within Soroti subcounty). Because Soroti subcounty consists of three parishes, all men residing within the three parishes had an equal chance to participate in the study.

The study used probability sampling methods to select the respondents where cluster and simple random sampling methods were used. purposive sampling was used to select the Amen, Opuyo and Acetgwen Parishes that make up Soroti Sub County.

Respondents (men) were randomly selected from places like welding areas, boda boda stages, taxi parks, drinking joints and shops within the villages in the three parishes of Soroti subcounty.

Men were identified from different areas where they mainly gather for work as earlier identified. Of the three Parishes, Amen is the biggest, followed by Opuyo and then Acetgwen. The proportion of selection was such that, Amen comprised 45% of the population in the whole sub county, Opuyo comprised of 30% and Acetgwen comprised of 25%. Respondents were proportionally selected according to that statistical distribution where; Amen produced 184 respondents, Opuyo produced 123 respondents and Acetgwen produced 103 respondents.

These were calculated as follows;

Amen Parish = $\frac{45}{100}$ x 409 = 184 respondents

Opuyo Parish = $\frac{30}{100}$ x 409 = 123 respondents

Acetgwen Parish = $\frac{25}{100}$ x 409 = 103 respondents

On reaching the desired household, the researcher shall first ensure whether there is more than one male adult, simple random sampling method was used to select one respondent from the rest. This was done by getting papers that are equivalent to the number of adult members found in a particular household. One paper bore the word 'participate' while the rest had the word 'don't participate'. These were folded and but in an enclosed contained and then shaken to mix up the papers thoroughly. The one adult male who picked the paper bearing the word 'participate' was selected for the study and then interviewed and the rest were not be considered. This was done until the desired sample size of 409 respondents was achieved.

3.8 Study variables

The independent variables of the study are social demographic, knowledge, attitude and health care factors influencing uptake of voluntary medical male circumcision services among men in Amen Parish, Soroti Sub County, Soroti District. The dependent variable is uptake of voluntary medical male circumcision services among men.

3.9 Data collection methods and tools

In this study, quantitative data was collected using questionnaire based interviews. A researcher administered questionnaire schedule containing both close ended (structured) and open ended (semi-structured) questions on the social demographic, knowledge, attitude and health care related factors influencing uptake of VMMC services among men was used. Both closed and open ended questions were used to give direction to the study and also provide room for the respondents to give his own views regarding the study.

The questions were set according to the study specific objectives that were presented in sections from A to Section E. Section A included questions about the social demographic related factors influencing uptake of voluntary medical male circumcision services among men, Section B included questions about the proportion of men taking up voluntary medical

male circumcision, Section C included questions about the knowledge factors influencing uptake of voluntary medical male circumcision among men in soroti subcounty, section D included questions about attitude factors while section E included questions on factors influencing uptake of voluntary medical male circumcision services among men in Soroti Sub County, Soroti District as shown in Appendix II.

3.10 Data collection procedure

The researcher moved around the villages with the help of the local administrators who introduced her to the residents. The researcher first explained the purpose of the study to the men eligible and willing to participate in the study and took them aside each at a time and questionnaire administered to them through interviews.

Confidentiality during data collection was obtained due to sensitivity of the information.

3.11 Quality control for field data

Quality control measures were put in place to ensure validity and reliability of collected data in the following ways;

The researcher determined the validity of the tool depending on the number of questions declared valid of the total questions in the questionnaire.

The reliability of the tool was achieved through test and re-test method of the questions set in the self-administered questionnaires. Questions that gave consistent results from different respondents were regarded reliable to be used in the questionnaire. This was administered to 30 people and was repeated after one week.

The researcher developed an interview guide questionnaires and pretesting in Western division sub county which neighboring Soroti sub county before application to Soroti sub county since it has a similar setting and the people in both sub counties have similar cultures.

The researcher translated the questionnaire into Ateso language which is the local language understood by the majority of the respondents when administering the questionnaire

Researcher administered questionnaires were checked for consistence and completeness of information obtained from the study participants so as to ensure reliability of the collected information.

The questionnaires will be kept in safety lockers under lock and key and will only be accessible by the principal investigator.

3.12 Data presentation and analysis

Data was cleaned, coded and entered into Microsoft Office Excel V.7. Descriptive (univariate) statistics and analysis was presented as frequencies and percentages, and illustrated using frequency tables, pie charts and bar graphs. Bivariate analysis will be carried out using Pearson Chi-square 2-tailed analysis that measured the influence of independent variable over the dependent variable through the independent content analysis technique. All statistics were 2-tailed and probability values that were less than 0.05 were considered statistically significant in the study. The findings were integrated into a report where the findings were compared and contrasted with acknowledged studies.

3.13 Ethical consideration

All study protocols were presented for review and approval by institutional review board of International Health Sciences University (IHSU) School of Nursing Sciences and the local administration of the study area. International Health Sciences University School of Nursing issued the researcher with an introductory letter that was presented to Soroti district health office and Soroti subcounty administrators in Soroti District, Health Department that endorsed that study could be carried out in the area. On interacting with the residents at grass root levels, written informed consent was sought from all study participants before being enrolled into study. For all collected data, confidentiality was maintained by not revealing the participants' identities. Data was safely stored in a safety box under lock and key only accessible to the researcher.

3.14 Limitations of the study

The researcher anticipated facing the following limitations during the course of the study;

Data on factors influencing uptake of voluntary medical male circumcision services among men in Soroti Sub County was collected by the researcher administered structured questionnaire interviews which left out some people with valid information about the study. However, the researcher overcame this by orienting the respondents into the study through enough sensitization about its purpose thus developed a positive attitude towards the study.

Some respondents especially married males feared to give information about circumcision by not revealing whether they are circumcised or not because of fear of being stigmatized. This limited the level of responsiveness to the study. This was overcome by briefing them about

the purpose of the study where they were assured that the study was meant for academic purposes. This took away the fear they had developed.

3.15 Plan for dissemination

The study results will be compiled and made into a research report and a number of copies will be produced. One will be submitted to International Health Sciences University for examination, another copy submitted to the administration of Soroti Sub County, Soroti District Health Department to take appropriate action probably in educating people about the benefits of VMMC and a personal copy will be retained by the researcher for reference. A manuscript will be written for submission to a medical journal and presentation to various conferences.

CHAPTER FOUR: RESULTS

4.0 Introduction

This chapter presents the findings of the study based on specific objectives that is social demographic, assessing the level of uptake of voluntary medical male circumcision services among men, assessing the social demographic, knowledge, attitude and health care factors influencing uptake of voluntary medical male circumcision services among men in Soroti Sub County.

4.1 Social Ddemographic characteristics of the respondents

4.1.1 Univariate analysis of the social ddemographic characteristics of the respondents

Table 1:Demographic characteristics of the respondents n=409

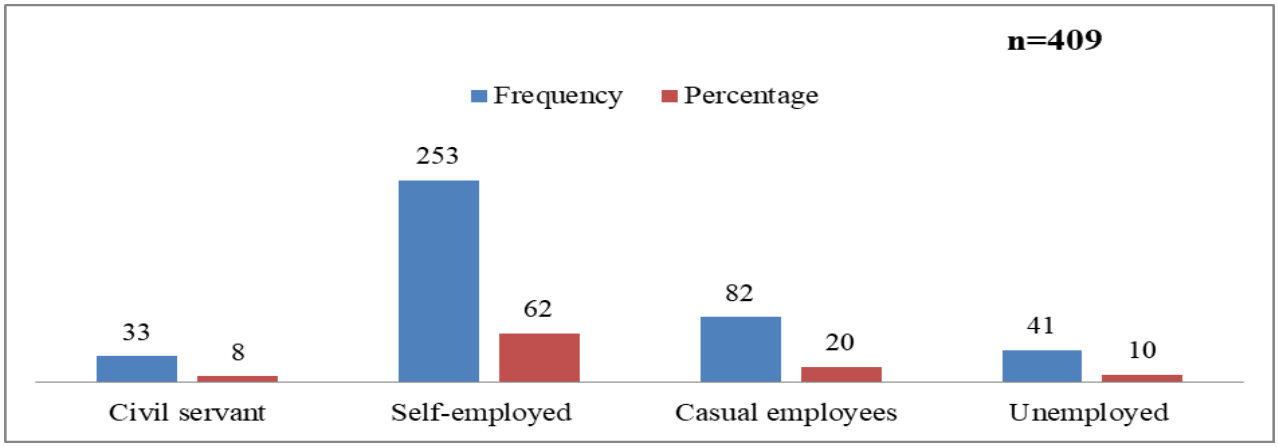
Variable	Category	Frequency	Percentage
Age	18-29 years.	221	54
	31-39 years	102	25
	40-49 years	61	15
	50 years and above	25	06
Marital status	Single	274	67
	Married	86	21
	Divorced /Separated	37	09
	Widower	12	03
Level of education	No formal education	102	25
	Primary	217	53
	Secondary	49	12
	Tertiary education	41	10
Religion	Seventh day Adventist	25	06
	Protestants	90	22
	Catholics	135	33
	Moslems	49	12
	Born Again Christians	74	18
	Orthodox Christian	20	05
	Others	16	04
Monthly Income	Less than 100,000/=	237	58
	Between 100,001 and 200,000	65	16
	Btn 200,001 and 300,000.	49	12
	Btn 300,001 and 400,000.	37	09
	400,001 and above	20	05
Tribe	Iteso	180	44
	Bagisu	41	10
	Kumam	110	27
	Basoga	33	08
	Langi	20	05
	Baganda	12	03
	Others	12	03

Source : Primary data

Out of the 409 respondents that participated in this study, the majority 221 (54%) were between 18- 29 years, 274 (67%) were singles, 217 (53%) had primary level of education, 135 (33%) were Catholics, 237 (58%) had monthly income of less than 100,000/= and 180 (44%) were Iteso.

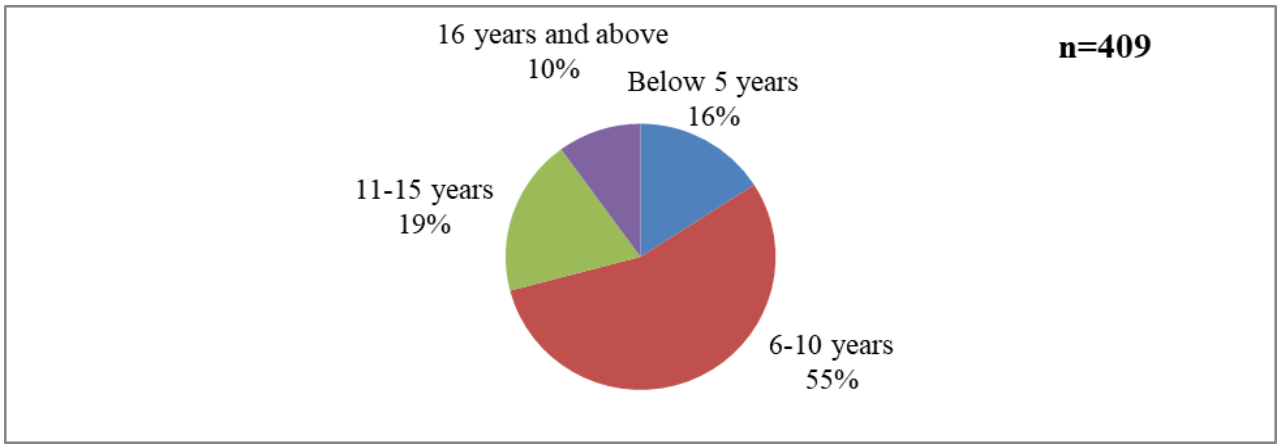
In regard to the occupation of the respondents, majority, 253 (62%) were self-employed, 82 (20%) were casual employees, 41 (10%) were unemployed and 33 (8%) were civil servants as shown in figure 2 below.

Figure 2: Description of the respondents by occupation



In regard of the respondents' working experience, majority 225 (55%) had experience between 6-10 years, 78 (19%) had 11-15 years, 65 (16%) had below 5 years and 41 (10%) had 16 years and above.

Figure 3: Description of the respondents by working experience



4.1.2 Bivariate analysis of the influence of Social Demographic characteristics of the **respondents on the utilization of VMMC services**

Table 2: Bivariate analysis of Social Demographic characteristics on VMMC n=409

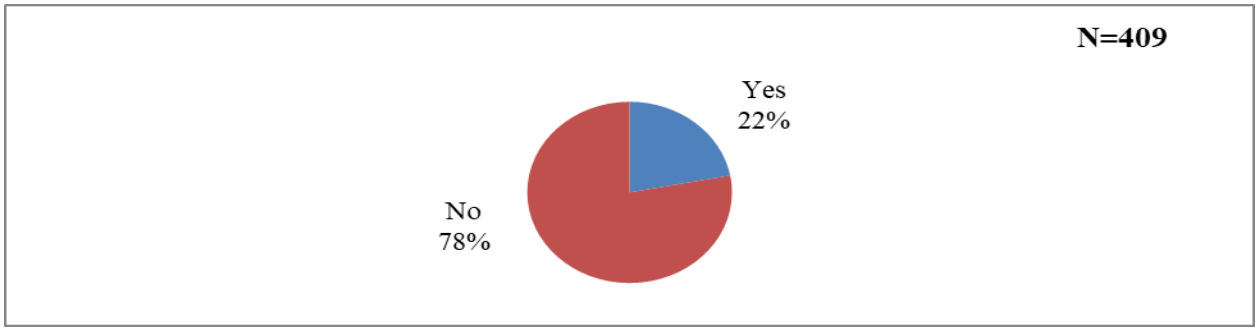
Variable	**Category**	**Circumcised**	**Never circumcised**	**OR(95%CI)**	χ^2	**P-value**
Age	18-29 years.	45	176	7.41 (0.070-0.137)	**7.41**	**0.006***
	30-39years	20	82			
	40-49years	15	46			
	Greater than 50years	10	15			
Marital status	Single	55	219	6.83 (0.346-0.153)	**6.83**	**0.010***
	Married	25	61			
	Divorced/separated	06	31			
	Widower	04	08			
Level of education	No formal education	20	82	11.56 (0.549-0.673)	**11.56**	**0.005***
	Primary	38	179			
	Secondary	20	29			
	Tertiary education	12	29			
Occupation	Civil servant	08	25	4.58 (0.229-0.028)	**1.44**	0.237
	Self employed	48	205			
	Casual worker	19	63			
	Unemployed	15	26			
Working experience	Below 5 years	17	48	0.77(1.229-2.028)	**0.77**	0.378
	6-10years	20	105			
	11-15years	30	48			
	16years and above	23	18			
Religion	Seventh day Adventist	10	15	187.13 (3.129-4.028)	**187.13**	**0.001***
	Protestants	15	75			
	Catholics	35	100			
	Moslems	07	42			
	Born Again Christians	14	60			
	Orthodox Christian	05	15			
	Others	04	12			
Monthly Income	Less than 100,000/=	37	200	4.58 (2.229-4.028)	**4.58**	**0.033***
	100.001/= to 200,000/=	18	47			
	200,001/= to 300,000/=	20	29			
	300,001/= to 400,000/=	09	28			
	400,001/= and above	06	14			
Tribe	Iteso	45	135	5.67(2.239-3.128)	**5.67**	**0.017***
	Kumam	10	31			
	Bagisu	20	90			
	Baganda	05	25			
	Langi	03	17			
	Basoga	04	08			
	Others	03	09			
		90	**319**			

Source: Primary Data

Social demographic characteristics of the respondents on the utilization of VMMC services were significantly associated with the utilization of VMMC services (P<0.05). These included; age (χ^2 =7.41, P=0.006), marital status (χ^2 =6.83, P=0.010), level of education (χ^2 =11.56, P=0.005), religion (χ^2 =11.47, P=0.001), monthly income (χ^2 =4.58, P=0.033) and tribe (χ^2 =5.67, P=0.017). However, respondents' occupation and working experience were not significantly associated with utilization of VMMC services (P>0.05) as shown in table 2.

4.2 Level of uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County

Figure 4: Level of uptake of VMMC services among men in Soroti Sub County n=409



Findings showed that out of the 409 respondents that participated in the study, 90 (22%) were circumcised while 319 were not circumcised.

Table 3: Level of uptake of VMMC services among men in Soroti Sub County n=409

Variable	Category	Frequency	Percentage
Place of circumcision	Health facility within sub county	39	43
	Health facility outside sub county	31	34
	Mosque	14	15
	Home	02	03
	Others	04	05
Had ever received any VMMC services	Yes	270	66
	No	139	44
VMMC services received	Education on VMMC	97	36
	Counseling on VMMC	67	25
	Pretest counseling	19	07
	Circumcision	59	22
	All the above	27	10
Reasons for seeking VMMC services	Encouraged by wife, colleagues, media	108	40
	To prevent HIV	67	25
	Advised by health worker	59	22
	To know my HIV status	22	08
	Others	13	05

Findings from table 3 above show that, majority 39 (43%) of them were circumcised from health facility within the sub county. The majority, 270 (66%) ,had ever received any VMMC services where 97 (36%) received education on VMMC and 108 (40%) sought the services because they were encouraged by a wife, colleagues or media.

4.3 Knowledge towards the uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County

Table 4: Knowledge towards the uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County n=409

Variable	Category	Frequency	Percentage
Ever heard of VMMC services	Yes	409	100
	No	00	00
Source of information	Media	164	40
	Health facility	123	30
	Friend	61	15
	Parent	41	10
	Others	20	05
Importance of Voluntary Medical Male Circumcision services	To prevention of HIV	131	32
	To prevention of other STIs		
	For hygiene	98	24
	For cultural purposes	61	15
	For religious purposes	82	20
	Prestige	24	06
	Others	12	03
Knowledge about the places where to get VMMC services	Knew circumcision places	258	63
	Never knew circumcision places	151	37
Places people knew that offered VMMC services	Health facility	137	53
	Mosque	59	23
	Schools	31	12
	Sub county headquarters	21	08
	Others	10	04
Knew age at which a male should be circumcised	Yes	74	18
	No	335	82
Age at which males should be circumcised	Less than 5 years	04	05
	6-10 years	13	18
	11-18 years	26	35
	18 years and above	31	42
VMMC reduced reduce sexual pleasure	Yes	233	57
	No	176	43
Knew the hygiene benefits of VMMC	Yes	311	76
	No	98	24
Hygiene benefits of VMMC	For personal smartness	193	62
	Avoid STIs	81	26
	avoid penile cancer	37	12
Care should males who have been circumcised be given	Swallow antibiotics and pain killers daily	209	51
	Daily wound dressing	94	23
	Admitted in the health facility	57	14
	Special diet	33	08
	Others	16	04
Expected duration a male who underwent Voluntary Medical Male Circumcision take to heal	For 2 weeks	24	06
	Between 3 to 4 weeks	45	11
	Between 4 to 6 weeks	110	27
	More than 6 weeks	229	56

Source: Primary data

Findings showed that, all 409 the respondents had ever heard of VMMC services, majority 164 (40%) got the information from the media, 131 (32%) knew that VMMC is majorly meant to prevent STIs, 258 (63%) knew the places where to get VMMC services where 137 (53%) mentioned health care facilities. Regarding the age at which one should get circumcised, 335 (82%) did not know the age at which to carry out VMMC, 233 (57%) thought that VMMC reduces sexual pleasure and 209 (51%) thought that circumcised males should swallow antibiotics pain killers daily to heal.

Regarding, the duration by which a man will take to heal, majority 229 (56%) thought a circumcised male heals after a period of more than 6 weeks, 110 (27%) said between 4 to 6 weeks, 45 (11%) were between 3 to 4 weeks and 24 (6%) said for 2 weeks.

Figure 5: Expected duration a male who underwent VMMC take to heal

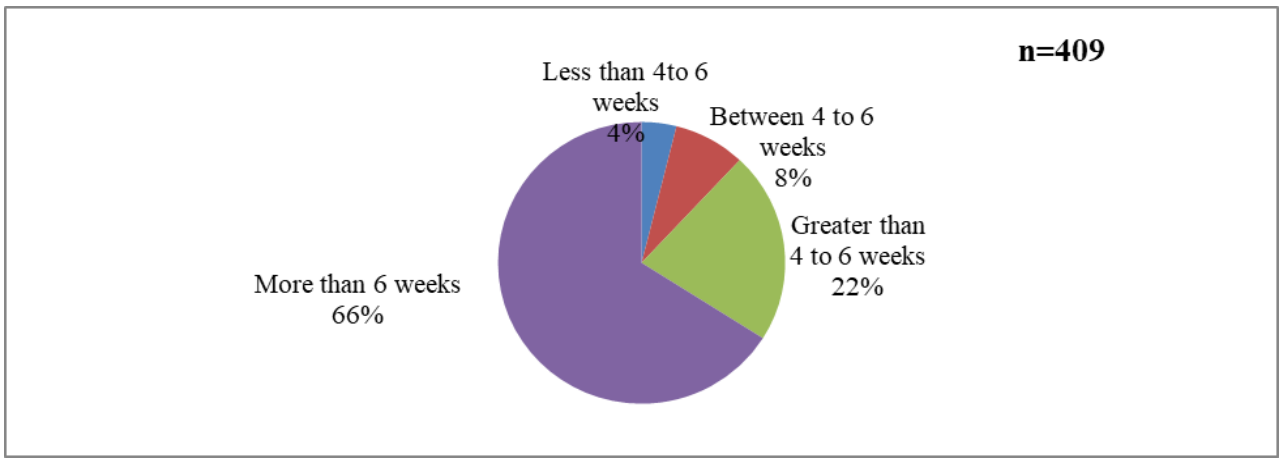


Table 5:Bivariate analysis of knowledge factors towards the uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County (n=409)

Variable	Category	Circumcised	Never circumcised	OR(95%CI)	χ^2	P-value
Source of information	Health workers	40	83	4.12 (1.60-209.8	**11.33**	**0.0007**
	Others	50	236			
Aware of importance of VMMC	Prevention of STIs	43	88	12.40(1.40-109.8)	**13.14**	**0.0002**
	Others	47	231			
Knew the places where to get VMMC services	Yes	36	74	3.14(0.87-13.36)	**10.07**	**0.001**
	No	54	245			
Knew age at which a male should be circumcised	Yes	22	52	4.16(1.22-8.19)	**3.14**	**0.061**
	No	68	267			
VMMC reduced reduce sexual pleasure	Yes	56	177	1.14(0.87-13.36)	**3.89**	**0.02**
	No	34	142			
Knew the hygiene benefits of VMMC	Yes	75	236	2.14(1.87-13.46)	**3.37**	**0.026**
	No	15	83			
Care for circumcised males	Good hygiene	44	76	3.14(0.87-13.36)	**17.9**	**0.001**
	Others	56	243			
Expected duration of recovery	Between 7 to 10 weeks	7	26	2.14(1.87-12.36)	**0.013**	**0.001**
	Others	83	293			
		90	**319**			

Source: Primary Data

Some knowledge factors towards the uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County were significantly associated with the utilization of VMMC services (P<0.05). These included; Source of information (χ^2 =11.33, P=0.001), awareness of importance of VMMC (χ^2 =13.14, P=0.002), knowledge about the places where to get VMMC services (χ^2 =10.07, P=0.001), VMMC reduced reduce sexual pleasure (χ^2 =3.89, P=0.02), knowledge about the hygiene benefits of VMMC, knowledge about the Care given to circumcised males (χ^2 =17.9, P=0.001) and awareness of expected duration of recovery (χ^2 =0.013, P=0.001). However, respondents' knowledge about the age at which a male should be circumcised was not significantly associated with utilization of VMMC services (P>0.05) as shown in table 2.

4.4 Attitude towards the uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County

Findings indicated that, majority 266 (65%) agreed that they would freely undergo circumcision if well health educated, 241 (58.9%) believed that VMMC was painful, 216 (52.8%) believed that VMMC does lead to heavy bleeding

Table 6: Attitude towards the uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County n=409

variable	**1**	**2**	**3**	**4**	**5**
	SD	**D**	**NS**	**A**	**SA**
I am very free to undergo circumcision if well health educated	41 (10%)	82 (20%)	20 (05%)	184 (45%)	82 (20%)
VMMC is not painful	82 (20%)	143 (35%)	8 (02%)	123 (30%)	45 (11%)
VMMC does lead to heavy bleeding	41 (10%)	151 (37%)	24 (06%)	153 (37%)	41 (10%)
VMMC is ideal because it reveals my HIV	90 (22%)	213 (52%)	29 (07%)	49 (12%)	29 (07%)
VMMC is free of infections during surgery	82 (20%)	131 (32%)	16 (04%)	114 (28%)	65 (16%)
A circumcised male stands less chances of STIs infection	50 (11%)	61 (15%)	24 (06%)	155 (38%)	123 (30%)
A mind-set that circumcision wound takes short time to heal	123 (30%)	176 (43%)	45 (11%)	41 (10%)	24 (06%)
I would utilize VMMC services because I am at risk of STIs	127 (31%)	151 (37%)	16 (04%)	78 (19%)	37 (09%)
A circumcised male doesn't not experience reduced sexual pleasure	164 (40%)	135 (33%)	33 (08%)	50 (11%)	33 (08%)
Circumcision is a normal health care service just like other health care services	74 (18%)	61 (15%)	41 (10%)	61 (15%)	172 (42%)
VMMC is not meant/met for cultural purposes	41 (10%)	53 (13%)	20 (05%)	114 (28%)	180 (44%)

Bivariate analysis Attitude towards the uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County

Table 7:Bivariate analysis Attitude towards the uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County n=409

Variable	Category	Circumcised	Never circumcised	OR(95%CI)	χ^2	P-value
I am very free to undergo circumcision	Strongly disagree	12	29	0.32(0.16-0.64)	**9.64**	**0.002**
	Disagree	18	64			
	Not sure	08	12			
	Agree	31	153			
	Strongly agree	21	61			
VMMC is not painful	Strongly disagree	14	68	0.49(0.23-1.05)	**6.80**	**0.009**
	Disagree	21	122			
	Not sure	02	06			
	Agree	38	85			
	Strongly agree	15	30			
VMMC does lead to heavy bleeding	Strongly disagreed	35	06	0.69(0.53-1.25)	**1.92**	**0.046**
	Disagree	32	119			
	Not sure	05	19			
	Agree	15	138			
	strongly agreed	03	38			
VMMC is ideal because it reveals HIV status	Strongly disagree	10	80	1.98 (0.99-3.95)	**13.15**	**0.002**
	Disagree	16	197			
	Not sure	08	21			
	Agree	30	19			
	Strongly agree	26	03			
VMMC is free of infections during surgery	Strongly disagree	22	60	2.98 (1.49-2.95)	**3.12**	**0.009**
	Disagree	41	90			
	Not sure	04	12			
	Agree	13	101			
	Strongly agree	10	55			
A circumcised male stands less chances of STIs infection	Strongly disagree	30	20	1.98 (0.99-3.95)	**1.43**	**0.046**
	Disagree	25	36			
	Not sure	18	06			
	Agree	10	145			
	Strongly agree	07	116			
A mind-set that circumcision wound takes short time to heal	Strongly disagree	35	88	12.40(1.40-109.8)	**9.58**	**0.001**
	Disagree	25	151			
	Not sure	05	40			
	Agree	16	25			
	Strongly agree	08	16			
A belief that respondents would utilize VMMC services because they were at risk of STIs	Strongly disagree	25	102	12.40(1.40-109.8)	**0.96**	**0.325**
	Disagree	32	119			
	Not sure	04	12			
	Agree	13	65			
	Strongly agree	16	21			
A circumcised male doesn't not experience reduced sexual pleasure	Strongly disagree	28	136	9.40(1.10-99.8)	**8.35**	**0.004**
	Disagree	30	105			
	Not sure	04	29			
	Agree	20	30			
	Strongly agree	18	15			
Circumcision is a normal health care service just like other health care services	Strongly disagree	39	35	8.40(1.60-119.8)	**0.43**	**0.515**
	Disagree	08	53			
	Not sure	22	19			
	Agree	13	48			
VMMC is not meant for cultural purposes	Strongly agree	03	39	10.40 (1.40-109.8)	**1.31**	**0.253**
	Disagree	15	38			
	Not sure	06	14			
	Agree	31	83			
	Strongly agree	35	145			
		90	**319**			

Source: Primary Data

Some attitude factors towards the uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County were significantly associated with the utilization of VMMC services (P<0.05). These included; being very free to undergo circumcision (χ^2 =9.64, P=0.002), a belief that VMMC is not painful (χ2 =6.80, P=0.009), a belief that VMMC does lead to heavy bleeding (χ2 =1.92, P=0.046), a mind-set that VMMC is ideal because it reveals respondents' HIV status (χ2 =13.15, P=0.002), a perception that VMMC is free of infections during surgery (χ^2 =3.12, P=0.009), a belief that a circumcised male stands less chances of STIs infection (χ^2 =1.43, P=0.046), a mind-set that circumcision wound takes short time to heal (χ^2 =9.58, P=0.001), a mindset that circumcised male doesn't not experience reduced sexual pleasure (χ^2 =8.35, P=0.004). However, respondents' beliefs that they would utilize VMMC services because they were at risk of STIs, circumcision is a normal health care service just like other health care services and VMMC is not met for cultural purposes were not significantly associated with utilization of VMMC services (P>0.05) as shown in table 7 above.

4.5 Health-care related factors influencing uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County

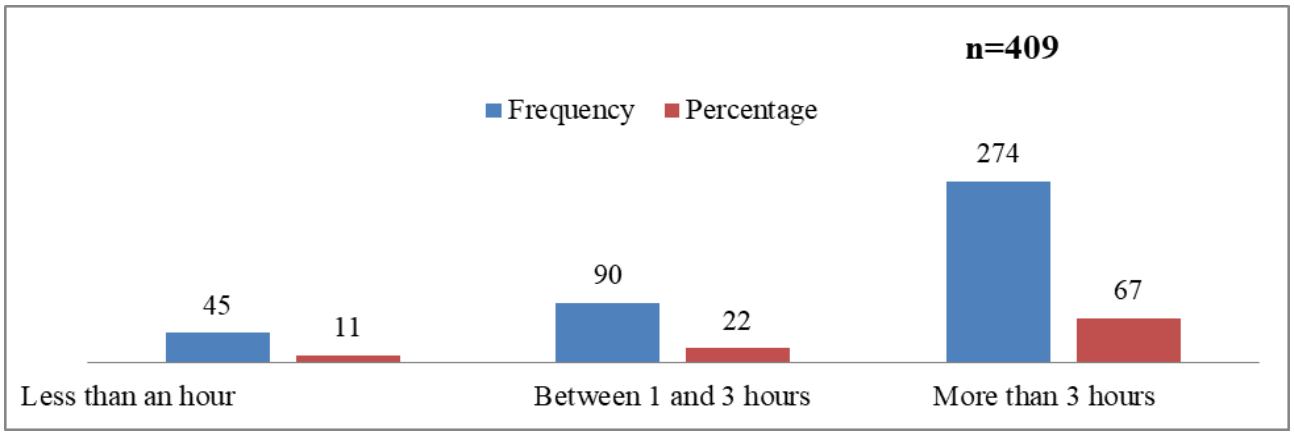
Table 8:Health-care related factors influencing uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County n=409

Variable	Category	Frequency	Percentage
There were VMMC services at the nearest health facility	Yes	49	12
	No	360	88
Distance between home and health facility that offers VMMC service	Less than a kilometer	65	16
	Between 1 and 3 km	33	08
	Between 4 and 6 km	98	24
	Between 7 and 10 km	172	42
	More than 10 km	41	10
Ever been face to face health educated about VMMC services	Yes	114	28
	No	295	72
Health facility that offered VMMC services had enough materials for health care services	Yes	176	43
	No	233	57
Health facility with VMMC services had enough health care workers	Yes	155	38
	No	254	62
Health facility with VMMC services provided information about VMMC	Yes	82	20
	No	327	80
Were asked for additional fees for VMMC services	Yes	339	83
	No	70	17
Had enough privacy at health facility with VMMC services	Yes	147	36
	No	262	64
Health facility with VMMC services provided counseling and testing services about STIs	Yes	344	84
	No	65	16
Regularly attended health care services	Yes	135	33
	No	274	67
Duration respondents could take to get VMMC services	Less than an hour	45	11
	Between 1 and 3 hours	90	22
	More than 3 hours	274	67

Source: Primary data

From a sample size of 409 respondents that participated in the study, 360 (88%) reported that they were far from health care facilities that offered VMMC services where 172 (42%) resided between 7 and 10 km, 295 (72%) had never had face to face health education about VMMC services, 233 (57%) reported Health facility that offered VMMC services never had enough materials for health care services, 254 (62%) revealed that health facility with VMMC services never had enough health care workers, 327 (80%) reported that health facilities with VMMC services never provided information about VMMC, 339 (83%) were asked for additional fees for VMMC services, 262 (64%) reported health care facilities never had enough privacy at health facility with VMMC services, 344 (84%) Health facility with VMMC services provided counseling and testing services about STIs, 274 (67%) never regularly attended health care services, 274 (67%) waited for more than 3 hours before they could get health care services at the health facilities as shown in the figure below.

Figure 6:Duration respondents could take to get VMMC services



Bivariate analysis of health-care related factors influencing uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County

Table 9:Bivariate analysis of health-care related factors influencing uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County (n=409)

Variable	Category	Circumcised	Never circumcised	OR(95%CI)	χ^2	P-value
Availability of VMMC services at the nearest health facility	Yes	18	31	1.98 (0.99-3.95)	**7.04**	**0.008**
	No	72	288			
Distance to health facility that offered VMMC services	Less than 3 km	30	68	0.32 (0.16-0.64)	**5.56**	**0.026**
	More than 3km	60	251			
Ever been face to face health educated about VMMC services	Yes	35	79	0.49(0.23-1.05)	**6.96**	**0.001**
	No	55	240			
Health facility that offered VMMC services had enough materials for health care services	Yes	42	134	0.49(0.23-1.05)	**0.62**	**0.469**
	No	48	185			
Health facility with VMMC services had enough health care workers	Yes	46	109	0.19 (0.13-1.15)	**8.56**	**0.003**
	No	44	210			
Health facility with VMMC services provided information about VMMC	Yes	26	56	5.40 (2.40-29.8)	**5.62**	**0.017**
	No	64	263			
Were asked for additional fees for VMMC services	Yes	75	264	6.40(1.30-78.8)	**0.01**	**0.004**
	No	15	55			
Had enough privacy at health facility with VMMC services	Yes	39	108	7.40(1.40-19.8)	**2.71**	**0.081**
	No	51	211			
Health facility with VMMC services provided counseling and testing services about STIs	Yes	83	261	8.40(1.60-119.8)	**5.68**	**0.021**
	No	7	58			
Regularly attended health care services	Yes	40	95	12.40 (1.40-109.8)	**6.82**	**0.011**
	No	50	224			
Duration respondents could take to get VMMC services	Less than an hour	15	30	8.40 (1.60-119.8)	**3.78**	**0.057**
	More than an hour	75	289			

Source: Primary data

Some health-care related factors influencing uptake of Voluntary Medical Male Circumcision services among men in Amen Parish, Soroti Sub County were significantly associated with the utilization of VMMC services (P<0.05). These included; availability of VMMC services

at the nearest health facility (χ^2 =7.04, P=0.008), distance to health facility that offered VMMC services (χ^2 =5.56, P=0.026), ever been face to face health educated about VMMC services (χ^2 =6.96, P=0.001), health facility with VMMC services had enough health care workers (χ^2 =8.56, P=0.003), health facility with VMMC services provided information about VMMC (χ^2 =5.62, P=0.003), health facility with VMMC services provided information about VMMC (χ^2 =5.62, P=0.017), were asked for additional fees for VMMC services (χ^2 =0.01, P=0.004), health facility with VMMC services provided counseling and testing services about STIs (χ^2 =5.68, P=0.021) and regularly attended health care services(χ^2 =6.82, P=0.011).

CHAPTER FIVE: DISCUSSION OF RESULTS

5.0 Introduction

This chapter presents the findings of the study based on specific objectives that included; assessing the level of uptake of voluntary medical male circumcision services among men, assessing the social demographic, knowledge, attitude and health care factors influencing uptake of voluntary medical male circumcision services among men in Soroti Sub County. These are discussed as follows.

5.1 Discussion of findings on the level of uptake of VMMC services among men in Soroti Sub County

The study findings indicate that the level of uptake of VMMC services among men in Soroti Sub County was at 22% which is very low compared to the Ministry of Health target which is 80% (MOH, 2015). This could be due to a number of factors which included; majority of the respondents had not got the information from about VMMC services from health care providers yet health care workers are the ones that are thought to have the most reliable information about circumcision. Another factor is that, most of the men that participated in this study had not had counseling about VMMC which could have led to fear among them to accept undergoing VMMC. ON the contrary, the results from this study are lower than that found in a study carried out in Kenya where VMMC was at 75% (Nyaga, et al., 2014).

5.2 Discussion of findings on the influence of demographic characteristics of the respondents on the utilization of VMMC services

Findings indicated that respondents' age was significantly associated with uptake of voluntary medical male circumcision services among men (χ^2 =7.41, P=0.006). Findings indicated that males who were less than 30 years were more likely to utilize the service compared to males who were 30 years and above thus VMMC was more likely to be taken up by younger males as compared to older males. This could be attributed to the fact that, it was easy for younger males to access information about VMMC since many of them have smart phones where they can get it over the internet unlike older men. Another reason is that, younger males mobile that they move to many gathering centres where they can get the service unlike older men who are weak and stationed at home in most cases. Similar findings were reported in a study carried out in South Africa where about three quarters of males that

utilized VMMC services were less than 30 years (Njeuhmeli, et al., 2011 and Mingo et al., 2012).

Marital status of the respondents was another significantly associated factor in uptake of VMMC services (χ^2 =6.83, P=0.010). Results indicated that VMMC services were more utilized by respondents who were not married as compared to those who were married. This could be attributed to the fact that, married males feared to miss out on sexual intercourse with their wives for so long which could have negatively affected their marital life such as women becoming adulterous. On the contrary, a study carried out in Mazowe district of Zimbabwe showed that about a three quarters of the participant in VMMC services were married where this was acknowledged by the role of wives who encouraged their husbands to be circumcised to minimize the chances of contracting HPV virus and other STIs such as HIV (Rapfute et al., 2014). This was because women had been health educated about the importance of VMMC.

These results however differed from a study carried out in Rwanda where utilizing VMMC services was mainly dependent on acceptance of the wife (Binagwaho et al., 2010). This was because in Rwanda its highly believed any spouse that takes a medical decision on reproductive health without the consent of the other maybe accused of committing adultery. MMC is among the most feared medical practices to males one would not risk to take with a sole decision as it may even lead to infection and death.

Another significantly associated factor was respondents' level of education (χ^2 =11.56, P=0.005). These services were more utilized by respondents who never had formal education and those who had primary education compared to those who had secondary education and above. This could have happened because people with low levels of education are more likely to be attracted to free of charge health care services and have more time to engage in such activities than educated people who may be away for work. Further on highly educated people have a tendency of minimizing free of charge services as they fear being perceived as 'beggars' which is not the case with people with low levels of education. (Rapfute, et al., 2014) revealed that in a study carried among 300 participants, more than two thirds of the respondents were married and 72% of the respondents had at least secondary education.

Respondents religion was also another significantly associated factor in the uptake of VMMC services among men in Soroti Sub County (χ^2 =187.13, P=0.001). It was found out that

Muslims were more likely to be circumcised because it's a perquisite by their religion to get circumcised in order to be regarded a true Muslim. It was however established that apart from Muslims, other religions did not consider circumcision as very serious issue.

Income was another factor that was considered to influence men uptake of circumcision services. Respondents' level of monthly income was significantly associated with uptake of VMMC services (χ^2 =4.58, P=0.033) This is performed in both public and private health care institutions under USAID and Infectious Diseases institute (IDI). It is however observed that, concern about the financial burden of VMMC was especially common among men who earned a daily wage such as fishermen and those in the transport sector which hindered them from utilizing the VMMC services (Kwena et al., 2012). While the focus on high-risk groups, including daily laborers, is a potential limitation of this study, this group is significantly represented in Nyanza which has unemployment rates of approximately 72%.

5.3 Discussion of findings on Knowledge factors towards the uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County

Some knowledge towards the uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County were significantly associated with the utilization of VMMC services (P<0.05). These included; Source of information (χ^2 =11.33, P=0.001), Knowledge about the places where to get VMMC services (χ^2 =10.07, P=0.001), On the contrary, in a cross sectional study carried out in Uganda revealed that half 76 (50.6%) of the respondents had undergone VMMC at the health care facility (Mukama, Ndejjo, Musinguzi and Musoke, 2015). This implies that respondents never had adequate knowledge about circumcision despite having the service at the health care facility. Lack of adequate knowledge can be attributed to poor health care seeking bahaviour among majority of the males.

Findings also showed that, awareness about the importance of VMMC was significantly associated with uptake of VMMC services (χ^2 =13.14, P=0.002). Respondents who had good knowledge about the benefits of VMMC were more likely to uptake VMMC services as compared to males who never knew the benefits. This was attributed to the fact that, men who were aware of the benefits mainly wanted to minimize their chances of contracting STIs especially HIV. On the contrary, in a study carried out in Botswana, majority of the

respondents were not aware that medical male circumcision reduces the risk of HIV infection (Tapera et al., 2013). They did not know that VMMC reduces the risk of STI infection.

Sexual pleasure was another important factors that was associated with uptake of VMMC services (χ^2 =3.89, P=0.02). Majority of the respondents did not that circumcision doesn't reduce sexual pleasure which could be attributed to low education about VMMC and having much trust in misconceptions by their fellows. In relation a study carried out in Denmark revealed that, two thirds of the women preferred having sex with uncircumcised men because sex circumcised men would lead to vaginal dryness if they had it with a circumcised partner (Frisch, Lindholm and Gronbeck, 2010). This could be attributed to inadequate information about VMMC among most of the respondents that participated in the study.

Knowledge about the hygiene benefits of VMMC was significantly associated with uptake of VMMC (χ^2 =3.37, P=0.026). Findings showed that majority of the respondents knew the hygiene benefits of VMMC services and majority of those who knew them were more likely to utilize VMMC services compared to those who did not know. This was attributed to enough health education respondents had about VMMC. Similar findings were reported in a qualitative study among police officers carried out in Dar es Salaam, Tanzania revealed that majority of the respondents knew that VMMC improves penile hygiene (Tarimo et al., 2012). This was attributed to the fact that a circumcised penis does not have the foreskin which harbours urine and other fluids which favours the development of different pathogens and subsequently higher chances of developing penile cancer.

Having knowledge about the care given to circumcised males was also significantly associated with uptake of VMMC services (χ^2 =17.9, P=0.001). Majority of the respondents thought that apart from maintaining good personal hygiene other initiatives such as taking of drugs and avoiding sexual intercourse where better for prompt healing. This implied that they had inadequate knowledge about care for VMMC wounds because manitaing good hygiene In a study carried out in Rwanda on the determinants of circumcision and willingness to be circumcised by Rwanda men showed that in Rwanda, Swaziland and Kenya cultural variations of foreskin cutting that do not completely remove the foreskin and that many of these men consider themselves circumcised and regard themselves safe from any kind of infection during and after surgery (Gasasira et al., 2012).

5.4 Discussion of findings on Attitude factors towards the uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County

Some attitude factors towards the uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County were significantly associated with the utilization of VMMC services (P<0.05). These included; being very free to undergo circumcision, pain, bleeding, disclosing the HIV Status, infections before and after surgery, healing duration and impact on sexual pleasure.

Findings of the study showed that respondents who were very free to undergo circumcision were more likely to take up VMMC compared to respondents who were not free to undergo circumcision (χ^2 =9.64, P=0.002). This was because respondents who were free could have acquired health education about VMMC which could have done away with all the fears they had with circumcision.

Having a belief that VMMC about whether circumcision is painful or not was significantly associated with uptake of VMMC services (χ2 =6.80, P=0.009). Respondents who believed that VMMC was painful were less likely to take up VMMC were less likely to be circumcised as compared to those who never believed that VMMC was painful.

Another significantly associated factor was a belief that VMMC does not lead to heavy bleeding (χ2 =1.92, P=0.046). Respondents who had a mindset that VMMC leads to heavy bleeding were less likely to undergo VMMC as compared to respondents who believed that with VMMC there is little bleeding. This was due to the fact that, respondents who had ever undergone surgery of any kind and did not experience while those who had never undergone circumcision relied on misconceptions from different people who misled them.

Having a mind-set that VMMC is ideal because it reveals respondents' HIV status was also significantly associated with uptake of VMMC services among men in Soroti County (χ2 =13.15, P=0.002). Findings revealed that, majority of the respondents had great fear for knowing their HIV status yet it was supposed to be revealed to them be surgery. Respondents who believed that they were at risk of having HIV

Findings showed that, a perception that VMMC is free of infections during surgery was significantly associated with uptake of VMMC services (χ^2 =3.12, P=0.009). Respondents who though that, they were at risk of infection were less likely to utilize VMMC services as compared to respondents who thought were not at risk of infection. This could have resulted from a belief that, since there are many people that are circumcised, all the equipment may

not be adequately sterilized to kill off all the pathogens especially the stubborn HIV virus. However, VMMC services are taken with a lot of precaution

A mind-set that circumcision wound takes short time to heal (χ^2 =9.58, P=0.001), In a study carried out in Uganda, on male circumcision, most participants mentioned that fear of excessive pain during circumcision and healing complications could be a major obstacle to seeking the procedure. In one of the FGDs many discussants held a perception that pain was a key characteristic of circumcision practices in neighboring tribes. The participants said that they had heard of circumcision ceremonies in these communities, in which endurance of pain was an indicator of being a man and an important experience (Obure, et al. 2009).

Another attitude factor towards uptake of VMMC was a mindset that circumcised male doesn't not experience reduced sexual pleasure which is significantly and statistically associated with uptake of VMMC services (χ^2 =8.35, P=0.004). Respondents who thought that VMMC reduces sexual sensitivity were less likely to take up VMMC services as compared to respondents who thought that VMMC doesn't reduce sexual sensitivity. This was attributed to a belief that VMMC practice damages the nerve endings in the glans which may reduce their sexual pleasure. This is a negative attitude which could be due to lack of adequate information on the life of circumcised males. On the contrary, a study carried out in Kenya showed that, men had a perception that circumcision increases sexual pleasure (Herman-Roloff et al., 2011). Another study carried out in rural Uganda about male circumcision for HIV prevention among young people and adults found out that males never thought that circumcision diminishes sexual pleasure.

5.5 Discussion of findings on Health-care related factors influencing uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County

Some health-care related factors influencing uptake of Voluntary Medical Male Circumcision services among men in Amen Parish, Soroti Sub County were significantly associated with the utilization of VMMC services (P<0.05). These included; availability of VMMC services at the nearest health facility, distance to health facility that offered VMMC services, ever been face to face health educated about VMMC services, health facility with VMMC services had enough health care workers, health facility with VMMC services provided information about VMMC, health facility with VMMC services had enough health care workers

Availability of VMMC services at the nearest health facility (χ^2 =7.04, P=0.008) and distance to health facility that offered VMMC services was also significantly associated with uptake

of VMMC services (χ^2 =5.56, P=0.026). Majority of the study participants (85%) lived more than 5km away from the nearest VMMC centre. Unlike in other areas where transport to VMMC centres is provided for free (Adam, 2012), in Zimbabwe no transport is provided to visit VMMC centres. Long distance was cited by 70% of the participants, transport availability and unaffordable transport costs were cited by 60% of the participants. These results were supported in other studies that cited lack of access to health care facilities (Ngalande et al., 2006).

Provision of adequate information at the health facility with VMMC services was significantly associated with uptake of VMMC services (χ^2 =5.62, P=0.017). it was found out that respondents who had got enough information were more likely to seek VMMC services as compared to respondents who never had enough information about VMMC. Similar findings were reported in a study carried out in Zambia in a study on the feasibility and effectiveness of a peer referral incentive intervention to promote male circumcision uptake in Zambia note that there is higher utilization of MMC services among males with good communication and information about the values of MMC services (Zanolini, et al., 2016). These are vital in transmitting the information to other people in the community as also reported by in Tanzania (Bazant, et al., 2016).

Asking for additional fees for VMMC services was significantly associated with uptake of VMMC services (χ^2 =0.01, P=0.004). It was found out that, men who reported not being extorted money were more likely to seek VMMC services as compared to those who were extorted money. Given that majority of the respondents were low income earners who could not heavily spent on circumcision which was not an urgent medical issue.

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

6.0 Introduction

This chapter presents the general summary of the study findings based on specific objectives that established the that social demographic, assessing the level of uptake of voluntary medical male circumcision services among men, assessing the social demographic, knowledge, attitude and health care factors influencing uptake of voluntary medical male circumcision services among men in Amen Parish, Soroti Sub County.

6.1 Conclusion

Level of uptake of voluntary medical male circumcision services among men in Soroti Sub County

The level of uptake of VMMC services among men in Soroti Sub County was low as compared to the national target. This was due to lack of adequate sensitization about the importance of the service

Social demographic factors influencing uptake of VMMC services among men in Sub County

Social demographic characteristics of the respondents that influenced the utilization of VMMC services were age, marital status, level of education, religion, monthly income and tribe

Knowledge factors that influenced the uptake of VMMC services among men in Soroti Sub County Soroti district

Knowledge factors that influenced the uptake of VMMC services among men in Soroti Sub County Soroti district included; Source of information, awareness of importance of VMMC, knowledge about the places where to get VMMC services, VMMC reduced reduce sexual pleasure, knowledge about the hygiene benefits of VMMC, knowledge about the Care given to circumcised males and awareness of expected duration of recovery.

Attitude factors that influenced the uptake of VMMC services among men in Soroti Sub County

Attitude factors that influenced the uptake of VMMC services among men in Soroti Sub County included; being very free to undergo circumcision, a belief that VMMC is not painful, a belief that VMMC does lead to heavy bleeding, a mind-set that VMMC is ideal because it reveals respondents' HIV status, a perception that VMMC is free of infections during surgery, a belief that a circumcised male stands less chances of STIs infection, a mind-set that circumcision

wound takes short time to heal and a mindset that circumcised male doesn't not experience reduced sexual pleasure.

Health care related factors influencing uptake of VMMC services among men in Soroti Sub County

Health care related factors influencing uptake of VMMC services among men in Soroti Sub County included; availability of VMMC services at the nearest health facility, distance to health facility that offered VMMC services, ever been face to face health educated about VMMC services, health facility with VMMC services had enough health care workers, health facility with VMMC services provided information about VMMC, health facility with VMMC services provided information about VMMC, were asked for additional fees for VMMC services, health facility with VMMC services provided counseling and testing services about STIs and regularly attended health care services.

6.2 Recommendations

Ministry of health

- Health educate men about the clinical and hygiene benefits of VMMC
- Health facility with VMMC services provided information about VMMC
- The government should clearly designate VMMC centres so that they are well known to the general public. This will encourage men to seek VMMC services because they will be knowing where the services are offered.

Soroti Sub County Administrators

- They should act as whistle blowers in encouraging men to always seek VMMC services from the available designated areas. This is because they are the ones who know about the perceptions and social life of the men in the area.
- They should link up men and the government by passing on the information about the safety and availability of VMMC services and in return information the government about the challenges men gets with VMMC services.

Health care workers in Soroti Sub County

- They should refrain from extorting money from males from seeking health care services in public health care facilities. This would in return encourage them visit health care facilities and thus seek VMMC services despite being free of charge.
- They should provide counseling and testing services about STIs to men so that they know about its benefits.

Men in soroti Sub County

- They should always seek health care services from trained health care providers. This will provide them with chance to know about the availability of VMMC services
- They should seek information from trained health care providers about VMMC. This should mainly include; its safety, effects, wound management, healing time and other necessary attributes to VMMC.

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APPENDICES

APPENDIX I: SUBJECT CONSENT TO PARTICIPATION IN RESEARCH

Dear respondent, am student **Iriamo Esther registration number 2015-BNS-TU-006,** a student of Clarke International University pursuing a bachelor's degree in Nursing. As a requirement for the course a research study is supposed to be carried out to fulfill the course. You are invited to participate in the study entitled **Factors influencing uptake of voluntary medical male circumcision services among men in Soroti Sub County Soroti District.** The information you provide will be confidential and strictly used for research purposes only. Your time and cooperation will be highly appreciated.

CONSENT FORM

I consent to participate in this study on the **factors influencing uptake of voluntary medical male circumcision services among men in Soroti Sub County Soroti District**. Results from this study will provide the baseline information about prevention of sexually transmitted infections especially HIV through circumcision in order to add data for further research.

It is also hoped that the findings of this study will be useful to the health facilities, and MOH and other stakeholders in implementing a community based awareness programme which will ensure prevention of sexually transmitted infections. The other benefit of this study is that the results will help health care providers to give education and awareness on traditional herbal medicine.

Consequences of participation: If you agree, you will be asked questions your experiences with circumcision and prevention of STIs. Gathered information will be entered in the computer for analysis. No personal identification information such as names will be used in any reports arising out of this research.

The interviews will take place at the rural communities of the parish. The interview will last about 15 to 30 minutes. Participation in the survey may involve loss of privacy. Information you provide will be recorded, but your name will not be used in any report. There will be no direct benefits to you as a participant. However, the information that you provide, will help the researcher to learn about. This will provide baseline upon which policy makers can build on to encourage uptake of circumcision with Soroti District as a whole.

Personal information gathered for this study is kept private from all other than the study researcher and supervisor. Findings to be published and presented at scientific meetings will neither bear your name nor other personal information. You will neither be charged nor be paid to take part in this survey.

Signature of participant ……Thumb print……

Signature of interviewer ……..... Names …….

Date ……

APPENDIX II: INTERVIEW GUIDED QUESTIONNAIRE

Dear respondent, am student **Iriamo Esther registration number 2015-BNS-TU-006,** a student of Clarke International University pursuing a bachelor's degree in Nursing. As a requirement for the course a research study is supposed to be carried out to fulfill the course. You are invited to participate in the study entitled **Factors influencing uptake of voluntary medical male circumcision services among men in Soroti Sub County Soroti District.** The information you provide will be confidential and strictly used for research purposes only. Your time and cooperation will be highly appreciated.

Serial number……..……..

SECTION A: DEMOGRAPHIC DATA

1. How old are you?

a) 18-29 years. ☐ b) 30-39 years ☐

c) 40-49 years… ☐ d) Greater than 50 years ☐

2. What is your marital status?

a) Single ☐ b) Married ☐

c) Divorced/ separated ☐ d) Widow/widower. ☐

3. What is your level of education?

a) No formal education ☐ b) Primary ☐

c) Secondary…… ☐ d) Tertiary education ☐

4. What is your occupation?

a) Civil servant ☐ b) Self-employed/Businessman ☐

c) Student ☐ e) Unemployed ☐

f) Others, (specify) ……..……..……

5. What is your working experience?

a) Less than 5 years ☐ b) 6-10 years ☐

c) 11-15 years ☐ . d) 16 years and above ☐

5. What is your religion?

a) Catholic ☐ b) Protestant ☐

c) Seventh day Adventist ☐ . d) Moslem. ☐

e) Born Again Christians ☐ f) Orthodox Christian ☐

g) Others specify…….……

6. What is your monthly income range?

a) None ☐ b) Less than 100,000/= ☐

c) Between 100,001 and 200,000 ☐ d) Btn 200,001 and 300,000. ☐

e) Btn 300,001 and 400,000. ☐ f) 400,001 and above ☐

7. What is your tribe?

a) Iteso ☐ b) Kumam ☐

c) Bagisu ☐ d) Baganda ☐

e) Langi ☐ f) Basoga ☐

g) Others specify……

SECTION B: Level of uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County

8.i) Have you ever undergone Voluntary Medical Male Circumcision services?

a) Yes ☐ b) No ☐

ii) If yes, where did get the service from?

a) Health facility within the subcounty ☐ b) Mosque ☐

c) Health facility outside the subcounty ☐ d) Home ☐

d) Others (specify)……

9 i) Have you received any VMMC services?

a) Yes ☐ b) No ☐

ii) If yes which VMMC services did you receive?

A)education on VMMC ☐ b)counseling on VMMC ☐

c) pretest counseling ☐ d)circumcision ☐

e)All the above ☐ f)None of the above ☐

10. Why did you seek VMMC services?

a) To know my HIV status …… ☐

b) To prevent HIV …….. ☐

c) Advised by health workers …….. ☐

d) Encouraged by wife, colleagues, media ……. ☐

e) Others……

SECTION C: Knowledge towards the uptake of Voluntary Medical Male Circumcision services among men in Soroti Sub County

11.i) Have you ever heard of Voluntary Medical Male Circumcision services?

a) Yes ☐ b) No ☐

ii) If yes, where did you get the information from?

a) Health facility ☐ b) Friend ☐

c) Parent ☐ d) Media /Radio/TV/Posters ☐

e) Others (specify)……

iii) If yes, what is the importance of Voluntary Medical Male Circumcision services?

a) To prevent HIV ☐

b) To prevent other STIs ☐

c) For hygiene ☐

d) For cultural purposes ☐

e) Prestige ☐

f) For religious purposes ☐

g) To improve my performance ☐

g) Others (specify)……

12.i) Are you aware about where you can get Voluntary Medical Male Circumcision services?

a) Yes ☐ b) No ☐

ii) Which places can you access VMMC services?

a) Health facility ☐ b) mosque ☐

c) Schools ☐ d) Sub County head Quarters ☐

e)Others……

13.i) Are you aware about the age at which a male should be circumcised?

a) Yes ☐ b) No ☐

ii)If yes what age should a male be circumcised?

a)Baby/child ☐ b)Adolescence ☐

c) early adulthood ☐ d)Late adulthood ☐

e) Any age ☐

14.Does Voluntary Medical Male Circumcision services reduce sexual pleasure?

a) Yes ☐ b) No ☐

15. Do you know the hygiene benefits of Voluntary Medical Male Circumcision?

a) Yes ☐ b) No ☐

16. What care should males who have been circumcised be given?

a)Special diet ☐ b)Daily wound dressing ☐

c)Admitted in the health facility ☐ d) Swallow antibiotics and pankillers daily ☐

e)Others……

……

17. What is the expected duration a male who underwent Voluntary Medical Male Circumcision take to heal?

a) Less than 4 to 6 weeks ☐ b) Between 4 to 6 weeks ☐

c) Greater than 4 to 6weeks ☐

SECTION D: Attitude towards the uptake of Voluntary Medical Male Circumcision services among men in Amen Parish, Soroti Sub County

Attitude will be tested using the 5 Likert scale of SD= Strongly Disagree, D=Disagree, NS=Not Sure, A= Agree and SA= Strongly Agree. Tick from the statements below the number that corresponds with the level of agreement.

No.	**variable**	**1**	**2**	**3**	**4**	**5**
		SD	**D**	**NS**	**A**	**SA**
18	I am very free to undergo circumcision					
19	VMMC is not painful					
20	VMMC does lead to heavy bleeding					
21	VMMC would reveal my HIV Status which I want					
22	VMMC is free of infections during surgery					
23	A circumcised male stands less chances of STIs infection					
24	A mind-set that circumcision wound takes short time to heal					
25	I would utilize VMMC services because I am at risk of STIs					
26	A circumcised male doesn't not experience reduced sexual pleasure					
27	Circumcision is a normal health care service just like other health care services					
28	VMMC is not met for cultural purposes					

SECTION E: Health-care related factors influencing uptake of Voluntary Medical Male Circumcision services among men in Amen Parish, Soroti Sub County

29. i) Do you have Voluntary Medical Male Circumcision services at the health facility in your sub county?

a) Yes ☐ b) No ☐

ii) Which health facility provides VMMC services in Soroti subcounty?

a)……

b)……

c)…….

d)…….

ii) If yes, what is the distance between your home and health facility?

a) Less than a kilometer ☐ b) Between 1 and 3 km ☐

c) Between 4 and 6 km ☐ d) Between 7 and 10 km ☐

e) More than 10 km ☐

.iii) Have you ever been health educated about Voluntary Medical Male Circumcision services at the health facility?

a) Yes ☐ b) No ☐

☐ ☐

30. Does the health facility near your home have enough materials for health care services?

a) Yes ☐ b) No ☐

31. Does the health facility near your home have enough health care workers?

a) Yes ☐ b) No ☐

32. Does the health facility near your home provide information about Voluntary Medical Male Circumcision?

a) Yes ☐ b) No ☐

33. Are you asked for additions fees when you attend a public health facility near your home?

a) Yes ☐ b) No ☐

34. Do you get enough privacy at the public health facility near your home?

a) Yes ☐ b) No ☐

35. Does the health facility near your home provide counseling and testing services about STIs?

a) Yes ☐ b) No ☐

36. How long to you take to be attended to when you visit the health facility?

a) Less than an hour ☐ b) Between 1 and 3 hours ☐

e) More than 3 hours ☐

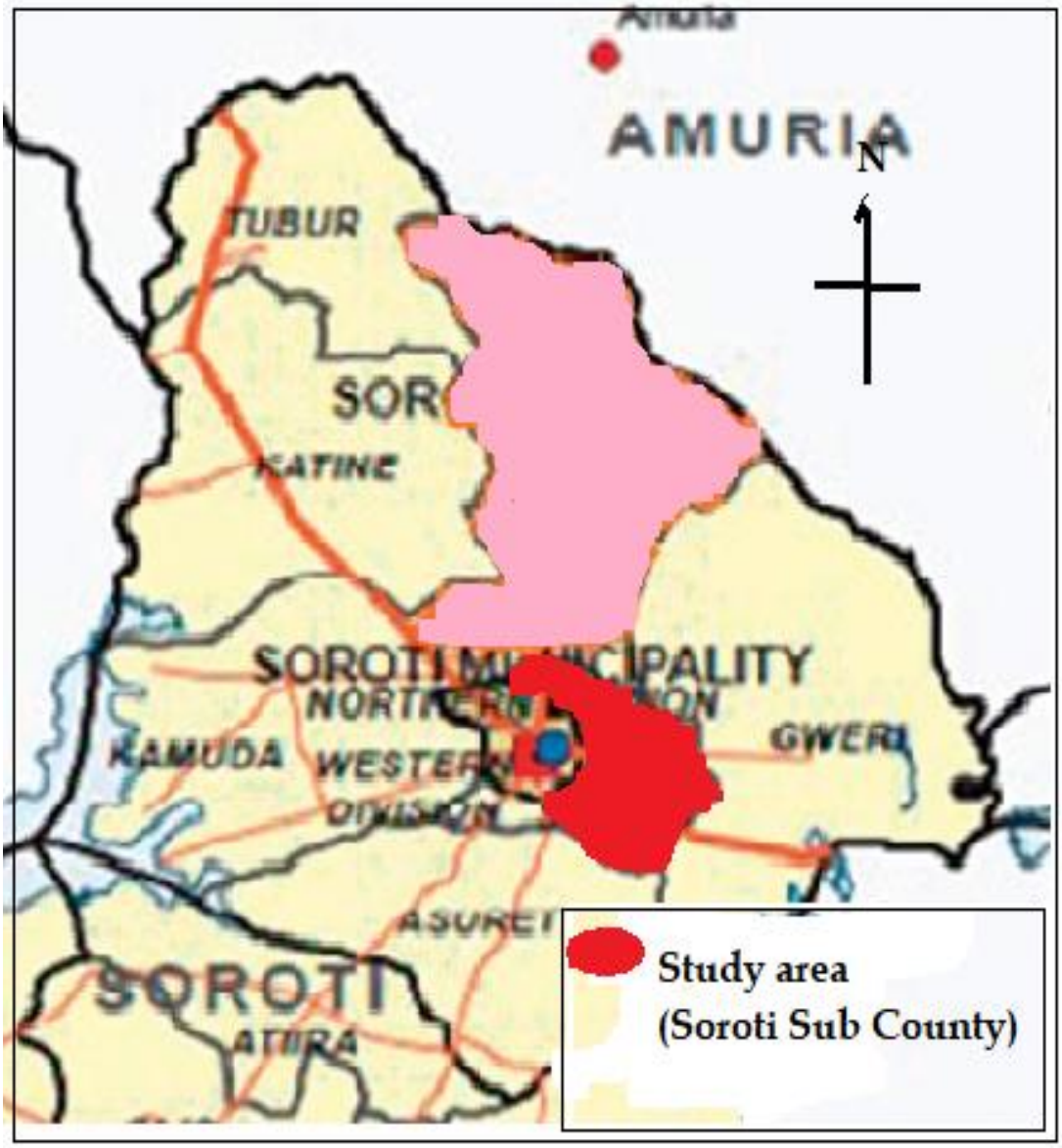
37.Any comments on VMMC?

……

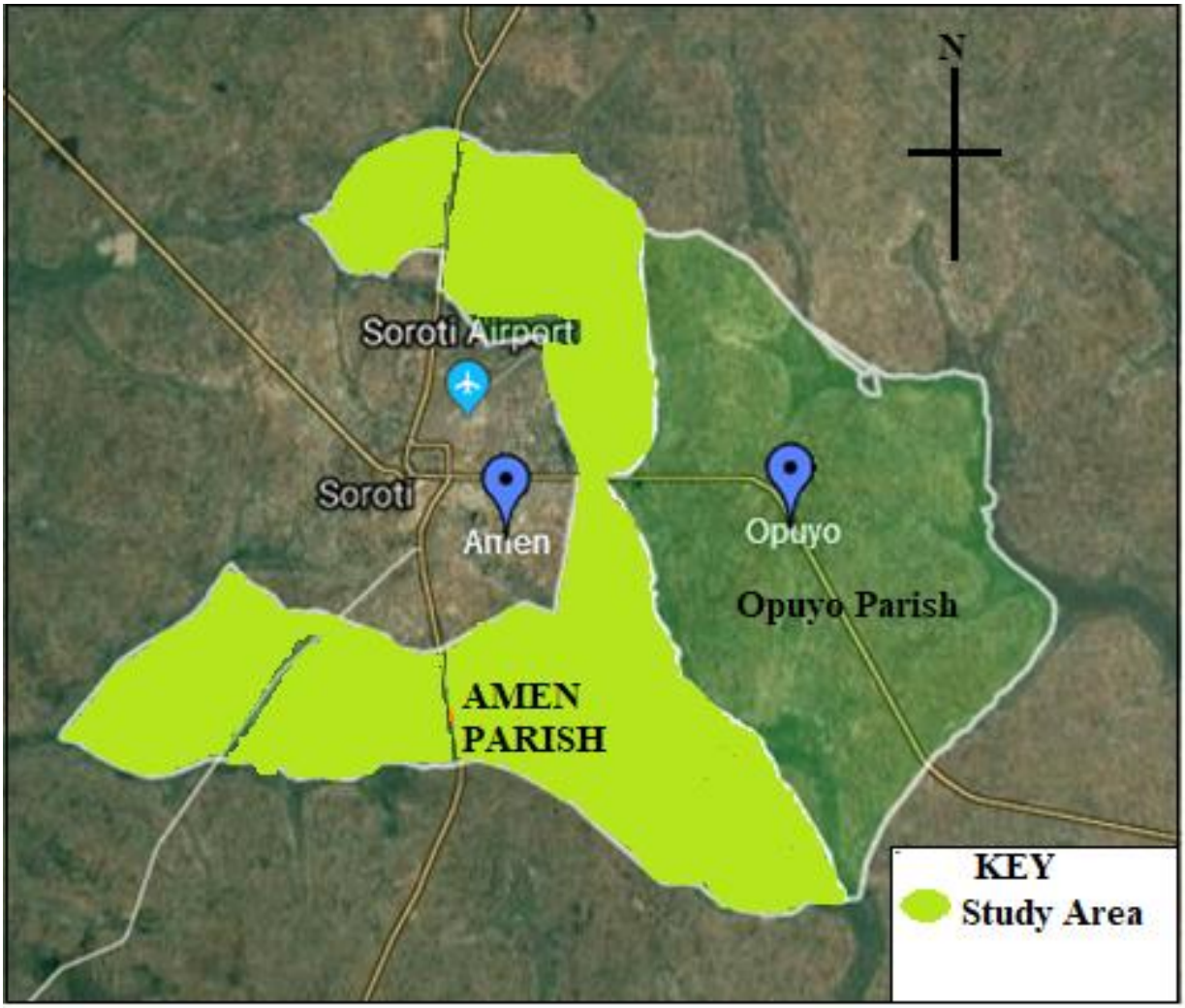
……

Thanks for your cooperation

APPENDIX III: MAP OF SOROTI DISTRICT SHOWING SOROTO SUB COUNTY



APPENDIX IV: MAP OF THE STUDY AREA (SOROTO SUB COUNTY)



APPENDIX V: INTRODUCTORY AND CORRESPONDENCE LETTER

IHSU INTERNATIONAL HEALTH SCIENCES UNIVERSITY
sanitas per scientiam

making a difference in health care

Office of the Dean, School of Nursing

Kampala, 08st June 2018

THE DISTRICT HEALTH OFFICER,
SOROTI DISTRICT

Noted/Permission granted for this health related research to be conducted in the district; area leaders of selected study areas are hereby urged to cooperate with the student

DISTRICT MEDICAL OFFICER
SOROTI DISTRICT LOCAL GOVT

13/6/2018

Dear Sir/Madam,

RE: ASSISTANCE FOR RESEARCH

Greetings from International Health Sciences University.

This is to introduce to you **Iriamo Esther** Reg. No. **2015-BNS-TU-006** who is a student of our University. As part of the requirements for the award of a Bachelors degree in Nursing of our University, the student is required to carry out research.

The topic of research is: **Factors Influencing uptake of Voluntary Medical Male Circumcision Services among Men in Soroti sub county, Soroti District.**

This therefore is to kindly request you to render the student assistance as may be necessary for the research.

I, and indeed the entire University are grateful in advance for all assistance that will be accorded to our student.

Sincerely Yours,

IHSU INTERNATIONAL HEALTH SCIENCES UNIVERSITY
08 JUN 2018
SCHOOL OF NURSING
P. O. Box 7782, Kampala - Uganda

SUB-COUNTY CHIEF
13 JUN 2018
Soroti Sub-county Local Gov't
P.O. Box 61, Soroti-Uganda

Noted
No objection can proceed with her research.

Ms. Agwang Agnes
Dean, School of Nursing

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