

**KNOWLEDGE, PERCEPTION AND PRACTICE OF SAFE MALE CIRCUMCISION  
TOWARDS HIV PREVENTION AMONG MALE STUDENTS IN SELECTED PUBLIC  
SECONDARY SCHOOLS IN ISHAKA-BUSHENYI MUNICIPALITY.**

**BY**

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**DECLARATION**

I do hereby declare that this research dissertation is the product of my own efforts and to the best of my knowledge and conviction, has never been presented to any institution for any award or qualification whatsoever. Where the works of other people have been included, due acknowledgement to this has been made in accordance with the appropriate referencing and citations.

Signature.....

Date.....

**APPROVAL**

This research dissertation has been produced under my close supervision and guidance and I therefore recommend the student to go ahead and hand in a copy.

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Signed..... Date.....



## **LIST OF ABBREVIATIONS AND ACRONYMS**

<b>AAP</b>	:	American Academy of Paediatrics
<b>AIDS</b>	:	Acquired Immune Deficiency Syndrome
<b>DHS</b>	:	Demographic Health Survey
<b>FGDs</b>	:	Focus Group Discussions
<b>HIV</b>	:	Human Immunodeficiency Virus
<b>HPV</b>	:	Human Papilloma Virus
<b>SMC</b>	:	Safe Male Circumcision
<b>STIs</b>	:	Sexually Transmitted Infections
<b>MC</b>	:	Male Circumcision
<b>MCP</b>	:	Male Circumcision Policy
<b>MMC</b>	:	Medical Male Circumcision
<b>NHP</b>	:	National Health Policy
<b>UGX</b>	:	Uganda shillings
<b>UNAIDS</b>	:	Joint United Nations Program on HIV/AIDS
<b>WHO</b>	:	World Health Organization

## **OPERATIONAL DEFINITIONS**

**Safe Male Circumcision** : is where the skin that covers the head (glans) of the penis (prepuce) is removed in a health facility by a trained medical person.

**Voluntary Medical Male Circumcision** : safe male circumcision done voluntarily and in a medical setup where all the medical requirements are met.

## **ABSTRACT**

**Introduction:** The government of Uganda developed a policy of safe male circumcision in January 2010 to be part of basic health care service with an aim of reducing the risk of spread of HIV infection. However, the decision to conduct safe male circumcision carries various cultural and ethical challenges. Little is known about whether male circumcision interventions would be acceptable or feasible in traditionally non-circumcising areas of Africa. The study intended to examine some of the underlying social factors associated to knowledge, perception and practice of male circumcision among the male students in selected secondary schools in Ishaka-Bushenyi municipality that may contribute to the challenges in implementing the policy.

**Objective:** To assess the knowledge, perception and practice of male circumcision towards HIV prevention among male students in selected secondary schools in Ishaka-Bushenyi municipality.

**Method:** A descriptive cross sectional study using quantitative methods of data collection was used. A total of 412 students took part in the study.

**Results:** Despite good knowledge pertaining male circumcision, perceptions and uptake were not impressive. Only 74(18.03%) of the respondents had been circumcised. 54(13.11%) had been circumcised at infancy or childhood for religious reasons (Muslims) while the remaining 20 stated cultural/traditional reasons for their circumcision.

**Conclusion:** The uptake of male circumcision among the secondary school students of Bushenyi is low with satisfactory knowledge but a negative perception towards MC. More needs to be done in terms of awareness creation and cultural change as far as MC is concerned.

## **CHAPTER ONE:**

### **1.0.INTRODUCTION**

This chapter deals with the background, problem statement, objectives, research questions, justification, scope and conceptual framework of the study.

#### **1.1.BACKGROUND**

Male circumcision is the “surgical removal of all or part of the prepuce (fore skin) of the penis” (Village, 2012). Circumcision is one of the ancient and most common surgical procedure ever practiced. This practice has been traditionally conducted for various reasons such as hygiene, medical, religion and ethnicity. In most cultures, male circumcision is a symbol of manhood associated with bravery and endurance (Rediger & Muller, 2013).

Some publications have reported an association between the lack of male circumcision and sexual transmission of HIV (Bell, 2015). Several observational studies show that circumcised men have lower levels of HIV infection than uncircumcised men (Lissouba et al., 2011). These results support findings published in 2005 from the South Africa Orange Farm Intervention Trial, sponsored by the French National Agency for Research on AIDS, which demonstrated at least a 60% reduction in HIV infection among men who were circumcised (Auvert et al., 2009). The above findings have gained interest in a possibility of male circumcision to reduce the risk of HIV transmission.

HIV continues to be a major public health issue, having claimed more than 35 million lives so far (UNAIDS, 2016b). In 2016, 1.0 million people died from HIV-related causes globally. There were about 36.7 million people living with HIV at the end of 2016 with 1.8 million people becoming newly infected globally. 54% of adults and 43% of children living with HIV currently receiving lifelong antiretroviral therapy. The African Region is the most affected region, with 25.6 million people living with HIV in 2016 (UNAIDS/WHO, 2016). In Uganda, by 2015, an estimated 1.5 million people were living with HIV AND estimated 28,000 Ugandans died of HIV related diseases. (Uganda Ministry of Health, 2015).

Thus prevention is greatly prioritized in the response to AIDS and much efforts is put to find new prevention methods to increase on the package of already known effective prevention methods. Male circumcision is one of these new potential methods, along with vaginal microbicides, pre-exposure prophylaxis with antiretroviral medication, herpes suppressive therapy, cervical barrier methods and HIV vaccines (UNAIDS, 2016a). The worries now are;

how can the new HIV prevention method be operationalized, how acceptable is it as a public health initiative?

The government of Uganda developed a policy of safe male circumcision in January 2010 to be part of basic health care service with an aim of reducing the risk of spread of HIV infection (Uganda Ministry of Health, 2010)(Irene O. Chiringa, 2016). However, the decision to conduct safe male circumcision carries various cultural and ethical challenges. Based on the results of three clinical trials and other accumulated evidences showing that safe male circumcision reduces the risk of spread of HIV, the World Health Organization (WHO) and United Nations Programme on AIDS (UNAIDS) issued in 2007 a recommendation and hitherto developed its male circumcision policy(Tobian, Kacker, & Quinn, 2014).

Little is known about whether male circumcision interventions would be acceptable or feasible in traditionally non-circumcising areas of Africa. The development of male circumcision policy (MCP) was conducted through participatory and consultative processes and informed by the draft National Health Policy (NHP) and the 2008/2012 National HIV/AIDS Strategic Plan.

This study will intend to examine some of the underlying social factors associated to knowledge, perception and practice of male circumcision among the male students in selected secondary schools in Ishaka-Bushenyi municipality that may contribute to the challenges in implementing the policy.

## **1.2.PROBLEM STATEMENT**

Youth have emerged as the center of the global HIV/AIDS pandemic. This group is the world's greatest hope in the struggle against this fatal disease. Most youth have taken up a deadly legacy that is killing them where most of them believe that male circumcision protects them fully from HIV infection (Herman-Roloff, Otieno, Agot, Ndinya-Achola, & Bailey, 2011). An estimated 11.8 million youth aged 15 – 24 years are living with HIV/AIDS in the world. Each day, nearly 6,000 youth between the ages of 15-24 years are infected with HIV (UNAIDS, 2016b).

Ecological studies have shown that the countries in sub-Saharan Africa with the highest HIV prevalence are those in which MC is partially or not practiced (Bell, 2015). Uganda has been praised for combating HIV/AIDS epidemic from 18% prevalence in 1992 to 6.1% in 2000 (UBOS, 2011)(Uganda Ministry of Health, 2015). The prevention and control of HIV/AIDS remains a challenge to health care policy makers and health care providers worldwide Promoting effective interventions that prevent new infections and controls the epidemic is a priority. Despite the strong evidence between HIV prevention and male circumcision, few studies have

been conducted to assess the knowledge, perceptions and practice of MC especially if offered as an HIV prevention measure especially in the most affected age group (15 to 24 years).

No similar study has been conducted within the study area and on the study population. This study will therefore find out the knowledge, perception and practices of male circumcision in male students in selected secondary schools in Ishaka-Bushenyi municipality towards HIV prevention who fall in the most affected age group above.

### **1.3.STUDY OBJECTIVES**

#### **1.3.1. BROAD OBJECTIVE**

To assess the knowledge, perception and practice of male circumcision towards HIV prevention among male students in selected secondary schools in Ishaka-Bushenyi municipality.

#### **1.3.2. SPECIFIC OBJECTIVES**

1. To determine the level of awareness of male circumcision among male students in selected secondary schools in Ishaka-Bushenyi municipality.
2. To find out the perception of male circumcision among male students in selected secondary schools.
3. To establish practice of male circumcision among male students in selected secondary schools in Ishaka-Bushenyi municipality.

### **1.4.RESEARCH QUESTIONS**

1. What is the level of awareness of male circumcision among male students in selected secondary schools?
2. What is the perception towards male circumcision among male students in selected secondary schools?
3. What is practice of male circumcision among male students in selected secondary schools?

### **1.5.JUSTIFICATION OF THE STUDY**

Little research has been done among males in Uganda to explore their knowledge, perception and practice of MC as an HIV preventive measure. Several studies have put efforts mainly on the association between MC and HIV infection (Kim, Li, & Goldstein, 2010). There is convincing evidence from observational data and three randomized controlled trials that having been circumcised significantly reduces the risk of acquiring HIV-1 infection(Gray et al., 2012) (Hayashi & Kohri, 2013). Also WHO in 2009 reported that male circumcision significantly protects against several sexual transmitted infections such as urinary tract infections, syphilis and

chancroid (Hayashi & Kohri, 2013). Circumcised males also have other benefits like hygiene and reducing the chances of cervical cancer in women with circumcised partners (Backes et al., 2012).

From the above information male circumcision has been considered under public health intervention for preventing the spread of HIV. Despite, MC having all the above benefits, the acceptability of male circumcision among non-circumcising communities maybe problematic (Herman-Roloff et al., 2011). Various limitations cited earlier may hinder the uptake of MC. From (UNAIDS, 2016a), an estimated 11.8 million youth aged 15 – 24 years are living with HIV/AIDS in the world. Each day, nearly 6,000 youth between the ages of 15-24 years are infected with HIV worldwide. Since this age group is the most affected, this study will find out the knowledge, perception and practices of MC as an HIV prevention strategy. No such study has been conducted within the study area and on same or similar study cohort and the researcher finds justification in conducting one.

This research is expected to bring out important information that will enhance our understanding of the dynamics of acceptability. Furthermore, given national variations in cultural and religious attitudes towards circumcision, country-specific information is needed. The outcomes of this research will be expected to not only inform interventions, but also to impact on information communication and dissemination, MC uptake, training programs and policy formulation so as to curb down STIs particularly HIV/AIDS.

## **1.6.STUDY SCOPE**

### **1.6.1. GEOGRAPHICAL SCOPE**

The study was conducted in Ishaka-Bushenyi municipality which is located in Bushenyi district in Ankole sub-region part of south-western Uganda. It is found along Mbarara - Kasese road, main town/city is Bushenyi-Ishaka and District/state is Bushenyi. Bushenyi district occupies a total area of 942.3 square kilometers and shares boundaries with Mitoma district to the south-west, Buhweju district to the Northeast, Rubirizi district to the Northwest and Sheema district to the East and Rukungiri district to the west. Ishaka-Bushenyi municipality public secondary schools are St. Kagwa secondary school, Ishaka Adventist secondary school, Ruyonza school and Byeranyangi secondary school.

### 1.6.2. CONTENT SCOPE

This study focused on knowledge, perception and practice of male circumcision among male students in selected public secondary schools in Ishaka - Bushenyi municipality. Literature on similar studies from different parts of the world and continent was also be reviewed.

### 1.6.3. TIME SCOPE

The study was conducted within 4 months taking 1 month to gather resources to be used in conducting the study and three months to collect data and critically analyze it. The study was based on data collected from January 2018 to March 2018.

### 1.7. CONCEPTUAL FRAMEWORK

The conceptual framework adopted for this study is that, knowledge, perception and practice of male circumcision contribute to HIV prevention by reducing the risk of transmission. This in turn reduce on expenditure. Knowledge, perception and practice are independent variables, male circumcision is the intermediate variable whereas HIV prevention is the dependent variable.

1. knowledge; is people's awareness about male circumcision
2. perception; is the attitude that people have about male circumcision according to their beliefs and knowledge.
3. practice; the action of doing male circumcision.
4. male circumcision; is the surgical removal of the prepuce from the penis.

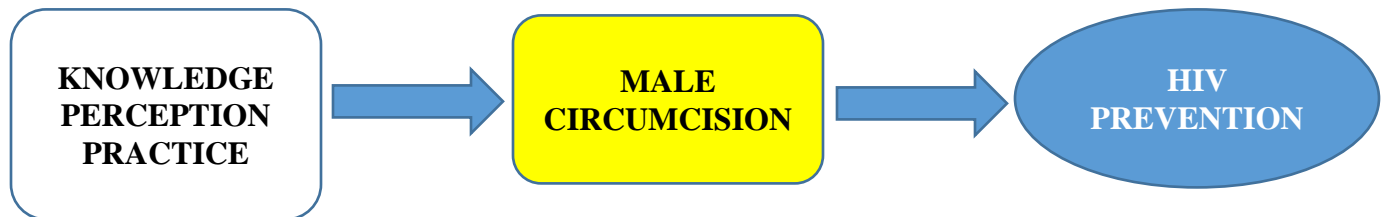


Figure 1: Conceptual Framework on Knowledge, Perception & Practice of Safe Male Circumcision Towards HIV/AIDS Prevention. Researcher's Own Opinion



## **CHAPTER TWO: LITERATURE REVIEW**

### **2.0.INTRODUCTION**

This chapter deals with various literature reviewed on the knowledge, perception and practice of safe male circumcision.

#### **2.1. AWARENESS/KNOWLEDGE OF MALE CIRCUMCISION AS AN HIV- PREVENTION MEASURE**

From the time discovery of HIV/AIDS in 1980s, researchers have been establishing the relationship between MC and HIV infection. The first paper which showed a protective effect of MC against HIV infection was published. Since that time, about 40 observational epidemiology studies have reported significant association between MC and HIV-1 infection (Weiss, Dickson, Agot, & Hankins, 2010).

Biological evidence shows that the presence of a significantly higher concentration of the Langerhans cells, which are target cells for HIV-1 in the mucosal layer of foreskin makes uncircumcised male more susceptible to HIV than the circumcised males (McCoombe & Short, 2006).

Hygiene is one of the major ways of protection from STIs. It was established that micro-organisms responsible for causing diseases had an increased chance to proliferate in the warm moist environment beneath the foreskin (Schneider et al., 2012)(Makumbi et al., 2016).

It is easier to detect rashes and/or ulcerations with the foreskin removed allowing for earlier treatment. The foreskin since its inside is non-keratinized is prone to micro abrasion during sexual intercourse providing a portal of entry for sexually transmitted infection. Some of the studies regarded Male circumcision as a medical procedure to reduce or eliminate penile ulcerations and diseases of the penis (Kibira, Nansubuga, Tumwesigye, Atuyambe, & Makumbi, 2014). Conversely, a minority of respondents in Zambia reported that the circumcised penis was "always dry", "susceptible to cracking", and that this state provided a portal of entry for bacteria and viruses (O'Farrell et al., 2006).

Seventy percent of Botswana study participants willing to circumcise their male child listed protection from STIs or HIV among their reasons for doing so (Keetile & Rakgoasi, 2014). In Swaziland, 81% of participants stated that male circumcision reduced risk of STIs and 18% believed that male circumcision reduced risk of HIV (Tarimo et al., 2012).

In Tanzania STIs were considered more severe and more infective in uncircumcised men, with ulcers healing faster in those who are circumcised (Layer et al., 2014). Nearly all commercial sex

workers believed that there exists a strong association between lack of circumcision and STIs, including HIV (Layer et al., 2014). In South Africa, no association was found between willingness to be circumcised and perceived health benefits. It was belief about sexual pleasure that was the strongest predictor of being willing to undergo circumcision (Scott, Weiss, & Viljoen, 2005).

Another study was conducted in 2011. 64% of this population were women and only 20% of the men were circumcised a study to explore MC prevalence, knowledge, attitudes among rural Zimbabweans. 2746 individuals participated. Participants had low knowledge about MC. However, after sensitization of MC as a preventive measure on HIV infection, 52% of the men gained interest in MC. Additionally, a small number of participants were aware of the benefits of MC. 69% of the respondents said that MC reduces STIs (Hallett et al., 2011). However, only 39% of the men mentioned the effect of MC on HIV and only 12% indicated that MC promotes hygiene and sexual cleanliness (Hallett et al., 2011).

A qualitative study which was conducted in Tanzania, which utilized interviews in depth where the study population was a group of police officers 24 men and 10 women had knowledge about MC as a prevention method for both STIs and HIV infection (Francis et al., 2012). The authors reported that participants had knowledge about the effect of circumcision on hygiene penis and its significance to prevention of STI in particular HIV prevention.

On the contrary, a study conducted in Mazowe, Zimbabwe showed very different results on a mining and farming community (Rupfutse et al., 2014). 73% participated in the study and 54% were men. At the end of this study, 90% of the participants revealed that had heard of MC for HIV prevention. Most of them were sensitized via radio and had knowledge about MC in HIV prevention. Participants in this same study were awareness of MC not providing full protective against HIV and that circumcised men still have to use condoms (Rupfutse et al., 2014).

## **2.2.PERCEPTION TOWARDS MALE CIRCUMCISION AS AN HIV- PREVENTION MEASURE**

In Zambia, focus group discussions were conducted with urban and rural married and single unmarried men aged 18 to 39 (Lukobo & Bailey, 2007). Thirty-four focus group discussions were conducted; 17 with men and 17 with women in four districts. The study assessed male circumcision practices, opinions, and acceptability as an intervention to improve male genital hygiene and reduce sexually transmitted infections, including HIV-1. Results revealed different perceptions on male circumcision.

It was also perceived to protect one from sexual disease (Lukobo & Bailey, 2007). Whereas non-circumcised participants revealed that they would agree to be circumcised or their sons if it was proven to reduce the risk for HIV and STIs and on condition that it was offered free of charge or at affordable cost. However, men not practicing traditional male circumcision showed reduced interest in the practice although some believed that their women preferred circumcised men and therefore could like to be circumcised (Lukobo & Bailey, 2007). Circumcised men were found to have a good perception with regard to MC and its benefits when compared with uncircumcised men (Lukobo & Bailey, 2007).

Many communities have perceived male circumcision negatively because of the following barriers; These include: a) health related barriers; b) fear of pain during the procedure, death, or complications; and c) procedure cost of MC. A qualitative research study which involved 46 FGDs with both males and females in Namibia found that some men reported that the foreskin was providing a physical barrier or a protective covering for the penis. Thus these men reported that removal of the fore skin is leaving a man with an injury (George et al., 2014). Other health related barriers included bleeding, and infections such as HIV and hepatitis B & C transmission due to the use of one surgical blade used on various males in traditional MC settings (Hatzold et al., 2014).

Major limitations to MC acceptability perceived by people in most of none circumcised communities was fear of pain during and after the procedure. Contrary to this, traditionally circumcising communities believed that painful circumcision was an indicator that the child has crossed from child to adulthood since they could withstand that pain (Khumalo-Sakutukwa et al., 2013). However, fear of pain during and after circumcision was seen as a reason to avoid circumcision in most of none circumcising communities. Additionally, some traditionally non-circumcising societies revealed that practicing male circumcision was like adopting other

cultures practice especially in Namibia (Scott et al., 2005)(Khumalo-Sakutukwa et al., 2013)(Hoffman et al., 2015).

In the same study also participants showed that to circumcise is against God by changing a part of your natural body. In fact, in Kenya and Zambia participants gave an opinion that if their governments promoted circumcision, it should be provided at health centers and hospitals for free or at subsidized cost (Hoffman et al., 2015). In Kenya 60 men (65% of total respondents) reported that they would only be circumcised if the procedure costs 200 Shillings (approximately N\$20.00/ US\$ 3.00), or less. Thus some people may fail to be circumcised as they cannot meet the costs of the procedure.

Acceptability of Male Circumcision is also a major attribute to how people perceive MC. Acceptability of MC among non-circumcising communities is a major concern around the implementation of the procedure. various studies which were both quantitative and/ or qualitative methods have been conducted to explore the acceptability of MC in a number of nations around Africa. Starting with, the Women's HIV prevention Track Project (WHPT) which was conducted in Kenya, Namibia, South Africa, Swaziland and Uganda (AVAC, 2010). The aim of the project was to “document and analyze women's perspectives and levels of participation in discussions and decisions about Medical Male Circumcision (MMC) for HIV prevention” (AVAC, 2010, p.5).

The study used both quantitative and qualitative research methods with a sample of 494 women completing questionnaires and 40 focus group discussions. The outcome of the study showed that women would agree to the implementation of MMC with 87% advocating for the introduction of the procedure. additionally, a multinational study conducted in Kenya, South Africa, Swaziland, Tanzania and Zimbabwe determined the acceptability of MC made known that 60% of the men interviewed indicated the need to be circumcised (UNAIDS, 2017).

A cross sectional survey which was conducted in 9 geographically representing locations in Botswana to determine the acceptability of MC, preferred age and setting for MC. Data was collected using Standardized questionnaires where the risk of and benefits of MC for both pre and post informational session outline. survey was conducted in 605 people and outcome showed that the median age was 29 years and 52 % were male. when pre information sessions were conducted, 68% of the respondents showed an interest a male child circumcision if MC was provided free of charge or at favorable cost in a hospital setting. Post information session increased to almost 90%. 238 of the uncircumcised men, 61% decided to do circumcision

procedure and the number shoot to post information debriefing to over 80%. Circumcision was preferred at 6years of age and 90% of the participants suggested that MC to be done in the hospital (Plank et al., 2010).

A study was conducted in Botswana among 62 mothers of newborn babies. The response rate of mothers who agreed circumcision of their male babies was 92%. Before data was collected, women were explained circumcision procedure, potential risks and benefits of circumcision in general. 92% of the mothers ended up agreeing to circumcise their male babies if only it was offered in a clinical setting. The main reason (45%) cited was to protect against future HIV infections. (Plank et al.,2010) Correction of problems in retracting the foreskin appeared as the major facilitator of MC since fore skin can cause pain during intercourse and yet MC improve hygiene. This was cited in a Dominican Republic study conducted among men and women and health providers (Plank et al., 2010).

A study in East Africa on the acceptability of MC in Nyanza, among the Luo tribe which is a non- circumcising traditional population. Focus group discussions (FGDs) and semi-structured interviews were used to collect data. Isolated FGDs were conducted adult men and women. Nine health professionals conducted Semi-structured interviews. In FGDs the participants considered MC as STIs/HIV risk reduction and increased cleanliness (Akinyi et al., 2014). FGD additionally showed that MC may make the Luo tribe more acceptable to Kenyans, as participants perceived that the Luo have been discriminated against various aspects of the socio-political arena. Moreover, the authors revealed that the acceptability of MC among boys and young Luo men was linked to peer identification. Studies conducted in Sub-Saharan Africa to assess acceptability of MC in traditionally non circumcising communities as indicated by (Akinyi et al., 2014).

Thirteen studies from 9 countries were reviewed. In Botswana, Kenya, South Africa and Swaziland results revealed preference of circumcision by women for their sexual partners or male children and men preferred circumcision for both self and son. 75% of the parents would consider MC for their sons if it was of benefit to their male children, cost effective and reduce the risk of STIs and HIV. The median proportion of the overall uncircumcised men who picked interest in doing the procedure was 69% (range 29-87%). Additionally, 69% of the female participants preferred circumcision of their partners and 71% and 81% of men and women respectively were supporting circumcision of their sons. However, men in rural and urban

dwellings had geographical variations, with 51% and 45% of the respectively willing to be circumcised.

In conclusion, MC is not a common practice worldwide, with only 30% of the male population estimated to be circumcised. Historically, MC is associated with religious and cultural identity and there is an increasing account of the health benefits notably in terms of its protective effect against HIV infection. For the MC intervention to be successful, societal knowledge, beliefs and practices should be considered when implementing MC procedure as an additional HIV prevention strategy.

### **1.1.PRACTICE OF MALE CIRCUMCISION**

(WHO, 2007) estimated that approximately 30% of the world's male population aged 15 years and above are circumcised. Many different assumptions were considered in establishing the prevalence of circumcision. One of the assumption considered all Muslim and Jewish males aged above 15 years were circumcised. Another linked the prevalence of male circumcision among non-circumcising communities using Demographic and Health Survey (DHS) data (Khumalo-Sakutukwa et al., 2013)(Hoffman, Arendse, Larbi, Johnson, & Vivian, 2015). The outcome showed that 69% of the circumcised men are Muslim residing mainly in Asia, the Middle East and North Africa, 0.8% are Jewish and 13 % are non-Muslim and non-Jewish men living in the USA (WHO, 2007).

In relation to ancient period, circumcision was advocated for various reasons: commonly religious purposes among the Jews and Muslims; basing on cultures among several African ethnic groups; for some people considered hygiene in the United States, Canada, and Australia and for therapeutic purposes—as the cure for penile disorders like paraphimosis and phimosis. As a result, circumcision is almost universal in some parts of the world (United States and Muslim countries) and rare in others (Europe and South America)(Sardi & Livingston, 2015) (Morris et al., 2016).

Above all, cultural variations between circumcised and uncircumcised men usually affects their sexual and hygienic behavior, and even the risk to various STD and HIV. All these communities practiced circumcision with intention of preventing any medical problem (Rediger & Muller, 2013). Female partners of most of circumcised males reported a lower risk of acquiring Human Papilloma Virus (HPV) and cancer of the cervix (Riess, Achieng, & Bailey, 2014).

Various studies have reported that in non-circumcising African societies most individuals prefer MC to be performed by medical personnel in a hospital setting (Herman-Roloff et al., 2011).

However, in some societies where MC is a traditional practice, men prefer traditional surgeons to do this procedure on them. For instance, in a study of 100 males aged 10-65 years in the Eastern Cape Province of South Africa, 63% of the respondents favored traditional surgeons (Kepe, 2010). The fact is that 67 of the 100 participants who were involved in the same study were unaware of any risks associated with traditional circumcision (Peltzer & Kanta, 2009).

In order to influence people's opinion about safety of MC and risk compensations proper education for service providers and communities should be a component of a MC program in the health sector.

In Africa, male circumcision is widely practiced especially in the North and West Africa. The global spread of Islam from the 7<sup>th</sup> Century AD necessitated the adoption of male circumcision in non-circumcising communities. In East and Southern Africa circumcision is conducted mainly as a traditional rite often linked to toughening, training and initiation of male adolescents (Sabet Sarvestani, Bufumbo, Geiger, & Sienko, 2012)(Khumalo-Sakutukwa et al., 2013).

People from north-east Africa migrated down South and populated the coastal belt meeting with the Arabs who settled in Zambesi on the Mozambique Coast. This migration led to what is known as the Bantu today, who are composed of many tribes practicing ritual circumcision(Doyle, 2005). The Bantus broke into many tribes each with well-defined territories. In South Africa these constitute the Zulus and amaXhosa. Others moved into Zimbabwe and Namibia.

## **CHAPTER THREE: METHODOLOGY**

### **2.0.INTRODUCTION**

This chapter deals with the method of conducting research that was used and entails the design of the study, sample population, sample size, sampling techniques, data collection methods, instruments and how data collected was analyzed.

#### **2.1.STUDY DESIGN**

A descriptive cross sectional study using quantitative methods of data collection was used. The design employed quantitative methodologies to assess the level of knowledge, perceptions and attitudes, and identified barriers to MC. This study design was used considering time scope of the study which was short in duration, then being cost effective, it gave a snapshot of the situation and the sample obtained was the representative of the whole population.

#### **2.2.STUDY POPULATION**

The target population for this study was boys from select secondary schools in Ishaka Municipality.

##### **3.2.1. INCLUSION CRITERIA**

All male students from senior one to six in the select secondary schools who consented to take part were included in this study.

##### **3.2.2. EXCLUSION CRITERIA**

All male students from the select secondary schools who failed to offer consent were excluded. So were all female students.

#### **2.3.SAMPLE SIZE DETERMINATION**

Krejcie & Morgan table (1970) was used since the population was finite (See Appendix III). The table is based on the formula below;

$$S = \frac{X^2 NP(1-P)}{d^2 (N-1) + X^2 P (1-P)},$$

Where,

S = Required sample size

X = Z value (e.g. 1.96 for 95% confidence level)

N = population size

P = population proportion (expressed as decimal) (assumed to be 0.5 (50%))

D = degree of accuracy (5%), expressed as a proportion (0.05); it is margin of error.



#### **2.4.SAMPLING TECHNIQUE**

Multistage sampling technique was used whereby the participant secondary schools were first conveniently sampled then participant students randomly sampled by being asked to pick pieces of paper marked either “yes” or “no”. Only those who picked yes were enrolled for the study.

#### **2.5.DATA COLLECTION TOOL**

A standardized researcher-questionnaire developed from earlier studies related to male circumcision was used. The questionnaire had both open and closed ended.

#### **2.6.DATA COLLECTION PROCEDURE**

Qualified participants were interviewed by the researcher and two trained research assistants and responses recorded appropriately using words, statements, sentences and codes.

#### **2.7.QUALITY CONTROL**

The researcher ensured quality control through induction and training of the research assistants, and choosing assistants that had some competence in the field of study. The questionnaire was pre-tested in one secondary school, that was not included in the study before being administered to the population under study.

#### **2.8.DATA ANALYSIS**

The data collected was statistically analyzed using Statistical Package for the Social Sciences (SPSS v.16) which had simple to understand graphs of the data collected so as to make meaning.

#### **2.9.ETHICAL CONSIDERATIONS**

Approval letter was obtained from KIU administration through IREC allowing for the study to be conducted. Informed consent was sought from the research participants and strict confidentiality adhered to with use of the information obtained for purposes meant solely for the research.

## CHAPTER FOUR: STUDY FINDINGS

### 3.0.INTRODUCTION

This chapter deals with the findings obtained from the study, their analysis, interpretation and presentations in chart, graphs and tables. Three secondary schools were chosen for the study based on convenience. The schools were St.kagwa Secondary School, Ruyonza School and Ishaka adventist Secondary School. A total of 412 students, derived from the three schools, took part in the study.

### 3.1.BIODEMOGRAPHICS OF RESPONDENTS

#### 3.1.1. Age of respondents

Age Cluster (years)	Frequency (number)	Percentage (%)
13 – 16	284	68.93
17 – 20	104	25.24
Above 20	24	5.83
<b>TOTAL</b>	<b>412</b>	<b>100</b>

Table 1: Age clusters of respondents

Majority of the respondents (284, 68.93%) were between the ages of 13 and 16 years, while 104 (25.24%) were between 17 and 20 years. Only 24 (5.83%) were above 20 years. (Table 1)

#### 3.1.2. Language spoken at home

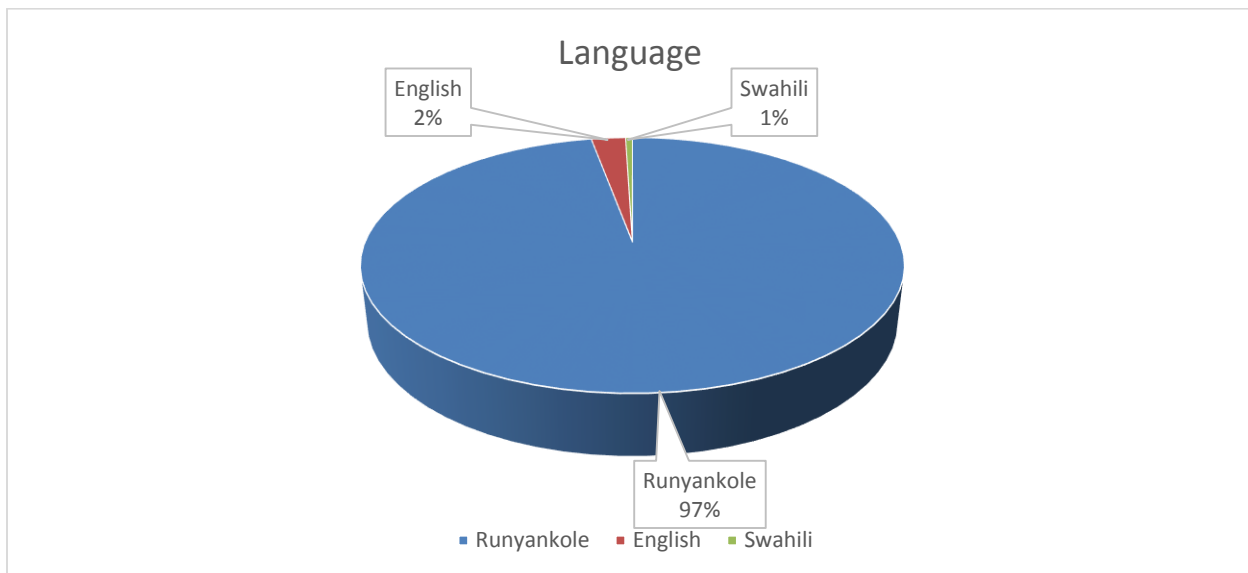


Figure 2: Language spoken at home

Runyankole was the most spoken language (97%) while English (2%) and Swahili (1%) were not. (Figure 2)

### 3.1.3. Class in school

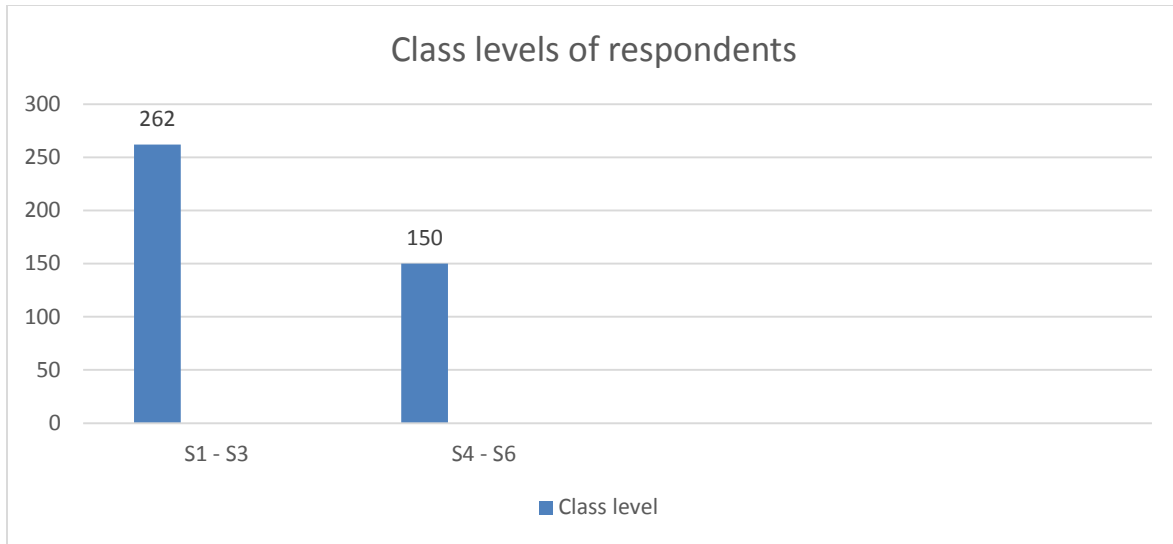


Figure 3: Class distribution of respondents

262(63.59%) of the respondents were either in Senior one, two or three while the remainder (36.41%) were in senior 4, 5 or 6. (Figure 3)

### 3.1.4. Religion of respondents

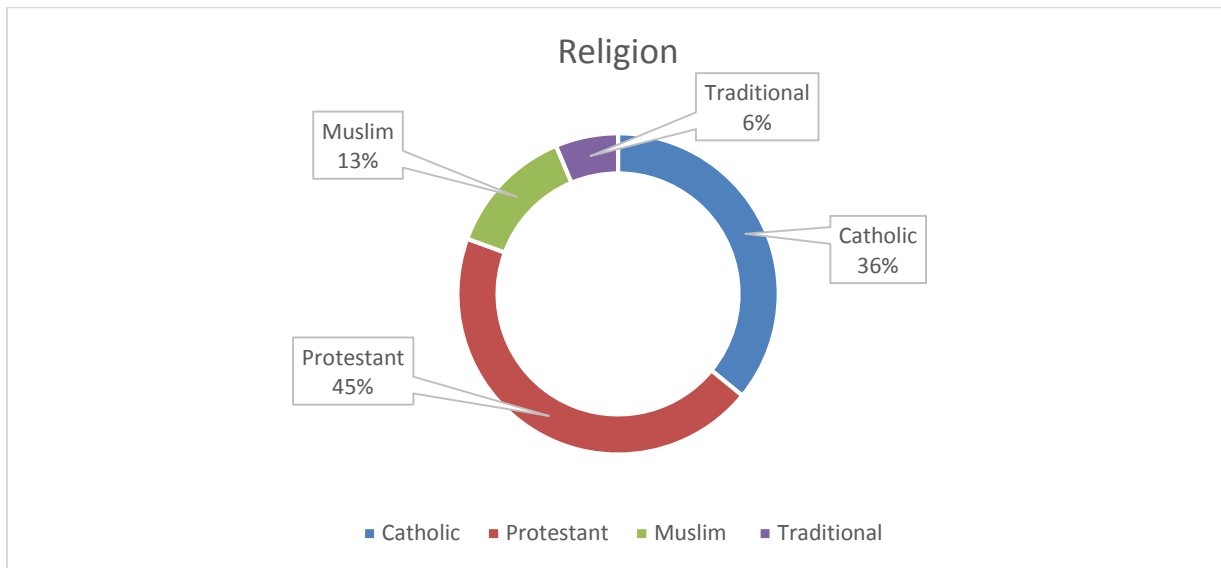


Figure 4: Religious affiliations of respondents.

Majority of the respondents were Christians with 184 (45%) protestants and 148 (36%) Catholics. Muslims were 54 (13%) and the traditional were 26 (6%). This could have a bearing on circumcision rate as will be seen later.

### 3.2.KNOWLEDGE OF RESPONDENTS

The overall knowledge of the respondents was adequate with 404 (98.06%) agreeing that, other than providing good penile hygiene, it also reduced chances of contracting HIV and other STIs. On the issue of circumcision and prevention of penile cancer though, 346(83.98%) did not know since they were not aware of the existence of the relationship, if any. 94% (387) agreed with the view that it was important for all males, irrespective of their age, to be circumcised but categorically disagreed with the notion that a circumcised man could safely have sex without using a condom and not get infected with HIV. 84% (346) said that male circumcision should be done in a hospital setup. Their main sources of information were the print and audio-visual media, friends, teachers on health education and health workers.

### 3.3.PERCEPTION PRACTICE OF RESPONDENTS CONCERNING MALE CIRCUMCISION

Only 74(18.03%) of the respondents had been circumcised. 54(13.11%) had been circumcised at infancy or childhood for religious reasons (Muslims) while the remaining 20 stated cultural/traditional reasons for their circumcision. Of the total 74 circumcised, only 20 were done from the hospital. Of the 338 who were not circumcised, 135(32.77%) were willing to undergo the procedure but cost and fear of pain were the chief deterrents. The remaining 203 were not willing to have the procedure, did not see the need for it and would not recommend it to anyone.

Circumcision status (N=412)	YES: 74 (18.03%) NO: 338 (81.97%)
Of those who had been circumcised (N=74)	
1. Grounds for circumcision	Religious reasons: 54 (72.97%) Cultural/Traditional: 20 (27.03%)
2. Where done from	Hospital: 20 (27.03%) Elsewhere: 54 (72.97%)
Of the uncircumcised (N=338)	Willing to undergo the procedure: 135 (32.77%) Not willing to undergo procedure: 203 (67.23%)

Table 2: Perception and practice of respondents on male circumcision

## **CHAPTER FIVE: DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS**

### **4.0.INTRODUCTION**

This chapter deals with the discussions of the study findings, conclusions derived and recommendations made.

#### **4.1.DISCUSSIONS**

The circumcision rate in our study population of 18% was below the WHO estimate of 2007 that approximately 30% of the world's population aged are circumcised. These low values may be the direct result of the cultural beliefs of the Banyankole being among the non-circumcising communities(Khumalo-Sakutukwa et al., 2013). Furthermore, all the 54 Muslims in the study had been circumcised emphasizing the influence of religion on circumcision uptake(Morris et al., 2016). It is evident that religion and culture were the main influencers of circumcision uptake while penile hygiene and medical reasons were not. Unlike the population studied by (Rediger & Muller, 2013), our population did not circumcise with intentions of preventing any medical problems.

We see that our study population was also different from that studied by (Reiss et al., 2014). In the Reiss study even the female partners were aware that circumcision of their male partners lowered their risk of contracting HPV and thus lowering the chances of them getting penile cancer while our population were not aware.

Only 20(27.03%) of the total 74 who had been circumcised did so in a hospital setting. This is unlike the findings of (Herman-Roloff et al., 2011) that in non-circumcising African societies, most individuals preferred male circumcision to be done by a medical personnel in a hospital setting. Our study findings are similar to those of (Kepe, 2010) where it was found that in some societies where male circumcision is a traditional practice, men preferred traditional surgeons to do the procedure on them.

It is apparent that our study population did not regard MC as a medical procedure to reduce or eliminate penile ulcerations and diseases of the penis(Chimoyi et al., 2014) but agreed with (Keetile & Rakgoasi, 2014) that MC protected against STIs or HIV and (Francis et al., 2012) in Swaziland that MC reduced the risk of HIV.

Just like in the population studied by (Rupfutse et al., 2014), our population are aware that MC just reduces the risk of contracting STIs and HIV but still circumcised males need to use a condom to protect themselves from HIV/AIDS.

In our study, 135(32.77%) of the uncircumcised respondents were willing to circumcise but the fear of pain associated with the procedure and the cost implications were the chief deterrents. Similar findings were seen in the (Lukobo & Bailey, 2007) study and the circumcised had a more positive perception towards MC as compared to their uncircumcised counterparts. The deterrents to MC found in our study were also found in the (Ngo & Obhai, 2012) in Zambia, the (Khumalo-Sakutukwa et al., 2013) study and the (Hoffman et al., 2015) studies.

The Banyankoole people, making a large portion of our study population, are culturally a non-circumcising community, and thus the perception and uptake might be expected to be below desirable. This is just like in other non-circumcising communities studied by (Hoffman et al., 2015) in Zambia and Kenya. This indicates the need for more awareness creation towards cultural change as pertains to male circumcision.

## **4.2.CONCLUSSIONS**

The uptake of male circumcision among the secondary school students of Bushenyi is low with satisfactory knowledge but a negative perception towards MC. More needs to be done in terms of awareness creation and cultural change as far as MC is concerned.

## **4.3.RECOMMENDATIONS**

### **4.3.1. To the students**

1. Translate the knowledge they have concerning MC into practice by taking up voluntary MC and set aside any fears they might have because the pain is manageable.

### **4.3.2. School management**

1. Encourage formation of peer educator groups that will create reproductive health awareness through discussions and Q&A sessions especially on MC.
2. Incorporate MC and its importance to both the male and female students in their teaching modules so as to create more awareness on for example HPV and penile and cervical cancer.
3. Organize for fora and seminars on MC by inviting knowledgeable authorities to talk to the students and answering any questions that they might have.

### **4.3.3. To the health care providers and the other players in the health sector**

1. Arrange for awareness creation drives, campaigns and outreaches through school visits to educate the students on MC.
2. Arrange for periodic free voluntary medical male circumcision drives for the students so as to cover for those willing to get circumcised but are deterred by the costs involved.

3. The government, through the ministry of health should step up awareness creation and scale-up VMMC drives so as to improve on the uptake and coverage of male circumcision.

## REFERENCES

- Akinyi, O. F., Submitted, R., Partial, I. N., The, O. F., For, R., Award, T. H. E., ... Project, I. N. (2014). *Factors Influencing Uptake of Voluntary Medical Male Circumcision By Male Adults in Kasipul Sub-County*. University of Nairobi.
- Auvert, B., Sobngwi-Tambekou, J., Cutler, E., Nieuwoudt, M., Lissouba, P., Puren, A., & Taljaard, D. (2009). Effect of Male Circumcision on the Prevalence of High-Risk Human Papillomavirus in Young Men: Results of a Randomized Controlled Trial Conducted in Orange Farm, South Africa. *The Journal of Infectious Diseases*, 199, 14–19. <https://doi.org/10.1086/595566>
- Backes, D. M., Bleeker, M. C. G., Meijer, C. J. L. M., Hudgens, M. G., Agot, K., Bailey, R. C., ... Smith, J. S. (2012). Male circumcision is associated with a lower prevalence of human papillomavirus-associated penile lesions among Kenyan men. *International Journal of Cancer*, 130(8), 1888–1897. <https://doi.org/10.1002/ijc.26196>
- Bell, K. (2015). HIV prevention: Making male circumcision the ‘right’ tool for the job. *Global Public Health*, 10(5–6), 552–572. <https://doi.org/10.1080/17441692.2014.903428>
- Chimoyi, L. A., Musenge, E., Westercamp, N., Moses, S., Agot, K., Ndinya-Achola, J., ... Cano, R. (2014). Spatial analysis of factors associated with HIV infection among young people in Uganda, 2011. *BMC Public Health*, 14(1), 555. <https://doi.org/10.1186/1471-2458-14-555>
- Doyle, D. (2005). Ritual male circumcision: a brief history. *The Journal of the Royal College of Physicians of Edinburgh*, 35(3), 279–285.
- Francis, J. M., Kakoko, D., Tarimo, E. A. M., Munseri, P., Bakari, M., & Sandstrom, E. (2012). Key considerations in scaling up male circumcision in Tanzania: views of the urban residents in Tanzania. *Tanzania Journal of Health Research*, 14(1), 61–67. <https://doi.org/10.4314/thrb.v14i1.10>
- George, G., Strauss, M., Chirawu, P., Rhodes, B., Frohlich, J., Montague, C., & Govender, K. (2014). Barriers and facilitators to the uptake of voluntary medical male circumcision (VMMC) among adolescent boys in KwaZulu-Natal, South Africa. *African Journal of AIDS Research : AJAR*, 13(2), 179–187. <https://doi.org/10.2989/16085906.2014.943253>
- Gray, R., Kigozi, G., Kong, X., Ssempiija, V., Makumbi, F., Watty, S., ... Wawer, M. J. (2012). The effectiveness of male circumcision for HIV prevention and effects on risk behaviors in a posttrial follow-up study. *AIDS (London, England)*, 26(5), 609–615. <https://doi.org/10.1097/QAD.0b013e3283504a3f>



- Hallett, T. B., Alsallaq, R. A., Baeten, J. M., Weiss, H., Celum, C., Gray, R., & Abu-Raddad, L. (2011). Will circumcision provide even more protection from HIV to women and men? New estimates of the population impact of circumcision interventions. *Sexually Transmitted Infections*, 87(2), 88–93. <https://doi.org/10.1136/sti.2010.043372>
- Hatzold, K., Mavhu, W., Jasi, P., Chatora, K., Cowan, F. M., Taruberekera, N., ... Njeuhmeli, E. (2014). Barriers and motivators to voluntary medical male circumcision uptake among different age groups of men in Zimbabwe: Results from a mixed methods study. *PLoS ONE*, 9(5). <https://doi.org/10.1371/journal.pone.0085051>
- Hayashi, Y., & Kohri, K. (2013). Circumcision related to urinary tract infections, sexually transmitted infections, human immunodeficiency virus infections, and penile and cervical cancer. *International Journal of Urology: Official Journal of the Japanese Urological Association*, 20, 769–775. <https://doi.org/10.1111/iju.12154>
- Herman-Roloff, A., Otieno, N., Agot, K., Ndinya-Achola, J., & Bailey, R. C. (2011). Acceptability of medical male circumcision among uncircumcised men in Kenya one year after the launch of the national male circumcision program. *PLoS ONE*, 6(5). <https://doi.org/10.1371/journal.pone.0019814>
- Hoffman, J. R., Arendse, K. D., Larbi, C., Johnson, N., & Vivian, L. M. H. (2015). Perceptions and knowledge of voluntary medical male circumcision for HIV prevention in traditionally non-circumcising communities in South Africa. *Global Public Health*, 10(5–6), 692–707. <https://doi.org/10.1080/17441692.2015.1014825>
- Irene O. Chiringa, D. U. R. N. S. M. (2016). Government of Uganda Ministry of Health SAFE MALE CIRCUMCISION POLICY. *African Journal of Primary Health Care & Family Medicine*, v8i2.966(January).
- Keetile, M., & Rakgoasi, S. D. (2014). Male circumcision; willingness to undergo safe male circumcision and HIV risk behaviors among men in Botswana. *Etude de La Population Africaine*, 28(3), 1345–1361. Retrieved from <https://www.scopus.com/inward/record.uri?eid=2-s2.0-84911895879&partnerID=40&md5=53999c23a6e854424c28e942b34afd06>
- Kepe, T. (2010). “Secrets” that kill: Crisis, custodianship and responsibility in ritual male circumcision in the Eastern Cape Province, South Africa. *Social Science and Medicine*, 70(5), 729–735. <https://doi.org/10.1016/j.socscimed.2009.11.016>
- Khumalo-Sakutukwa, G., Lane, T., van-Rooyen, H., Chingono, A., Humphries, H., Timbe, A.,

- ... Morin, S. F. (2013). Understanding and addressing socio-cultural barriers to medical male circumcision in traditionally non-circumcising rural communities in sub-Saharan Africa. *Culture, Health and Sexuality*, 15(9), 1085–1100. <https://doi.org/10.1080/13691058.2013.807519>
- Kibira, S. P., Nansubuga, E., Tumwesigye, N. M., Atuyambe, L. M., & Makumbi, F. (2014). Differences in risky sexual behaviors and HIV prevalence of circumcised and uncircumcised men in Uganda: Evidence from a 2011 cross-sectional national survey. *Reproductive Health*, 11(1). <https://doi.org/10.1186/1742-4755-11-25>
- Kim, H. H., Li, P. S., & Goldstein, M. (2010). Male circumcision: Africa and beyond? *Current Opinion in Urology*, 20(6), 515–519. <https://doi.org/10.1097/MOU.0b013e32833f1b21>
- Layer, E. H., Beckham, S. W., Momburi, R. B., Peter, M., Laizer, E., & Kennedy, C. E. (2014). “He is proud of my courage to ask him to be circumcised”: experiences of female partners of male circumcision clients in Iringa region, Tanzania. *Culture, Health and Sexuality*, 16(3), 258–272. <https://doi.org/10.1080/13691058.2013.873481>
- Lissouba, P., Taljaard, D., Rech, D., Dermaux-Msimang, V., Legeai, C., Lewis, D., ... Auvert, B. (2011). Adult male circumcision as an intervention against HIV: An operational study of uptake in a South African community (ANRS 12126). *BMC Infectious Diseases*, 11(1), 253. <https://doi.org/10.1186/1471-2334-11-253>
- Lukobo, M. D., & Bailey, R. C. (2007). Acceptability of male circumcision for prevention of HIV infection in Zambia. *AIDS Care - Psychological and Socio-Medical Aspects of AIDS/HIV*, 19(4), 471–477. <https://doi.org/10.1080/09540120601163250>
- Makumbi, F. E., Ssempijja, V., Sekasanvu, J., Ssekubugu, R., Kigozi, G., Watya, S., ... Gray, R. H. (2016). Postcoital penile washing and the risk of HIV acquisition in uncircumcised men. *AIDS*, 30(10), 1669–1673. <https://doi.org/10.1097/QAD.0000000000001097>
- McCoombe, S. G., & Short, R. V. (2006). Potential HIV-1 target cells in the human penis. *AIDS*, 20(11), 1491–1495. <https://doi.org/10.1097/01.aids.0000237364.11123.98>
- Morris, B. J., Wamai, R. G., Henebeng, E. B., Tobian, A. A. R., Klausner, J. D., Banerjee, J., & Hankins, C. A. (2016). Estimation of country-specific and global prevalence of male circumcision. *Population Health Metrics*, 14(4), 1–13. <https://doi.org/10.1186/s12963-016-0073-5>
- Ngo, T. D., & Obhai, G. (2012). Male circumcision uptake, postoperative complications, and satisfaction associated with mid-level providers in rural Kenya. *HIV/AIDS - Research and*

- Palliative Care*, 4, 37–43. <https://doi.org/10.2147/hiv.s30357>
- O'Farrell, N., Morison, L., Moodley, P., Pillay, K., Vanmali, T., Quigley, M., ... Sturm, A. W. (2006). Association between HIV and subpreputial penile wetness in uncircumcised men in South Africa. *Journal of Acquired Immune Deficiency Syndromes*, 43(1), 69–77. <https://doi.org/10.1097/01.qai.0000225014.61192.98>
- Peltzer, K., & Kanta, X. (2009). Medical circumcision and manhood initiation rituals in the Eastern Cape, South Africa: A post intervention evaluation. *Culture, Health and Sexuality*, 11(1), 83–97. <https://doi.org/10.1080/13691050802389777>
- Plank, R. M., Makhema, J., Kebaabetswe, P., Hussein, F., Lesetedi, C., Halperin, D., ... Lockman, S. (2010). Acceptability of infant male circumcision as part of HIV prevention and male reproductive health efforts in gaborone, botswana, and surrounding areas. *AIDS and Behavior*, 14(5), 1198–1202. <https://doi.org/10.1007/s10461-009-9632-0>
- Rediger, C., & Muller, A. J. (2013). Parents' rationale for male circumcision. *Canadian Family Physician*, 59(2).
- Riess, T. H., Achieng, M. M., & Bailey, R. C. (2014). Women's beliefs about male circumcision, HIV Prevention, and sexual behaviors in Kisumu, Kenya. *PLoS ONE*, 9(5). <https://doi.org/10.1371/journal.pone.0097748>
- Rupfutse, M., Tshuma, C., Tshimanga, M., Gombe, N., Bangure, D., & Wellington, M. (2014). Factors associated with uptake of voluntary medical male circumcision, Mazowe District, Zimbabwe, 2014. *Pan African Medical Journal*, 19. <https://doi.org/10.11604/pamj.2014.19.337.5245>
- Sabet Sarvestani, A., Bufumbo, L., Geiger, J. D., & Sienko, K. H. (2012). Traditional Male Circumcision in Uganda: A Qualitative Focus Group Discussion Analysis. *PLoS ONE*, 7(10). <https://doi.org/10.1371/journal.pone.0045316>
- Sardi, L., & Livingston, K. (2015). Parental Decision Making in MALE CIRCUMCISION. *MCN: The American Journal of Maternal Child Nursing*, 40(2), 110–115 6p. <https://doi.org/10.1097/NMC.0000000000000112>
- Schneider, J., Vadivelu, S., Liao, C., Kandukuri, S., Trikamji, B., Chang, E., ... Lakshmi, V. (2012). Increased likelihood of bacterial pathogens in the coronal sulcus and urethra of uncircumcised men in a diverse group of HIV infected and uninfected patients in India. *Journal of Global Infectious Diseases*, 4(1), 6. <https://doi.org/10.4103/0974-777X.93750>
- Scott, B. E., Weiss, H. A., & Viljoen, J. I. (2005). The acceptability of male circumcision as an

- HIV intervention among a rural Zulu population, KwaZulu-Natal, South Africa. *AIDS Care - Psychological and Socio-Medical Aspects of AIDS/HIV*, 17(3), 304–313. <https://doi.org/10.1080/09540120412331299744>
- Tarimo, E. A. M., Francis, J. M., Kakoko, D., Munseri, P., Bakari, M., & Sandstrom, E. (2012). The perceptions on male circumcision as a preventive measure against HIV infection and considerations in scaling up of the services: A qualitative study among police officers in Dar es Salaam, Tanzania. *BMC Public Health*, 12(1). <https://doi.org/10.1186/1471-2458-12-529>
- Tobian, A. A. R., Kacker, S., & Quinn, T. C. (2014). Male Circumcision: A Globally Relevant but Under-Utilized Method for the Prevention of HIV and Other Sexually Transmitted Infections. *Annual Review of Medicine*, 65(1), 293–306. <https://doi.org/10.1146/annurev-med-092412-090539>
- UBOS. (2011). Uganda demographic and health survey 2011. *Uganda Demographic and Health Survey*, 1–45. Retrieved from <http://ubos.org/onlinefiles/uploads/ubos/pdf/documents/Uganda DHS 1988-89 Final Report.pdf>
- Uganda Ministry of Health. (2010). *Uganda Safe Male Circumcision policy*. Kampala, Uganda.
- Uganda Ministry of Health. (2015). The HIV and AIDS Uganda country progress report 2014, 73.
- UNAIDS. (2016a). Global AIDS Update 2016. *World Health Organization*, (March), 422. <https://doi.org/ISBN 978-92-9253-062-5>
- UNAIDS. (2016b). *GLOBAL AIDS UPDATE 2016. GLOBAL AIDS UPDATE 2016*.
- UNAIDS, W. (2017). *UNAIDS FACT SHEET REGIONAL HIV STATISTICS — 2016*.
- Village, E. G. (2012). Male Circumcision. *Pediatrics*, 130(3), e756–e785. <https://doi.org/10.1542/peds.2012-1990>
- Weiss, H. A., Dickson, K. E., Agot, K., & Hankins, C. A. (2010). Male circumcision for HIV prevention: current research and programmatic issues. *AIDS (London, England)*, 24 Suppl 4(0 4), S61-9. <https://doi.org/10.1097/01.aids.0000390708.66136.f4>
- WHO. (2007). Global prevalence of male circumcision. *Male Circumcision : Global Trends and Determinants of Prevalence, Safety and Acceptability*, 7.

**APPENDICES**

**APPENDIX I: CONSENT FORM**

**CONSENT FORM**

I, **MPUMUZIBWE KENETH**, a fifth year student of Kampala International University pursuing Bachelors in medicine and surgery, am undertaking an academic study on **“Assessment of Knowledge, Perception and Practice of Safe Male Circumcision Towards HIV/AIDS Prevention among Male Students in Selected Public Secondary Schools in Ishaka-Bushenyi Municipality”**

You are kindly requested to participate in this study. It is voluntary to either participate or not to participate in the study therefore despite of your decision, no effects on you. You are freely allowed to withdraw from the study at any time

**Risks and confidentiality:** The study does not involve any invasive procedures so it will not cause any bodily harm to the participant. The study is purely for academic purposes, all your responses will be kept in confidence and participants will voluntarily take part in the study.

**Benefits of participating:** No economic benefit is attached to participation however, information yielded from this study will be important to policy makers and health providers.

**Meaning of your signature:** Upon signing on this form, it means you have clearly understood what the study procedures are including purpose, benefits and risks involved in the study.

**Informed Consent Statement**

The study information described in this form has been clearly read, explained to me and understood. I therefore agree to voluntarily participate in this study

Participants name

Signature/thumb print

Date

.....

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**APPENDIX II: DATA COLLECTION INSTRUMENT**

**QUESTIONNAIRE**

**Title :** *Knowledge, Perceptions and Practice of Safe Male Circumcision towards HIV Prevention among Males students in selected public secondary schools in Ishaka-Bushenyi municipality.*

**Interview Number:**

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**Date of interview:**

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<b>DEMOGRAPHIC INFORMATION</b>			
NO	Questions and filters	Coding Categories	Enter answer code
Q1	How old are you?	Age in complete years Don't know.....	
Q2	What is the main language spoken in your home	Swahili..... English..... Sukuma..... Other(Specify).....	
Q3	Current class	Senior one to three..... Senior four to six.....	
Q4	What is your religion?	Catholic..... Anglican/ Protestant..... Moslem..... Traditional..... None..... Other.....	

**SECTION B: KNOWLEDGE**

	Questions	True	False	Not Sure
Code		1	2	3
Q5	Circumcision of a man who does not have HIV reduces his chance of getting HIV			
Q6	Circumcision of a man who does not have HIV does not completely remove his chance of getting HIV			
Q7	There is NO chance for a circumcised man to get HIV			
Q8	Circumcision of a man with HIV does not protect his partner from getting HIV			
Q9	Circumcision reduces the risks of STIs?			
	<b>Now, tell me what you think about circumcised and uncircumcised men based on the following statements</b>			
Q10	It is easier to get HIV when a male is			Circumcised..... Uncircumcised.... No difference.....

		Don't know.....
Q11	It is easier to get an STD if a male is	Circumcised..... Uncircumcised.... No difference..... Don't know.....
Q12	It is easier to maintain penile hygiene when a male is	Circumcised..... Uncircumcised..... No difference..... Don't know.....
Q13	It is easier to get penile cancer if a male is	Circumcised..... Uncircumcised..... No difference..... Don't know.....



**SECTION C: PERCEPTION, BELIEFS, AND ACCEPTABILITY**

**For each statement, indicate your response by ticking the appropriate box.**

	Question	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
Code		1	2	3	4	5
Q14	Circumcised men enjoy sex more than uncircumcised men					
Q15	Circumcised men have more sexual feelings than uncircumcised men					
Q16	Circumcised men can safely have sex without using a condom and don't get infected with HIV as compared to uncircumcised men.					
Q17	It is important for all males irrespective of their age to be circumcised					
Q18	MC proves manhood					
Q19	MC is an old practices in our community and don't need to be re-introduced					

**NB: IF CIRCUMCISED GO TO Q25**

Considering the following statement: Currently, the government of Uganda is considering recommending that males be offered circumcision to reduce the chances of the men becoming infected with HIV and other STIs. Now I would like you to express your views and beliefs regarding male circumcision

Q20	Based on the statement above, would you choose to be circumcised, if it said to be reducing the risk of HIV infection?	Yes..... Maybe..... No..... Don't how.....
Q21	Given that, there is no or minimal complications, will you choose to be circumcised	Yes..... Maybe..... No..... Don't how.....
Q22	What are the reasons why you would want to get circumcised?  <b>(ONLY ASNWER IF 21 IS YES)</b>	Prevent HIV..... Hygiene..... Cultural norms..... Religion..... Prevent STIs..... Sexual pleasure..... Partner's desire.... Others specify.....
Q23	What factors have prevented you from getting circumcised?	Cost of procedure... Cost of transport... Fear of pain..... Cultural norms..... Religion..... Fear of complications..... No service at near health facility..... Don't have time..... Other specify.....
Q24	Why do you not want to get circumcised?  <b>(ONLY ASNWER IF 21 IS NO)</b>	Cost of procedure... Cost of transport... Fear of pain..... Cultural norms..... Religion..... Fear of complications.....

		No service at near health facility..... Don't have time..... Other specify.....
Q25	Would you recommend circumcision for your son or any young male you know?	Yes..... Maybe..... No..... Don't know.....
Q26	In your opinion what is the ideal age of performing MC	Infant..... Child..... Adolescent..... Adult..... No preferences..... Don't know.....
Q27	In your opinion at who is the ideal person to perform MC	Medical doctors.. Nurses..... Traditional circumciser..... No preferences..... Other (Specify)..... Don't know.....
Q28	In your opinion at what is the ideal place of performing MC	Health facilities..... At home..... No preferences..... Other(Specify)..... Don't know.....
Q29	Have you heard from any source or from someone about male circumcision in last 12 months?	YES..... NO.....
Q30	If yes, what have you heard about male circumcision in the last 12 months?	
Q31	Have you ever heard that circumcising men can reduce their chances of getting	YES..... NO.....

	HIV?		
Q32	(ONLY ANSWER IF QUESTION 31 IS YES) How did you learn about this information? Mark all that apply,	Radio..... Television..... Drama..... Newspapers/ Magazines..... Brochure..... Posters..... Billboards..... Community- Notices. ....	Family..... My Partner..... Friends..... Health Workers..... Political Leaders..... Traditional Leaders..... Religious Leaders..... Health Education..... Seminars..... Others.....
Q33	Have you ever discussed male circumcision as a way to help prevent passing HIV?	YES..... NO.....	
Q34	Do you know any health Facility near your home where male circumcision can be performed?	Are you circumcised? IF YES PROCEED WITH THE QUESTIONS/ IF NO END OF INTERVIEW	
Q35	What is the type of this health unit?	Government..... Private..... Missionary..... Don't Know.....	

**SECTION D: CIRCUMCISION STATUS**

Q36	Are you circumcised? <b>IF YES PROCEED WITH THE QUESTIONS/ IF NO END OF INTERVIEW</b>	YES..... NO.....
Q37	At what age were you circumcised?	Infant (1-12 months) ..... Child (1-12 yrs.) ..... Adolescent (13-18 yrs.) ..... Adult (above 18 yrs.....
Q38	Who conducted the circumcision procedure?	Health worker..... Traditional circumciser..... Other.....
Q39	Where was the circumcision procedure carried out?	Health facility..... Home..... Initiation ceremony..... Other.....
Q40	What was the reason for the circumcision?	Religious..... Cultural norm..... Health reasons..... Hygiene..... Other.....

### APPENDIX III: KREJCIE & MORGAN TABLE FOR ESTIMATION OF SAMPLE SIZE

Table for determining needed sample size (S) of a randomly chosen sample from a given finite population of N cases such that the sample proportion p will be within  $\pm .05$  of the population proportion P with a 95 percent level of confidence.

N	S	N	S	N	S
10	10	220	140	1,200	291
15	14	230	144	1,300	297
20	19	240	148	1,400	302
25	24	250	152	1,500	306
30	28	260	155	1,600	310
35	32	270	159	1,700	313
40	36	280	162	1,800	317
45	40	290	165	1,900	320
50	44	300	169	2,000	322
55	48	320	175	2,200	327
60	52	340	181	2,400	331
65	56	360	186	2,600	335
70	59	380	191	2,800	338
75	63	400	196	3,000	341
80	66	420	201	3,500	346
85	70	440	205	4,000	351
90	73	460	210	4,500	354
95	76	480	214	5,000	357
100	80	500	217	6,000	361

**Note:** N is population size; S is sample size. Source: Krejcie, R.V. & Morgan, D.W. (1970).  
Determining sample size for research activities.

## APPENDIX IV: BUDGET

SN	ACTIVITY/ITEM	UNIT COST (UGX)	QUANTITY	TOTAL COST (UGX)	JUSTIFICATION
<b>1</b>	<b>Stationary and Technical materials</b>				
	Duplicating paper	15,000	1 ream	15,000	Printing questionnaires and binding of research write-ups (report and summary)
	Printing & Binding	50,000	3 copies	150,000	
	Note books & pens	5,000	2	10,000	
	Internet subscription	25,000	1 month	20,000	Information in research writing
	<b><u>Sub total</u></b>			<b><u>195,000</u></b>	
<b>2</b>	<b>Data collection</b>				
	Research assistants	20,000	2	40,000	To help in data collection
	<b><u>Sub total</u></b>			<b><u>40,000</u></b>	
<b>3</b>	<b>Other fees</b>				
	Dissemination of research results			100,000	

An estimate of 335,000 UGX was made with the above breakdown.





**APPENDIX VI: MAP OF BUSHENYI DISTRICT & ISHAKA TOWN**



APPENDIX VII: APPROVAL LETTER OBTAINED FROM KIU ADMINISTRATION THROUGH IREC

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