

**UPTAKE OF SAFE MALE CIRCUMCISION FOR HIV PREVENTION AMONG
MALES 15-49 YEARS IN BAR-DEGE SUB COUNTY, GULU DISTRICT**

TONNY ODONG

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DECLARATION

I declare that **Uptake of safe male circumcision for HIV prevention among males 15-49 years in Bardege Sub- county, Gulu district** is my own work and that all the sources that I have used or quoted have been indicated and fully acknowledged by means of complete references and that this work has not been submitted before for any other degree at any other institution.

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Odong Tonny

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Date

APPROVAL

This work has been approved by my supervisor Ms. Komuhangi Alimah to be submitted for marking.

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Ms. Komuhangi Alimah

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Date

DEDICATION

This work is dedicated to my beloved wife Lucy Oyella, my parents Marino.L. Obel and Rebecca Lalam, my brother (Simon) and all my sisters (Alice, Joyce, Roselyne, Doreen and Mary) and Late brother Vincent Anywar. Lastly, I would also like to dedicate my work to all men and women and the National and regional AIDS networks that are in the forefront of finding lasting solutions to HIV&AIDS epidemic in Uganda and globally.

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OPERATIONAL DEFINITIONS

Male circumcision: Refers to a total removal of all or parts of the foreskin of the penis.

Safe Male Circumcision: Safe male circumcision is male circumcision performed by well-trained health professionals in properly equipped settings under hygienic conditions.

Uptake of SMC: Males who got circumcised as an additional HIV prevention strategy.

Barriers to MC: Circumstances or factors that limit the individual to accept MC.

Heterosexual HIV transmission: Transmission of HIV between individuals of the opposite sex through sexual intercourse.

LIST OF ABBREVIATION

AIDS	:	Acquired Immuno-deficiency Syndrome
AIS	:	AIDS indicator survey
ASSIST	:	Applying Science to Strengthen and Improve Systems
BCC	:	Behavior Change Communication
FBO	:	Faith Based Organization
FHI	:	Family Health International
HIV	:	Human Immuno – deficiency Virus
IATT	:	Inter – Agency Technical Team
IEC	:	Information, Education and Communication
IHSU	:	International Health Sciences University
IRCU	:	Inter - Religious Council of Uganda
MC	:	Male Circumcision
MOH	:	Ministry of Health
SMC	:	Safe Male Circumcision
STIs	:	Sexually Transmitted Infections
TT	:	Tetnus Toxid
UAC	:	Uganda AIDS commission
UAIS	:	Uganda AIDS indicator survey
UBOS	:	Uganda Bureau of Statistics
UNAIDS	:	United Nation Programme on HIV/AIDS
USAID	:	United States Agency for International Development
VMMC	:	Voluntary Medical Male Circumcision
WHO	:	World Health Organization

ABSTRACT

Background to the study: SMC is the surgical removal of all or part of the foreskin from the penis. Studies have shown that it reduces the risk of female to male transmission of HIV by up to 60%. Despite of the efforts Uganda has put in HIV prevention, the country is still categorized as a high risk country due to high HIV prevalence and low MC coverage.

Objective of the study: The objective of this study was to determine the factors associated with uptake of SMC for HIV prevention among males aged 15- 49 years in Bar-dege Sub-county.

Methodology: A cross sectional study involving both quantitative and qualitative data collection methods was carried out in Bar-dege sub-county. An interviewer administered questionnaire and Key Informant interviews were used to collect data from 300 respondents and 3KIs respectively.

Results: The study established that 32% of males are circumcised. SMC was found to be highly associated with education level ($p=0.028$), age ($p= 0.004$), religion ($p=0.000$) and knowledge about its protective effect in HIV prevention ($p=0.001$). Hindrance to SMC included misconceptions, lack of MC kits, inadequate number of trained health staff.

Conclusion and recommendations: The proportion of males circumcised in Bar-dege sub-county is still way below the 80% MC coverage required for herd immunity to be attained. In order to increase the uptake of SMC, health facility barriers like staff training, logistical supplies and accreditation of HFs needs to be addressed; there is need to involve the spouses of SMC clients, political, religious and cultural leaders and the VHTs in mobilization for SMC; and there is need for thorough sensitization of the community to dispel misconceptions about SMC.

CHAPTER ONE: INTRODUCTION

1.0 Introduction

Safe male circumcision is male circumcision performed by well-trained health professionals in properly equipped settings under hygienic conditions (WHO/UNAIDS/JHPIEGO 2009:11). It involves removal of the foreskin surgically, a loose skin covering the head of the penis. Worldwide, male circumcision is undertaken for religious, medical, cultural and social reasons (Government of Uganda MOH 2010:2). This chapter details background to the study, the problem statement, significance of the study, the study objectives, research questions and conceptual framework.

1.1 Background to the study

HIV and AIDS is a global pandemic that has had devastating effect on demographic, economic and governance structures of many countries in the world. HIV was discovered in 1984 and reached its peak in 1993. To date, the disease has spread to all the continents, that is, more than 150 countries claiming millions of lives (Omolo 2014: 2). It is estimated that in 2013, 35 million people were living with HIV. And close to 2.1 million adults were newly infected with the virus of whom two thirds live in sub-Saharan Africa. The prevalence is highest in southern Africa, where over 15% of adults are living with HIV (UNAIDS 2014:1). In Uganda, according to AIS report 2011, approximately 7.3% of people are living with HIV, with Northern districts of the country having the third highest HIV prevalence (8.3%) following districts from Central 1 (9.0%) and Central 2 (10.6%). Until 2007, Uganda was utilizing mainly Abstinence, Be faithful and Use condom (ABC) campaign to fight HIV epidemic. However, due to persistence of new HIV infections, there was need for a broader and more comprehensive strategy that integrates different empirically proven prevention approaches with the ABC campaign (Assimwe 2013: 1). One of such approaches is Safe

Male Circumcision (SMC). Globally, World Health Organization (WHO) estimates that 30% of all males 15 years and older are circumcised (WHO/UNAIDS 2007b:7) most of whom are in Asia. In Kenya, 85% of men are circumcised but 40% in Nyanza province. Whereas in Uganda, Tanzania and South Africa the male circumcision (MC) prevalence are 25%; 70%; 35% respectively (WHO/UNAIDS progress 2010: 1-9). In 2007, the World Health Organization (WHO) and United Nations Programme on AIDS (UNAIDS) endorsed SMC to be applied as an important intervention to reduce the risk of HIV acquisition among men in countries or regions with high HIV prevalence and low rates of male circumcision (WHO /UNAID, 2007a). The WHO/UNAIDS recommendation followed compelling evidence from three randomized trials conducted in Africa between 2005 and 2007 that is; Orange Farm, South Africa (2005), Rakai district, Uganda (2007), Kisumu, Kenya (2007), which confirmed medical male circumcision as an effective HIV prevention tool that reduces the risk of female to male transmission of HIV by approximately 60% (Bailey et al 2007; Gray et al. 2007; Auvert et al. 2005; WHO/UNAIDS 2007a). Consequently, in 2010, WHO/UNAIDS identified thirteen Southern and Eastern African countries with high HIV prevalence, low levels of male circumcision and generalized heterosexual epidemics to be prioritized for male circumcision scale-up to reach at least 80% of male population by 2015. These were Uganda, Botswana, Kenya, Lesotho, Malawi, Mozambique, Namibia, Rwanda, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. Each of the 13 priority country was tasked to address ten critical elements for effective scale up of MC which include leadership and partnerships; situation analysis; advocacy; enabling policy and regulatory environment; strategy and operational plan for national implementation; quality assurance and improvement; human resource development; commodity security; social change communication and monitoring and evaluation. Based on WHO/ UNAIDS recommendation, in 2010 Uganda adopted SMC policy as part of a package of HIV prevention services

including HIV testing and counseling, STI screening and treatment, condom provision and promotion, and risk reduction counseling (MOH SMC policy 2010). However, despite of the rollout of the policy beginning from 2010, a review of country progress by UNAIDS in 2013 showed that Uganda and other SMC priority countries still faced critical challenges in successful implementation of SMC. The challenges included; low male circumcision uptake, stock outs of essential medicines, inadequate financial resources and human resource constraints (UNAIDS global report, 2013: 19).

1.2 Statement of the problem

Bardege sub- County, Gulu district of Northern region has an estimated 17,397 males, 43% (approximately 7,300) are aged 15-49 years and are eligible for SMC (UBOS 2014). The sub-county is characterized with a number of risk factors to HIV infection among youths such as poverty, unemployment and alcoholism. The sub-county also houses Gulu fourth division barracks with frequent in and out movement of armed forces.

However, despite of the ongoing SMC scale up efforts by the MoH, the last UDHS report (2011) revealed that MC prevalence (done for various reasons such as religious, cultural and medical i.e SMC) among adults 15-49 years in this region is the lowest in the country at only 4% compared to the national average of 27% and yet the same region has one of the highest HIV prevalence (8.3%) compared to national prevalence of 7.3% (UAIS 2011:107).

The implication of low SMC prevalence in this sub-county is that it exposes the sexually active individuals (15-49 years) to the risk of HIV infection. According to WHO /UNAIDS (2007) at least 80% SMC coverage is required in a population to attain herd immunity in relation to HIV infection. To date very little is known about the factors that influence the uptake of SMC in Bar-dege sub-county thus the need for this study.

1.3 Main objective /Purpose of the study

The purpose of this study is to determine the factors associated with uptake of SMC for HIV prevention in a population of males aged 15- 49 years in Bar-dege Sub-county.

1.3.1 Study objectives

- i. To determine the proportion of males aged 15-49 years who are circumcised for HIV prevention in Bar-dege Sub-County.
- ii. To assess the level of knowledge of males aged 15-49 years on SMC for HIV prevention in Bar-dege Sub-County.
- iii. To determine the socio- demographic characteristics influencing the uptake of SMC for HIV prevention among males aged 15 – 49 years in Bar- dege sub- county
- iv. To assess the health care related factors influencing the uptake of SMC by males 15- 49 years in Bar-dege sub- County.

1.4 Research Questions

- i. What is the proportion of males aged 15-49 years circumcised for HIV prevention in Bar-dege Sub-County?
- ii. What is the level of knowledge of males aged 15-49 years on SMC for HIV prevention in Bar-dege Sub-County?
- iii. What are the socio- demographic characteristics influencing the uptake of SMC for HIV prevention among males aged 15 – 49 years in Bar- dege sub- County?
- iv. What are the health care related factors influencing the uptake of SMC by males 15- 49 years in Bar-dege sub- County?

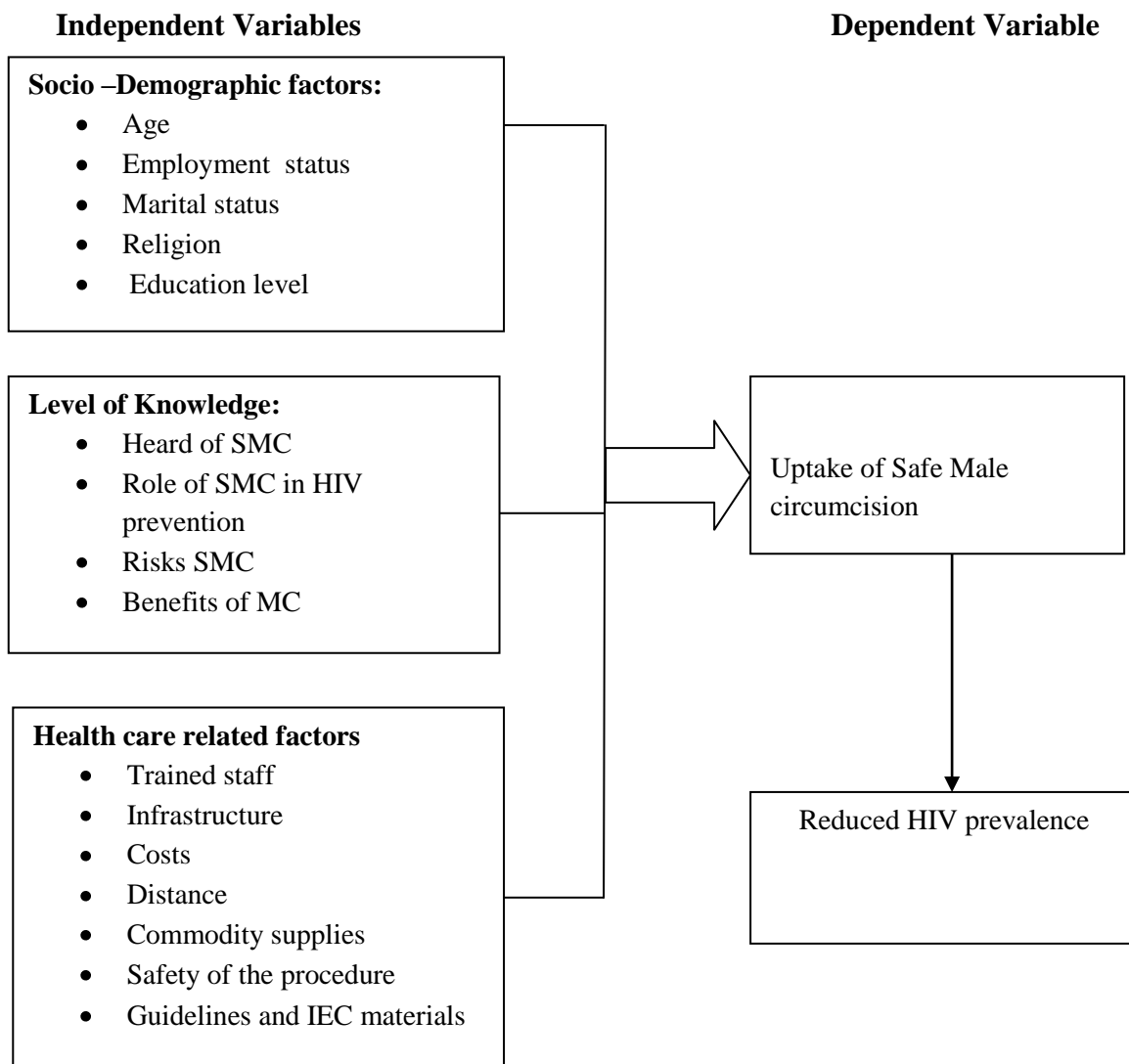
1.5 Significance of the study

This study was in line with the Sustainable Development Goal (SDG 3) which aims at promoting good health and well being of the world population by among other things altering HIV epidemic by the year 2030. Specifically, the findings may help to address barriers to access of SMC by males in Bar-dege subcounty which will consequently result into low HIV infections and more productive population. It may also help the district to improve on the current strategies for SMC scale up. Lastly, the study may help to inform policy formulation by the government for improved uptake of SMC services.

1.6 Conceptual framework

According to Regoniel (2015), a conceptual framework provides an understanding of how the particular variables in a study connect with each other. It identifies the variables required in the research investigation. In other words, it is the researcher's "map" in pursuing the investigation and presents the context and issues that caused the researcher to conduct the study. In this study relationship between two important variables was investigated; that is independent (cause) and dependent (effect) variables as illustrated in the figure below.

Figure 1: Conceptual Framework



As shown in the figure above, uptake of safe male circumcision is hypothesized to be influenced by a number of factors such as socio- demographic, level of knowledge and health care related factors. In the long run, the impact of SMC is expected to be seen in the reduction of HIV prevalence among the target population. Understanding the factors that influences the uptake of SMC in Bardege sub-county will be instrumental in informing policies and SMC program implementation strategies.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This section presents the literature reviewed to support the proposed study. According to Polit and Beck (2005:170), literature review provides background for understanding current knowledge on a topic and illuminates the significance of the new study.

2.1 Historical background of male circumcision

Male circumcision, a complete removal of male foreskin has been practiced in many societies since antiquity. The earliest evidence of male circumcision was discovered in Egyptian tombs aged more than 4000 years (Masumbuko et al 2013: 1). It is considered as one of the oldest and most common surgical procedures practiced in the world mainly for religious, cultural, social and medical reasons (Government of Uganda MOH 2010:2).

Male circumcision also routes in various religious scriptures and history for instance, since Abraham's the Jews have taken this procedure as a religious mandate and most Jews in contemporary World tend to circumcise.

Some scholars have suggested that, Jews and followers of Judaism probably adopted circumcision to make penile hygiene easier in the hot, sandy climate but also as rite to passage into adulthood and as form of blood sacrifice.

Christianity also provides an insight on the history of circumcision since in the earliest times of Christianity, circumcision was considered to be divine part of purity. Among Muslims in particular, male circumcision is taken as an obligation although it is not mentioned in the Quran. It is believed that Muslims who are not circumcised are not allowed to pilgrimage in Mecca, as uncircumcision is considered unhygienic (Masumbuko et al 2013:1). Male circumcision is also evidently routed to ethnicity, for instance in addition to religious region,

Bagisu tribes in Eastern Uganda practice it to signify a rite to passage from childhood to adulthood (MOH 2010:1 SMC).

2.1.1 The role of male circumcision in HIV prevention

In sub-Saharan Africa HIV is predominantly transmitted by unprotected heterosexual intercourse. In Uganda heterosexual contact is responsible for over 80% of HIV transmission (MoH, SMC page1). To date many studies in different parts of the world have shown significant association between male circumcision and HIV-1 infection.

The first paper which suggested a protective effect of MC against HIV infection was published in 1986 by Fink, a California urologist, an outspoken advocate of circumcision who had self-published a book to promote his ideas about circumcision. According to Fink, foreskin "increases infection by HIV." Fink claimed that the keratinization of the penis of the circumcised male reduced the chance of HIV-1 penetration (Fink 1986).

Following Fink's idea, a number of observational epidemiology studies and meta-analyses of observational studies published in 1999 and 2000 have been conducted. All these studies have reported a reduced risk of HIV infection among circumcised men, as high as half that of uncircumcised men (Van Howe, 1999; Weiss et al., 2000). For instance in 2005, Auvert et al. conducted a randomized controlled intervention study among 3,274 uncircumcised men aged 18-24 years in Organge Farm, South Africa. Overall, there were 20 HIV infections (incidence rate = 0.85 per 100 person-years) in the intervention group and 49 (2.1 per 100 person-years) in the control group, corresponding to Rate Ratio (RR) of 0.40 (95% CI: 0.24%–0.68%; $p < 0.001$). This RR corresponds to a protection of 60% (95% CI: 32%–76%).

Similar RCTs were conducted in Rakai Uganda (Gray et al., 2007) and Kisumu, Kenya (Bailey et al., 2007) involving 4,996 and 2,784 uncircumcised HIV negative men aged 15-49 years and 18-24 years respectively. The result showed that the risk of acquiring HIV in Uganda was 51% and 53% in the Kenya study. The evidence provided by these three RCTs led to conclusion that male circumcision provided by well trained health professionals in a properly equipped settings can reduce the risk of heterosexually acquired HIV infections in men by approximately 48-60% (WHO/UNAIDS 2007:2).

Further data analysis on MC and HIV interactions have shown that in Southern African countries, each country in this region with high prevalence of HIV (Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia, Zimbabwe) has a relatively low circumcision prevalence, whereas over 80% of males are circumcised in the two southern African countries with low HIV prevalence (Angola 3.7%; Madagascar 0.5%) (WHO/UNAIDS 2007: 22). In Mozambique, the overall prevalence of self-reported male circumcision is 60%, but this varies by province. HIV prevalence is consistently lower in provinces where male circumcision is common (Cabo Delgado, Inhambane, Nampula, Niassa), and higher where few men are circumcised (Gaza, Manica, Maputo, Sofala, Tete, Zambezia).

Similarly in Uganda AIDS sero behavioural survey report 2016 showed that men who have been circumcised are slightly less likely to be HIV positive than those who are not circumcised; 4 and 6 percent, respectively (MOH, sero behavior SBS, 2006: 107). Additionally according to Patterson BK. et al (2002), biological evidence shows that the presence of a significantly higher concentration of Langerhans cells, which are target cells for

HIV-1 in the mucosal layer of the foreskin, makes the man more susceptible to the HIV infection.

2.2 Proportion of males circumcised

Worldwide, the World Health Organization (WHO) estimates that 30% of all males 15 years and older are circumcised. Majority (70%) of whom are Muslims living mainly in Asia, the Middle East, and North Africa, 13% are non-Muslim and non-Jewish men living in the United States of America, and 0.8% are Jewish (WHO/UNAIDS 2007:7). Generally, male circumcision is most prevalent in the Muslim world (near-universal), parts of Southeast Asia and of North Africa, the United States, the Philippines, Israel, and South Korea. It is relatively rare in Europe and parts of Southern Africa (Drain, 2006).

As of 2010, male circumcision prevalence estimates in 13 of the main Eastern and Southern African countries selected for rapid scale up of MC were as follows; Kenya, 85% but 40% in Nyanza province; Malawi, 21%; Botswana,11.2%; Lesotho, 48%; Mozambique,56%; Namibia,21%; Rwanda,12%; South Africa,35%; Swaziland,8%; Tanzania,70%; Uganda,25%; Zambia,13.1%; and Zimbabwe,10% (WHO/UNAIDS progress 2010: 1-9). This indicates that with exception of Kenya (85%), Tanzania (70%) and Mozambique (56%), all the other 10 countries falls below 50% level of male circumcision prevalence.

2.3 Socio- demographic factors that influences the uptake of SMC for HIV prevention

2.3.1 Age, marital status and religion

A cross sectional study conducted in Kibera sub-county, Nairobi County, Kenya covering 387 males found a significant association between age of the participants and uptake of

VMMC. For instance, 69% of the younger participants aged less than 20 to 29 years were circumcised compared to 31% of the older participants aged 30 to 50 years.

Meanwhile, marital status of the participants was found to decrease the uptake of VMMC by 0.87 fold risk and religion of the participants increased the uptake of VMMC by 1.23 fold as prevalence of circumcision among the married and Christian participants were 64% and 90% respectively (Nyaga E, 2015).

Plotkin M. et al 2013 reports that in Iringa and Njombe in Tanzania, a mere 6% of the VMMC clients were 25 years old and beyond. The reason being the shame associated with seeking services at an older age together with younger boys. It was thought to be improper for 27 years old to go for circumcision after puberty, and particularly after marriage and after having children. The Ugandan and Kenyan VMMC programs have also reported a similar pattern of young VMMC clients hence confirming this cultural preference for circumcision at a younger age (Herman, Bailey and Agot 2012).

Among the Turkana of Kenya who don't practice Circumcision, older men consider circumcision as disregarding tradition and assimilating to other cultures, and since the older men are the keepers of culture, they are expected to uphold Turkana traditions and they keep to it (Macintyre K. et al. 2013).

2.3.2 Employment status and income level

Socioeconomic factors were found to influence circumcision prevalence, especially in countries with more recent uptake of the practice, such as English-speaking industrialized countries (WHO/UNAIDS, 2007). When male circumcision was first practised in the United Kingdom in the late 19th and early 20th century, it was most prevalent among the upper

classes (Coulter A, 1985). A study published in 1953 found that 74% of private-hospital patients in New York City were circumcised, compared to 57% of non-private patients (Speert H,1953). A similar association was seen in a recent nationwide survey in Australia, which found that the proportion of men circumcised was significantly associated with higher levels of education and income (Richters J et al,2006).

In the United States of America, a review of 4.7 million newborn male circumcisions nationwide between 1988 and 2000 also found a significant association with private insurance and higher socioeconomic status (Nelson CP et al,2005), which is likely to reflect the low circumcision prevalence among recent immigrants, many of whom, in to coming from non-circumcising countries, such as China and Mexico, are more likely to be of lower socioeconomic status.

Although circumcision is uncommon in Thailand, it tends to be associated with higher educational and socioeconomic status. In order to make male circumcision more accessible, it was recently added to the procedures covered under a flat rate payment scheme for a medical visit or procedure of any type (Tangcharoensathien V, 2006). In contrast, the Demographic and Health Surveys in sub-Saharan African countries show no consistent association with socioeconomic status. For example, in the United Republic of Tanzania, higher rates of circumcision are seen among men with higher levels of education, of higher socioeconomic status and living in urban areas, whereas in Lesotho, circumcision is most common among men with no education, in the lowest wealth quintile and living in rural areas (MEASURE DHS, 2006).

Circumcision prevalence in Ethiopia is universally high (93%) but men are most likely to be circumcised if they are in a higher wealth quintile. A study conducted by Nyaga E. (2015) in Kenya revealed that having a higher level of education increased the uptake of VMMC by 1.29 fold risk and the level of employment increased the uptake of VMMC by 1.55 fold; therefore, higher level of education and employment were factors likely to influence the uptake of VMMC in the study region.

Asimwe E. (2013:2) in a study conducted on uptake of MC among 297 men aged 17 to 40 years in three districts of central Uganda (Kiboga, Mukono and Wakiso districts) found that personal willingness to undergo safe male circumcision (SMC) among young men in rural Uganda decreases with educational attainment. The study concluded that more research needs to be done to better understand why lower educated men are more eager to undergo MC while their more educated peers shun the procedure.

According to WHO/ UNAIDS (2007: 5) desire to conform is an important motivation for circumcision in places where the majority of boys are circumcised. A survey in Denver, United States of America, where circumcision occurs shortly after birth, found that parents, especially fathers, of newborn boys cited social reasons as the main determinant for choosing circumcision (for example, not wanting him to look different). The main correlate of circumcision status was circumcision status of the father, with 90% of circumcised fathers choosing to circumcise their son, compared with 23% of non-circumcised fathers.

Male circumcision in some settings is influenced by culture and ethnicity.

According to WHO/ UNAIDS whereas an estimated 84% of all Kenyan men are circumcised, the percentage is much lower among the Luo and Turkana ethnic groups (17% and 40%, respectively). Focus group discussions among adult Luo men and women found no

knowledge of any history of male circumcision among the Luo in Kenya (a.WHO/ UNAIDS 58%page 4). Similarly, male circumcision is not practised among the Jopadhola, Acholi and other Luo-speaking River-Lake Nilotic groups in Uganda and southern Sudan, from where the Luo migrated (Bailey RC et tal,2002). For example UDHS report of 2011 indicate that of the 27% of males circumcised (UDHS 2011: 207), the proportion of circumcised men is highest among Muslims (94 percent) and men from the Basoga ethnicity (49 percent) and Bagisu compared with men from other religions and ethnic backgrounds. Among the circumcising cultures, circumcision is an integral part of a rite of passage to manhood, although originally it may have been a test of bravery and endurance (Doyley D 2005). Circumcision is also associated with factors such as masculinity, social cohesion with boys of the same age who become circumcised at the same time, self-identity and spirituality (Niang CI 2006)

2.4 Level of knowledge of males on SMC for HIV prevention

Knowing facts on the benefits and consequences of any intervention will have a long term positive influence. A study conducted by Yang et al (2012:e30198) elucidates that more health education campaigns about positive health effects are necessary to increase MC rate in China. This was after improved acceptability of male circumcision following education campaigns.

Another study conducted by Nyaga (2015: 36) in Kenya on knowledge about SMC found that more than half of the respondents had knowledge about SMC (59%) with 69% reporting that it could not prevent HIV. The major source of information on SMC was from TV and radio (22%).

A review of acceptability studies across nine sub- Saharan African countries showed that the most common barriers to MC among men is fear of pain, culture and religion, cost and time

away from home, the risks of medical complications and adverse effects and the possibility of behavioral disinhibition (that VMMC would result in increased sexual risk behavior).

Other risks identified are: reduction in penile sensitivity and size, fear of a lessened capacity to engage in sexual intercourse or desire and an increase in promiscuity. However, the same review also revealed a number of facilitating factors and that a high proportion of men and women in non- circumcising populations favored MC when it is associated with protective effects against HIV. In addition, the review confirmed that, despite these risks to VMMC, the procedure proved to be inexpensive, and the circumcision wounds healed rapidly if executed in a hygienic sterile hospital environment (Westercamp N etal 2007).

Another study conducted in 2014 by Laura et al in Lesotho among 161 men revealed that Men sought medical circumcision for the following main reasons: protection against HIV (73%), protection from other sexually transmitted infections (62%), and improved penile hygiene (47%).

According to these men, perceived concerns hindering VMMC service uptake include fear of pain (57%), a female provider (18%), and “compulsory” HIV testing (15%). Additionally, Tobian A etal (2010) conducted surveys and qualitative studies among young as well as older men in six African countries on male circumcision as prevention strategy for acquisition and transmission of sexually transmitted infections. The findings from the surveys showed that the main benefits men associated with MC include hygiene, infection control and for some a belief that condom use is easier for men who are circumcised.

2.5 Health care factors influencing the uptake of SMC for HIV prevention

In 2009, United Nations Interagency Technical Team (IATT) during a consultative meeting to share country experiences in the scale up of MC services in East and Southern Africa reports that rapid scale up and uptake of SMC in these countries was affected by the limited capacity of health systems and failure of health workers to widely discuss the issues of male circumcision due to general knowledge gaps and shortages of IEC/BCC materials.

Owuor et al (2011: 1) in a study conducted in Kisumu County, Kenya found that two critical health care factors were great hindrances to uptake of SMC and these included; the attitudes of health workers and long distances males have to walk to health facilities for services. To address these barriers it was recommended that the government carries out door to door campaigns to popularize circumcision as a tool for lowering the rate of HIV transmission.

Study by Yewondwossen M.G (2012:62) on factors that influence the uptake of SMC among adolescent boys in Botswana found that surgical complications (an important health care factor) had no significance influence on SMC uptake.

In 2012, inter – religious council of Uganda (IRCU) conducted a study on provision of SMC in IRCU supported FBOs and found that inadequate trained personnel, lack of infrastructure such as theatre and inadequate health financing were some of the important health care factors that affected uptake of SMC (IRCU, 2012: 22). It was also found that some private health facilities still charge money for MC procedure thus hindering its uptake.

According to FHI 360 (2011:4), introducing and rapidly expanding MC can only be done with significant financial and technical support from government and donors. Government of Kenya in 2011 indicated that to increase MC additional resources would be required to set up outreach and mobile MC sites in the community as a mean to address health system challenges (Government of Kenya, 2011).

CHAPTER THREE: METHODOLOGY

3.0 Introduction

This chapter describes the methods of how the study was carried out. It includes the study area, study scope, study design, sources of data, study population, inclusion and exclusion criteria, sample, sample size determination, sampling unit, sampling procedure, study variables, data tools, how the quality of data was maintained, plan for analysis and dissemination, ethical considerations and limitations of the study.

3.1 Study Design

A cross sectional study design employing both quantitative and qualitative data collection techniques was used for this study. This kind of design was chosen based on the fact that it is best suited to determine the uptake of SMC services and its associated factors at a point in time.

3.2 Sources of Data

Data was collected primarily from males aged 15- 49 years and Key informants (KIs) using an interviewer administered questionnaire and KI guide respectively.

Secondary data was also utilized. Data from different scholars was reviewed to support the discussion section.

3.3 Study Population

The study population comprised of males aged 15 – 49 years in Bar- dege sub- county.

3.3.1 Inclusion and Exclusion Criteria

3.3.1.1 Inclusion Criteria

A respondent was included in the study only if he was between 15-49 years and residing in Bar-dege division at the time of the study. This is regardless of the MC status.

3.3.1.2 Exclusion Criteria

All males either below 15 years or above 49 years were excluded from participating in the study.

3.4 Sample Size Calculation

The number of respondents in the study was determined using Kish and Leslie formula of 1965. The Kish and Leslie formula was preferred because it is best suited when dealing with infinite populations.

The formula is;

$$n = z^2 pq / e^2$$

Where n = desired sample size

z = z score corresponding to 95% confidence interval- 1.96

p = Proportion of males circumcised 27% (UDHS, 2011).

q = 1-p which is (1- 0.27) = 0.73

e = margin of error at 95% level of significance, which is 0.5

Substituting in the formula above

$$n = 1.96^2 * 0.27 * (1- 0.27) / 0.05^2$$

$$n = 3.8416 * 0.27 * 0.73 / 0.0025$$

n = 303 approximated to 300 male aged 15-49 years in Bardege sub-county.

3.5 Sampling Procedure

3.5.1 Selection of villages in Bar- dege sub – county

A probability sampling method (simple random sampling) was used to select the villages to be involved in the study. All the villages in each of the four parishes in Bar- dege sub-county were written on separate sheets and folded. These folded sheets were put in a box labeled with the parish's name and shuffled, and then one research assistant was asked to select one paper from each box. The sheets picked consisted of the following villages Kanyagoga B (Kanyagoga parish), Obiya West (For God parish), Air Field Ward (Bar- dege parish) and Keyi B (Kasubi parish). Simple random sampling was done to ensure that each village gets an equal chance of being selected in order to avoid selection bias, and at least each parish in Bar- dege sub- county was represented. Table 1 below shows the summary of villages that were selected.

Table 1: Selected villages in Bar-dege sub-county

S/N	Parish	Selected Village
1	Kanyagoga	Kanyagoga B
2	Kasubi	Key B
3	Bar- dege	Airfield Ward
4	For God	Obiya West
Total	4	4

3.5.2 Selection of participants for quantitative data collection

For each of the selected village, the number of males aged 15 – 49 years was obtained from the division headquarters. Then a stratified method of sampling was used to calculate a proportional number of respondents to represent a particular village as illustrated in table 2 below;

Table 2: Proportional number of males aged 15 – 49 years by village

S/N	Selected Villages	Estimated number of males 15 – 45 years (UBOS, 2014)	Desired sample size (c) $c = (a/b) * n$
1	Kanyagoga B	817	75
2	Key B	430	39
3	Airfield Ward	753	69
4	Obiya West	1,274	117
Total	4	3,274	300

In each of the village, a sampling interval (r) was generated and was used to systematically select every rth household from which household one male aged 15 – 49 years was selected to participate in the study. If a respondent selected was not willing to answer the questionnaire the same procedure was repeated to select another respondent until the desired number from each selected village was obtained. The starting point for selection of the household was the center of village as determined by the local leaders.

3.5.3 Selection of participants for qualitative data collection

A total of 3 people were involved in key informant interviews. This comprised of the SMC service providers at two of the four SMC health facilities and the Gulu Municipal SMC team leader. Four questions were included in the KI guide that assessed the challenges and recommendations for improved SMC uptake in the sub- County.

3.6 Study Variables

3.6.1 Dependent Variable

Uptake of SMC defined as a male circumcised as part of HIV prevention intervention was the dependent variable. The males were asked whether they heard of SMC and its importance in

HIV prevention. Those who knew about it were asked whether they got circumcised under this program. The dependent variable, uptake of SMC is a binary outcome.

3.6.3 Independent Variables

A number of variables were measured to assess factors that influence the uptake of SMC by males 15 – 49 years for HIV prevention. The variables included age, employment status, marital status, religion and education level (used to measure influence of socio-demographic characteristics on SMC uptake); risks of SMC, whether a respondent heard of SMC, knowledge of SMC in HIV prevention and benefits of SMC (used to measure the level of knowledge of SMC in HIV prevention); and trained staff, infrastructure, costs, distance, commodity supplies, safety of the procedure, guidelines and IEC materials (used to measure health care factors that influences SMC uptake).

3.7 Data collection techniques

Two methods of data collection were employed namely Key informant interviews (qualitative data) and questionnaires (Quantitative data).

3.8 Data collection tools

3.8.1 Quantitative tools

A close ended researcher administered questionnaire was used to collect quantitative data of sampled individuals (males) from the households in selected villages of Bar- dege sub county.

3.8.2 Qualitative tools

Key informant interviews were used to collect qualitative data from SMC health care providers and the Gulu Municipal team leader for SMC.

3.9 Plan for data analysis

3.9.1 Data management and analysis of quantitative data

Data was entered and analyzed using SPSS version 16 and Microsoft Excel. Three levels of data analysis were considered namely; descriptive analysis, bi-variate analysis and multi-variate analysis. Descriptive analysis produced mainly the frequencies and percentages of responses, bi-variate allowed relationship to be tested between the dependent and independent variables using Chi-square test. At this stage all variables with $P < 0.05$ were considered to be statistically associated with the uptake of SMC. Multivariate analysis was later used to determine the strength of the associations established at the bivariate analysis. Only variables that were significant at bi-variate level were considered for multivariate analysis. Logistic regression model was used to estimate the odds ratios and their 95% confidence interval for SMC uptake with demographic characteristics, level of knowledge and health care factors.

3.9.2 Data management and analysis of qualitative data

Qualitative data recorded (transcribed) during the KI interviews was analyzed using thematic methods by examining pattern across the responses. Responses were grouped according to their frequencies and used to determine what majority of respondents mentioned in relation to a particular question. In some instances, the researcher reported exactly what the KI quoted in order not to distort the information.

3.10 Quality Control Issues

The quality of data was ensured by taking into account the following measures;

3.10.1 Validity of Data Collection Instruments

Validity is the degree to which an instrument measures what it is supposed to measure (Polit & Beck 2008:457). The validity of a study is the measure of the truth or accuracy of a claim, which is an important concern throughout the research process (Burns & Grove 2009:726). In designing a study, a constructive approach is to think in advance all of the possible factors that could undermine the validity of inferences made. When researchers can anticipate potential threats to validity and introduce design features to eliminate these threats, the validity of the inferences is strengthened (Polit & Beck 2008:286). In this study, the validity of the data-collection instrument was tested based on face validity and content validity

Face validity

Face validity, which is sometimes called measurement validity, is the extent to which a method measures what it is intended to measure. It is usually assessed by the judgement of an expert panel rather than by the use of formal statistical methods (Peat, Mellis, Williams & Xuan 2002:108). Three experts, from the fields of statistics, public health, and social science, respectively, as well as the researcher's supervisor, were given the questionnaire to comment on the appearance, clarity, relevance, and the sequence. They were convinced that at face value, the tool appears to measure the characteristics of interest. Their overall comments were incorporated in the final questionnaire.

Content validity

Content validity pertains to the extent to which the items adequately cover the domain under investigation (Peat et al 2002:109). In this study, the researcher included most of the relevant items from the numerous reviewed literatures in the questionnaire, in order to broaden the

data-collection tool. According to Peat et al (2002:108), content validity, as with face validity, is also a concept that is judged by experts. Experts from health-related fields, statistics, and social science critiqued the questionnaire and offered their contributions. They believed that the questions could measure the research objectives stated by the researcher. In addition, the researcher's supervisor was involved in formulating questions, formatting, modifying, and validating the data-collection tool.

Reliability

The reliability of a quantitative instrument is a major criterion for assessing its quality and adequacy before data collection (Polit & Beck 2008:452). According to Mouton (1998:144), reliability demands stability and consistency over time. It refers to the fact that when different research participants are tested by the same instrument at different times, they respond identically to the instrument. Therefore, to establish reliability of the instrument, the questionnaire was pilot-tested in one village in the study area that is Kanyagoga C. Kanyagoga C village was chosen because it was not one of the villages to be surveyed but had similar characteristics with those that had been selected. The pilot test allowed adjustments to be effected in some questions and also made the questionnaire easier to comprehend.

Pre- visit to the study area

A pre- visit was conducted to the study area and the sub – county headquarters to ascertain the parish, village and sub- county population to be used to facilitate the allocation of sample size to the selected villages. It also offered opportunity to identify resource persons to lead the data collection process in the respective villages.

Training of research assistants

Four research assistants per village were trained on data collection techniques and tools. During the training, the questions were translated to Luo to cater for respondents who do not understand English.

Editing of data

Each team had a team leader that cross checked the returned questionnaires to verify missing information. Data was entered in SPSS and thoroughly cleaned using Microsoft Excel. While designing the data entry screen, data validation checks were put in place to eliminate erroneous entry.

3.11 Ethical Consideration

To address ethical issues related to this study, the researcher ensured the following;

- 1) I obtained approval to conduct this study from the IHSU technical committee on research and clearance letters from the supervisor and the dean of students.
- 2) I got permission from the Gulu Municipal Health office and Bardege sub- county leadership to conduct the study.
- 3) I also ensured confidentiality of the information obtained from the respondents by using serial numbers as opposed to using names.
- 4) Respect for autonomy was ensured by obtained informed consent from respondents.

3.12 Limitations of the study

All data collected was based on self-reported behavior and characteristics without clinical examination or other confirmation.

Views of women who can potentially influence the uptake of SMC were not gathered.

3.13 Plan for dissemination of a report

A report of findings was submitted to International Health Sciences University (IHSU) in partial fulfillment of a master's degree of Science in public health. A copy will be submitted to the Bar-dege sub county headquarters and Gulu Municipal Health Office for possible implementation of the study findings.

CHAPTER FOUR: RESULTS

4.0 Introduction

This section presents findings from the study and is structured according to the study objectives. The finding is derived from both qualitative and quantitative data that were collected during the study. The researcher considered three major data analysis levels for quantitative data namely descriptive, bi-variate and multivariate analysis and thematic analysis for qualitative data. This is to help show the relationships between the different independent variables and dependent variable for the case of quantitative data and also have in depth explanation on the association between these variables using evidence from qualitative data.

4.1 Descriptive Analysis

This section provides descriptive statistics focusing mainly on percentages and frequency of responses from the 300 males respondents (15- 49 years) who were interviewed during the study. The data are presented using both charts and tables.

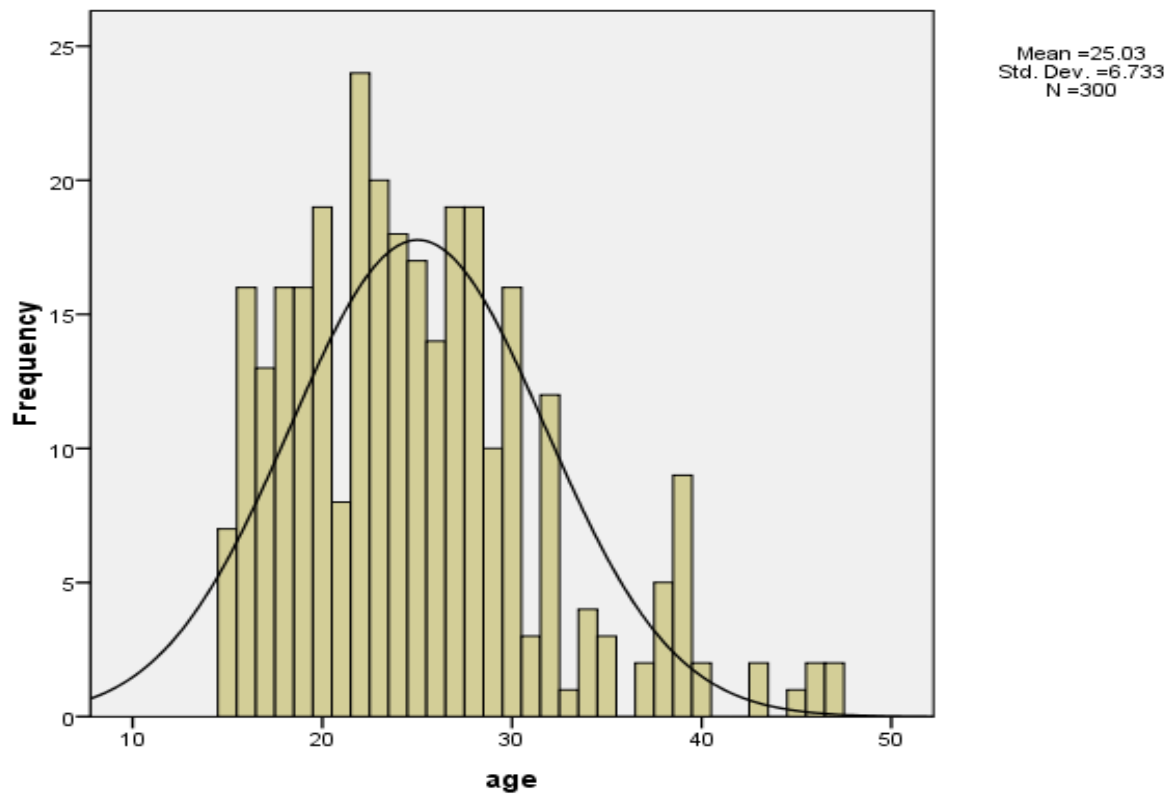
4.1.1 Socio – demographic characteristics of respondents

The main socio- demographic characteristics of respondents that were collected during the study include; age, marital status, religion, employment status and education level. The distributions of each of these characteristics are indicated below.

4.1.1.1 Age distribution of the respondents

Age was collected as continuous data and presented in a histogram as indicated in figure 1 below. The mean age of the respondents was 25 with standard deviation of approximately 7.

Figure 2: Age distribution of the respondents



Source: Primary data from respondents

4.1.1.2 Other socio –demographic characteristics of respondents

As can be seen in table 3 below, majority of the respondents (42.7%) attained secondary education and only 4.7% reported not having gone to school. Regarding religion, more than half of the respondents were Roman Catholic. SDA (0.7%) and Muslim (6.7%) constituted the lowest percentages. Two third of the respondents have never married. Pertaining employment status, nearly half (48.3%) of the respondents reported that they are not employed and 19.3% were still in school.

Table 3: Other socio- demographic characteristics of respondents

Variable	Frequency (N= 300)	Percentage (%)
Education level		
None	14	4.7
Primary	65	21.7
Secondary	128	42.7
Tertiary/ University	93	31.0
Religion		
Roman Catholic	187	62.3
Anglican	64	21.3
Muslim	20	6.7
Pentecostal	27	9.0
SDA	2	0.7
Marital Status		
Never married	199	66.3
Married	95	31.7
Divorced/ Separated	4	1.3
Widowed	2	0.7
Employment status		
Unemployed	145	48.3
Employed	97	32.3
Student	58	19.3

Source: Primary data from respondents

4.1.2 The level of knowledge of the respondents on safe male circumcision

4.1.2.1. Knowledge of respondents on the role of SMC in HIV prevention

To assess the level of knowledge of the respondents on safe male circumcision, the respondents were asked whether they have ever heard of SMC. As shown in table 4 below, of the 300 respondents interviewed, 96% (n= 288) of the respondents indicated that they have ever heard of SMC while 4% (n= 12) were not aware of it. Majority of those who heard of SMC said that they got the information from radio (58%) and only 4.2% motioned print media such as posters, newspapers and magazines. However, regarding the knowledge of SMC role in prevention of HIV, 81.3% (n= 234) stated that they are aware that SMC reduces the risk of HIV infections.

Table 4: Knowledge of role of SMC in HIV prevention

Variable	Frequency (N= 288)	Percentage (%)
Have you ever heard of SMC		
Yes	288	96.0
No	12	4.0
Does SMC reduce the risk of HIV infection		
Yes	234	81.3
No	54	18.7

Source: Primary data from respondents

4.1.2.2. Respondents understanding of benefits and risks associated with SMC

The most outstanding benefits of SMC that was mentioned by the respondents was reduction of the risks of contracting STIs (46.5%), this was followed by better hygiene (24.7%) and least was reduced risks of UTIs (3.1%). Related to the risks associated with SMC procedure, close to 7 in every ten respondents mentioned that SMC procedure is painful and can lead to excessive bleeding. However, up to 25% did not know of any complications that can result from MC procedure (Table 5).

Table 5: Benefits and Associated Risks of SMC

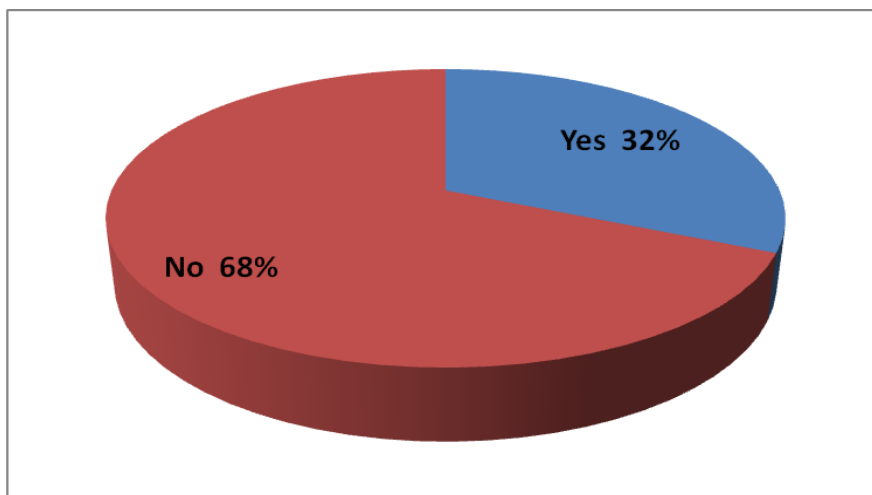
Variable	Frequency (N= 288)	Percentage (%)
Benefits of SMC		
Keeps penis clean	71	24.7
Reduces the risk of wounds in foreskin	22	7.7
Reduces risks of STIs	134	46.5
Lowers risk of UTIs	9	3.1
Lower risk of cancer (Men & women)	22	7.7
Not ware of benefits	30	10.4
Risks associated with SMC procedure		
Pain / Bleeding	191	66.3
Stigma/Rejection	9	3.1
Amputation	8	2.8
Sexual dysfunction	6	2.1
Death	2	0.7
Not aware of risks	72	25

Source: Primary data from respondents

4.1.3 The proportion of males circumcised.

To estimate the uptake of SMC for HIV prevention, the respondents who knew about SMC were asked whether they are circumcised. Overall, 32% (n= 91) said that they are circumcised while overwhelming number (n=197), accounting for 68% were not circumcised (Figure 3). This included mainly circumcision carried out by trained health professional in health facility or during outreach camps.

Figure 3: Uptake of SMC by the respondents



Source: Primary data from respondents

4.1.4 The health care factors that influences the uptake of SMC

From table 6 below, over 95% of the respondents lives within a distance of four kilometers from the nearest safe male circumcision site or health facility. None of the respondent reported being at a distance greater than 10 kms from SMC site since the sub- county itself has already four SMC static sites (2 private and two government owned). The cost of treatment was reported to be extremely free (93% of respondents). However, over 25% of the respondents revealed that there still exists other challenges that hinder access of SMC at health facilities.

Table 6: Health care related factors that influences uptake of SMC

Variable	Frequency (N= 288)	Percentage (%)
Distance to the nearest SMC health facility		
Less than 4 km	274	95.1
4-10 km	14	4.9
Greater than 10 km	0	0.0
Cost of treatment		
Free	268	93.1
Not free	11	3.8
Not sure	9	3.1
Other HF challenges other than costs and distance		
Yes	75	26.0
No	97	33.7
Not sure	116	40.3

Source: Primary data from respondents

4.2 Bivariate Analysis

To determine whether relationship exist between the dependent variables (which include socio-demographic characteristics of respondents, health facility factors and the level of knowledge of respondents) and the dependent variable which is uptake of SMC for HIV prevention, a chi square statistical test was used. Independent variables were statistically significant at 95% level of significance ($p = <0.05$). That is P value > 0.05 denotes no association between the two variables.

4.2.1 Bivariate analysis of the socio- demographic characteristics of respondents with uptake of SMC

As can be seen from the table 7 below, a number of significant associations exist between the socio-demographic characteristics of the respondents and uptake of SMC services. These include educational level ($\chi^2=9.068$; $p=0.028$), age ($\chi^2=13.215$; $p=0.004$), marital status

($\chi^2=12.2$; $p=0.007$) and religion ($\chi^2=21.3$; $p=0.000$). There was however weak association between the level of education and uptake of SMC services.

Table 7: Bivariate analysis of influence of socio- demographic characteristics on the uptake of SMC for HIV prevention

Variable	Circumcision status		Total	chi-square	p-value
	Yes (N=91) Frequency (%)	NO (N=197) Frequency (%)			
			N=288		
Education level				9.068	0.028*
None	2 (14.3)	12 (85.7)	14		
Primary	12 (19.0)	51 (81.0)	63		
Secondary	47 (37.9)	77 (62.1)	124		
Tertiary/University	30 (34.5)	57 (65.5)	87		
Age				13.215	0.004*
15- 19 yrs	12 (18.8)	50 (81.2)	64		
20-29yrs	66 (40.0)	100 (60.0)	166		
30-39yrs	8 (16.3)	41(83.7)	49		
40- 49yrs	3 (33.3)	6 (66.7)	9		
Religion				21.3	0.000*
Roman Catholic	56 (31.0)	125 (69.0)	181		
Anglican	13 (21.7)	47 (78.3)	60		
Muslim	15 (75.0)	5 (25.0)	20		
Pentecostal	7 (28.0)	18 (72.0)	25		
SDA	0 (0.0)	2 (100)	2		
Marital Status				12.2	0.007*
Never married	52 (26.9)	141(73.1)	193		
Married	37 (41.6)	52 (58.4)	89		
Divorced/ Separated	0 (0.0)	4 (100)	4		
Widowed	2 (100)	0 (0.0)	2		
Employment status				0.684	0.710
Unemployed	40 (29.6)	95 (70.4)	135		
Employed	33 (34.7)	62 (65.3)	95		
Student	18 (31.0)	40 (70.0)	58		

* Denotes significant at 95% level of significance

4.2.2 Bivariate analysis of level of knowledge of males 15-49 years on SMC uptake

Table 8 below shows that the knowledge of risks of SMC procedure is significantly associated SMC uptake ($\chi^2=24.13$; $p=0.001$). Also the sources of information on SMC has significant influence on SMC uptake ($\chi^2 = 13.6$; $p= 0.035$). There was however no significant

relationship between the knowledge of SMC benefits and its uptake as P- value (0.071) was greater than 0.05.

Table 8: Bivariate analysis of influence of level of knowledge on uptake of SMC for HIV prevention

Variable	Circumcision status		Total	chi-square	p-value
	Yes (N= 91) Frequency (%)	NO (N=197) Frequency (%)			
			N=288		
Does SMC prevent HIV				3.876	0.049*
Yes	80 (34.2)	154 (65.8)	234		
No	11 (20.4)	43 (79.6)	54		
Sources of information on SMC				13.6	0.035*
TV	3 (30.0)	7 (70.0)	10		
Radio	61(36.5)	106 (63.5)	167		
Print Media	0 (0.0)	12 (100)	12		
Church	3 (15.8)	16 (84.2)	19		
Health facility	14 (41.2)	20 (58.8)	34		
NGO	2 (33.3)	4(66.7)	6		
Friends/ Peers	8 (20.0)	32 (80.0)	40		
Benefits of SMC					
Keeps penis clean	26 (36.6)	45 (63.4)	71	13.03	0.071
Reduces the risk of wounds in foreskin	5(41.7)	17 (58.3)	12		
Reduces risks of STIs	37 (27.6)	97 (72.4)	134		
Lowers risk of UTIs	5 (55.5)	4 (44.5)	9		
Lower risk of cancer (Men & women)	8 (36.4)	14 (63.6)	22		
Not ware of benefits	10 (33.3)	20 (66.7)	30		
Risks associated with SMC procedure				24.13	0.001*
Pain / Bleeding	68 (35.6)	123 (64.4)	191		
Stigma/Rejection	3 (33.3)	6 (66.7)	9		
Amputation	0 (0.0)	8 (100)	8		
Sexual dysfunction	0 (0.0)	6 (100)	6		
Death	2 (100)	0 (0.0)	2		
Not aware of risks	18 (25.0)	54 (75.0)	72		

* Denotes significant at 95% level of significance

4.2.3 Bivariate analysis of health facility factors on uptake of SMC for HIV prevention

As can be seen in table 9 below, challenges faced by clients who go for SMC services at health facilities other than treatment costs and distance has significant effect on SMC service uptake ($\chi^2=6.203$; $p=0.045$). According to the respondents, some of these constraints include stock outs of circumcision kits, delays, inadequate patient care and lack of proper counseling by health workers.

Table 9: Bivariate analysis of influence of health care factors on uptake of SMC for HIV prevention

Variable	Circumcision status		Total	chi-square	p-value
	Yes (N=91) Frequency (%)	NO (N=197) Frequency (%)			
			N=288		
Distance to the nearest SMC health facility				2.261	0.323
Less than 4 km	89 (32.5)	185 (67.5)	274		
4-10 km	2 (14.3)	12 (85.7)	14		
Greater than 10 km	0 (0.0)	0 (0.0)	0		
Cost of treatment				4.443	0.108
Free	88 (32.8)	180(67.2)	268		
Not free	3(27.3)	8 (72.7)	11		
Not sure	0 (0.0)	9 (100)	9		
Challenges in accessing SMC services at health facility				6.203	0.045*
Yes	17 (22.7)	58 (77.3)	75		
No	39 (40.2)	58 (58.8)	97		
Not sure	35 (30.0)	81 (70.0)	116		

* Denotes significant at 95% level of significance

4.3 Multivariate Analysis

Multivariate logistic regression analysis was performed to identify factors associated with the uptake of SMC for HIV prevention. Chi- square tests were used to select dependent variables that were associated with the outcome. These include the variables with $P < 0.05$ at bivariate

analysis level and those with that had p- value close to 0.05 (0.01). Using this method, the variables selected were marital status, education level, religion of respondents, sources of SMC information, knowledge of risks and benefits and challenges faced in accessing SMC at health facility level. They were subjected to stepwise (forward and backward) logistic regression analysis and those associated with VMMC were selected at $p < 0.05$. As indicated in table 10 below with exception of education, age and challenges of access to SMC services, the rest of the factors tested were not significant. For instance respondents who did not go to school were 3.4 times likely to get circumcised as compared to the ones who reached tertiary institution or university. Also, the respondents who feel there no challenges at health facilities are 2.2 times more likely to get circumcised compared with those who are not sure of the existence of health facility challenges. Respondents in the middle age (30 – 39 years) are 2.6 times likely to circumcise that the older respondents (40 – 49 years). Also the respondents who know that SMC reduces the risk of infections are 0.5 times likely to undergo circumcision that those who are not aware.

Table 10: Multivariate analysis of factors that influence the uptake of SMC services for HIV prevention

Variable	OR [CI]	P- Value
Education		0.033*
Tertiary /University	1	
None	3.4 [0.7 - 15.0]	0.149
Primary	2.2 [1.0 - 4.8]	0.04*
Secondary	0.9 [0.5 – 1.5]	0.612
Age of respondent		0.006*
40 – 49 yrs	1	
15 – 19 yrs	1.8 [0.4 – 8.1]	0.451
20 - 29 yrs	0.8 [0.2 – 3.1]	0.702
30 – 39 yrs	2.6 [0.5 – 12]	0.243
SMC reduces risk of HIV infection		0.000*
No	1	
Yes	0.5[0.2 – 1.0]	0.052
Challenges in accessing SMC at HFs other than costs and distance		0.047*
Not sure	1	
Yes there exist challenges	1.5 [0.8 – 2.9]	0.256
No challenges	2.2 [0.4 -1.1]	0.127

* Denotes significant at 95% level of significance

4.4 Qualitative data

During the study, the researcher collected qualitative data from a total of three key informants. This was to help triangulate the quantitative data that was collected through individual interviews with the males 15- 49 years and also provide more in-depth information regarding SMC services provision and uptake in Bar- dege Sub- County, Gulu district. The key informant comprised of SMC service providers at health facilities and the Gulu municipal SMC team leader. Four key issues were investigated during KIs interviews which include challenges in implementation of SMC program, hindrances to uptake of SMC by males 15- 49 years, the motivators to SMC uptake by the target population and what needs to be done to improve the SMC services uptake. Below are the results from qualitative data analysis.

1. What challenges have you met in implementing SMC program?

All the three key informants indicated that shortage of trained health workers at health facilities has affected the implementation of SMC program.

“Training on SMC was done only for selected staff despite of the high number of health workers who are qualified and can ably provide the service once trained. This has affected not only the quality of counseling services offered to the clients who turns up for circumcision but also the quality of responses and information given to the community on the benefits and side effects of SMC”. As noted by one of the KIs.

All the three key informants highlighted shortages of circumcision kits as one of the setback to successful rollout of SMC program.

“At one point the district had stock outs of SMC kits for up to a period of two months. Currently, the health facilities rely on development partners such as USAID for the supply of SMC kits through Implementing partners such as (SDS, ASSIST etc) as opposed to the government. This therefore poses a challenge to the provision of SMC service especially during the time when there is no funding from such partners”. As noted by one of the KIs.

All the three KIs were concerned about the new policy on TT vaccination to SMC clients. That is, it is a mandatory requirement for all the SMC clients to be given two doses of TT vaccine; one on the first clinic visit and then the second one after 28 days, on which day MC procedure is performed.

“The major concern with this new TT policy is that apart from TT vaccine being out of stocks some days, the policy has not been widely disseminated to the health workers and the public thus raising a lot of concern especially among the community who keeps on asking why the change is coming now”. As noted by one of the KIs

“Requirement that the client return for SMC 28 days after being given TT1 has led to high dropout rate of males from SMC program. Most of them can’t be traced after the first TT”. As noted by one of the key informants.

Inadequate involvement of religious, cultural and political leaders in mobilization of community for SMC was also cited as an important impediment to implementation of SMC program by all the three key informants.

“Due to inadequate funding, cultural, religious and political leaders are sometimes not involved in mobilization of community members to go for SMC services and yet these are very influential people whom the communities believe in. This has hindered SMC service uptake”. As noted by one of the key informants.

2. What are some of the hindrances towards the uptake of SMC by males 15-49 years in this sub-county or community?

As stated by all the three key informants, uptake of SMC services by males 15- 49 years was hindered by misconception about SMC.

“Some clients believe that MC is a Muslim initiative intended to dominate the world with Islamic practices and principles, as such they tend to disassociate themselves with it”. As noted by one of the key informants.

“A woman approached me and said her husband should not be circumcised because he won’t be able to dig”. As mentioned by one of the KIs.

“Some clients says the removal of foreskin mark the beginning of foreskin to rot thus leading to gradual death of an individual” As noted by one of the KIs.

The three KIs also identified planting season as an important factor affecting uptake of SMC in the sub- County.

“Due to the fear that the healing of wound would take some times, men tend to shun SMC during farming season”. As noted by one of the KIs.

Fear of complications that follows MC procedure was identified as another factor that discourages males 15 -49 years from getting circumcised. This was mentioned by all the three key informants.

“I explained during mobilization for MC camps that the complications are manageable but some community members have remained hesitant”. As noted by one of the KIs.

Two KIs stated that some males don't want to be circumcised by the female circumcisers.

“Sometimes when the men get to know that a female circumciser is part of the circumcision team they get discouraged”. As stated by one of the KIs.

3. What motivates males 15-49 years in this sub- county to undergo circumcision?

All the three KIs mentioned prevention of STIs including HIV.

“During counseling sessions for SMC, majority of men tell me that they want to circumcise so as to protect themselves against contraction of STIs including HIV”. As mentioned by one of the KIs

Two third of the KIs mentioned peer influence as one of the factors that motivate male to circumcise.

“A young man told me that he wanted to get circumcised because his friend said that when you are circumcised, you can easily satisfy a woman when playing sex”. As noted by one of the KIs

4. What recommendations do you have in regards to promotion of uptake of SMC in this sub- county?

All the three KIs recommended that the TT vaccine policy be disseminated to the health workers and the public.

“The TT vaccine policy is already in place but the guidelines have not been widely disseminated to health workers. This has a lot of implication on the roll out SMC”. As noted by one of the KIs

All the three KIs recommended that extensive mobilization and sensitization of community members and local leaders on SMC needs to be carried out.

“For SMC program to be successful, all the leaders starting with district counselors, religious leaders, local leaders, VHTs have to be equipped with information on SMC. These people will play instrumental role in advocating SMC service uptake”. As noted by one of the KIs

All the three KIs recommended that more HWs be trained to offer SMC services

“Only few of us have been trained to offer SMC services and this was at the inception of the program. To date no major training has taken place. There are many HWs who could help to offer the service but lack the skills.” As noted by one of the KIs

Two third of the KIs mentioned need to accredit more health facilities to offer SMC

“SMC camps at lower health facilities are done in none recommended rooms such as functional theatre coupled with poor working conditions such as lack of gowns. As such, delivery of the service is severely affected. Accrediting lower HFs to provide SMC would help”. As noted by one of the key informants.

CHAPTER FIVE: DISCUSSION OF RESULTS

5.0 Introduction

This section presents detailed discussions of the results of the study which include comparison of the current findings with the past studies which were conducted in similar area. The results are discussed under each of the four specific objectives of the study. Also discussed are the implications of the current finding on scale up of SMC services in Bar- dege sub- county and Gulu district as a whole.

5.1 The proportion of males 15- 49 years who are circumcised for HIV prevention

The proportion of males 15-49 years who are circumcised in Bar- dege sub county, Gulu district was 32% and those uncircumcised constituted 68%. The majority (66%) of these were aged 10 – 24 years. Of the males who were not circumcised, 66.3% stated that they still intend to go for it, thus high lighting the demand for the service. Those who have no interest in undergoing SMC expressed fear of pain and complications resulting from surgical procedure as their main hindrance to the uptake of SMC services. The proportion of males circumcised as revealed in this recent study is slightly above the global estimates of males circumcised which stands at 30%, most of whom (70%) are estimated to be living in Asia (WHO/ UNAIDS 2007). A study conducted in Kenya on uptake of VMMC among males 18- 50 years found that 75% of the 428 males surveyed were circumcised, 35% of whom were circumcised for medical reasons, which is close to 32% SMC rate conducted by medical practitioner for HIV prevention. Generally, Kenya is one of the PEPFAR priority countries with very high circumcision prevalence (above 70%). However, the 25% of respondents who were not circumcised reported similar reasons for not undergoing MC to what was found during this study. These include; fear of negative consequences of male circumcision such as excessive bleeding, pain, loss of penile sensitivity and long recovery period after operation (

Nyaga E.M, 2015). A study in Botswana on uptake of SMC by 84 adolescents 13- 18 years found that only 16% were circumcised (Yewondwossen M.G, 2012). In Uganda, Asimwe (2012) in a study on personal willingness to undergo SMC among young males in rural Uganda found that of the 297 males surveyed, close to 19% were circumcised, these respondents ranged between 17- 40 years. The 2011 UDHS revealed that 27% of males 15- 49 years were circumcised, with North the region where this study was conducted having only 4%. The current findings indicate marked difference from the 2011 UDHS findings possibly due to the increased government and development partners to scale up SMC services. Bardege sub- County to date has up to four static surgical sites which was not the case in 2011.

5.2 The influence of socio- demographic characteristics on the uptake of SMC

A number of socio- demographic factors which were thought to affect the uptake of SMC were investigated during the study. These include marital status, age, education level, religion and employment status. The results of the study show strong relationship between these demographic factors and uptake of SMC services. For instance, respondents who never went to school were found to be 3.4 times more likely to undergo circumcision as compared to their counterparts who attained tertiary or university education. This finding is consistent with that of the study done in central Uganda where it was established that willingness to undergo SMC in central Uganda decreases with increased educational attainment (Asimwe, 2012). Partial explanation provided on this trend was that there was lower knowledge of benefits of SMC among the educated people. Equally in Lesotho, circumcision is most common among men with no education, in the lowest wealth quintile and living in rural areas (MEASURE DHS, 2006). This therefore points to the need for better programming to increase uptake of SMC among the educated people. Religion and marital status were also

found to significantly influence the uptake of SMC with p- values of 0.000 and 0.007 respectively. This finding is similar with that of Nyaga (2015) in Kenya who established that religion of the participants increased the uptake of VMMC by 1.23 fold. In this recent study, the proportion of males circumcised were highest among Muslim (75%) compared to other religions such as catholic (31%) and protestants / Anglican (28%), this pattern has remained the same with what was observed during 2005 Uganda HIV /AIDS sero-behavioural survey report which indicated 97% of Muslim men were circumcised compared to only 10% Catholics. Targeting different religious denominations therefore becomes an important aspect of SMC scale up efforts by the government and development partners. However, in contrast with other findings, employment status was found to be having less influence on the uptake of SMC as the p- value (0.719) of association between employment status of respondents and uptake of SMC was greater than the level of significance (0.05). This differs from findings of Nyaga (2015) in Kenya who reported that the level of employment (OR=1.55, CI=1.46-1.65, p<0.001) increased the uptake of VMMC by 1.55 fold.

5.3 The level of knowledge of males 15- 49 years on SMC

Knowledge of any new health care package or product is critical to promote its uptake. For example, past studies in the Dominican Republic showed that the number of men willing to be circumcised increased to 67% after an information session compared to 29% before the information session explaining the benefits of the procedure (Brito, Caso, Balbuena & Bailey, 2009). Furthermore, 74% of men in the same study reported that they would be willing to circumcise their sons after attending the session.

In Uganda, since the adoption of SMC policy by the Uganda Ministry of health in 2010, a lot of public sensitization has been going on countrywide regarding the need for SMC. It was

therefore necessary to find out from the respondents whether they have heard about SMC, the source of information, its potential benefits including role in HIV prevention and the complications that one can encounter. All these information are critical to inform clients' decision on either to go for the service or not.

According to the result of this study, overwhelming number of respondents (96%) stated that they have ever heard of SMC and only 4% had not heard of SMC. The main source of SMC information was radio (58%), followed by peers/ friends (13.9%) and least was NGO (2.1%). The major benefits of SMC which the respondents identified include reduction of risk of STI infections (49.6%), keeps penis clean (23.7%), lowers risk of cancer in both men and women (7.7%). Specifically looking at the importance of SMC in HIV prevention, 81.3% of the respondents agreed that SMC indeed reduce the risk of HIV infection. This findings is close to that of Terthu Kutupu Ngodji (2010:36) in Namibia who found that 74.4% of SMC KAP study participants knew that MC reduces risks of HIV infection and Yewondwossen M.G (2012:51) in Botswana which established that 64.3% (N=54) of respondents who participated in the study on uptake of MC knew that MC can reduce HIV infection, while 22.6% (N=19) reported that they did not know this.

In addition, knowledge of SMC complications was found to influence its uptake ($\chi^2=24.13$; $p=0.001$). Some of the complications highlighted by the respondents were; pain or excessive bleeding (66.3%), stigma and rejection (3.1%), amputation (2.8%), sexual dysfunction (2.1%) and death (0.7%). Others constituting 25% said that they were not aware of MC complications. However, the findings in this sub- county differs from that of Yewondwossen M.G (2012: 62) in Botswana which found that factors which were known to be obstacles to MC uptake, such as fear of surgical complications, fear of long wound healing time, peer pressure, fear of stigma and discrimination, a false sense of security, and misconceptions,

such as “MC reduces penis size” and “MC reduces sexual pleasure” were not statistically significant predictors of MC uptake.

5.4 The health facility factors that influence the uptake of SMC services

This study among others sought to identify health facility factors that have potential influence on the uptake of SMC services. The factors were investigated both during quantitative and qualitative data collection. Specifically, the respondents were asked about the distance to the nearest SMC site, whether there are fees charged to access SMC services and any other challenges (other than costs and distance) that one can encounter while accessing SMC services at the health facility.

The result of the survey revealed that distance from the nearest MC health facility was not a significant determinant of SMC uptake (P-value = 0.323). Generally, almost all the respondents (95%) lives within a distance of 4kms from the nearest MC site, this was so because within Bar- dege sub-county, there are three hospitals (two of which are private) and one HC III and all offer MC services. A study in Botswana on MC uptake established that only 40% of the study participants lived within 15kms to the nearest MC site (Yewondwossen M.G, 2012:52) which is a marked difference from the situation in Bar- dege sub-county. Costs of accessing SMC services also had no significant influence on its uptake as the P – value (0.108) on the association between the costs and SMC uptake was greater than 0.05 (level of significance). According to the respondents, SMC services in the sub-county are largely free with exception of the two private hospitals that at times charges user fees.

A part from costs and distance, all of which were not significant influencers of SMC uptake, the study established that there are other health facility challenges that have great influence on SMC uptake (P – value = 0.045). Some of the challenges mentioned include stock outs of

circumcision kits, delays and inadequate counseling on SMC by health workers. These challenges were further confirmed by the key informants who stated that at some instances, stock outs of SMC kits in the district hindered SMC service provision and that the numbers of health workers trained to provide SMC services are still inadequate thus impacting on client flow and quality of counseling provided by the health workers. Other challenges include fear of female circumcisers, which is confirmed by a qualitative study conducted by SDS in Acholi and Lango sub-region indicating that low uptake of SMC was partly due to fear of female circumcisers by the males.

Overall, this results is in agreement with the earlier report by FHI 360 (2011) that unavailability of trained health staff, lack of instruments and supplies and inadequate service delivery are some of the health care factors that hinders uptake of SMC even in settings where the acceptability of the service is high.

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

6.0 Introduction

This chapter contains the conclusion of the study findings and feasible recommendations drawn from the study.

6.1 Conclusion

This study established that almost all the respondents heard of SMC with majority indicating that SMC could prevent HIV. The major sources of information on SMC were radio and friends. The proportion of males circumcised in Bar-dege sub-county was 32% and is still way below lower than the 80% MC coverage needed for herd immunity to be attained. The socio-demographic characteristics associated with the uptake of SMC were level of education, age, marital status and religion. The health care factors hindering SMC uptake included stock outs of MC kits, inadequate IEC and BCC materials, inadequate dissemination of TT –vaccine policy, complications from SMC procedure and few trained health personnel. However, despite of the above challenges, there still exist window for demand as two third of the uncircumcised men respondents reported that they were willing to uptake SMC services.

6.2 Recommendations

1. There is need to address the health facility barriers through training of health workers, accreditation of lower HFs and ensuring adequate logistical supplies including IEC/BCC materials. This will improve the capacity of HFs to provide SMC services and subsequently increase its uptake.
2. Mobilization for SMC should include spouses of the SMC clients, political, religious and cultural leaders, the VHTs and the circumcised peers. These people have the potential to encourage or discourage the community from undergoing SMC. Their involvement can help to increase reach and knowledge about the benefits of SMC.
3. There is need to carry out thorough sensitization of the community to address the misconceptions about SMC such as SMC is intended to convert people to Islam, men circumcise to dodge farming activities and MC is a gradual mean of killing an individual.

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APPENDICES

APPENDIX I: INFORMATION SHEET AND INFORMED CONSENT FORM

Dear Sir,

My name isI am from International Health Sciences University, conducting a study on the following;

Title of the study: Uptake of Safe Male Circumcision for HIV prevention among males aged 15 – 49 years in Badege Sub- county, Gulu district.

Purpose of the study: SMC was found to be effective for HIV prevention by reducing infection rate by up to 60%. The purpose of this study is to determine the factors associated with uptake of SMC for HIV prevention among males aged 15- 49 years in Bar-dege Sub-county.

Procedures for the study: Males aged 15- 49 years from four villages of Bar-dege sub-county will be interviewed including key informants. No names will be recorded in the process except serial number for data entry, editing and cleaning purpose.

Voluntary consent: You are under no obligation to participate in this study, participation is voluntary and you are free to withdraw consent to participate at any time without any condition. Feel free to ask any questions before, during or after the interview. Remember there is no payment attached.

Confidentiality: Confidential nature of this study will be maintained throughout the study period till the finalization of the report, to which you have the right to know the interview results.

Benefits: The possible expected benefits of this study will include; identification of barriers to SMC uptake so as to improve programming by the district for SMC scale up. It will also help the Ministry of health to formulate or improve policies for SMC. The ultimate goal will be reduction in HIV infection and more productive population.

Risks: No risks were posed to you as a result of this study.

Statement of informed consent

Undertaking by study participant:

I have been asked to participate in the study to determine the factors associated with uptake of SMC for HIV prevention among males aged 15- 49 years in Bar-dege Sub-county. I have read the above and understood the purpose of this study, its nature and procedures and all my questions have been answered to my satisfaction. Therefore, I do agree to participate freely in this study.

Signature of Respondent: -----

Date: -----

Signature of Researcher: -----

Date: -----

APPENDIX II: QUESTIONNAIRE AND KEY INFORMANT GUIDE

UPTAKE OF SMC FOR HIV PREVENTION AMONG MALES 15-49 YEARS IN BAR-DEGE SUB COUNTY, GULU DISTRICT

IDENTIFICATION

Sub- county: _____

Parish: _____

Village: _____

INTRODUCTION AND INFORMED CONSENT

Hello. My name is Tonny Odong. I am a Masters' student at IHSU, Kampala Uganda and conducting a study on uptake of SMC for HIV prevention among male adults aged 15-49 years in Bardege sub- county, Gulu district. This study is a requirement to enable me attain Masters degree in public health. I would very much appreciate your participation in this survey. The information collected will purely be used for academic purposes. The questionnaire usually takes between 45minutes to 1 hour to complete. Whatever information you provide will be kept strictly confidential and will not be shown to other people. Participation in this survey is voluntary and you can choose not to answer any individual question or all of the questions. However, we hope that you will participate fully in this survey since your views are important.

At this time, do you want to ask me anything about the survey?

May I begin the interview now?

Respondent agreed to be interviewed 1 _____ → Continue

Respondent refused to be interviewed 2 _____ → End

PART 1: INDIVIDUAL FACTORS

1. How old are you in complete years? _____ (Only persons 15-49 years are to be included)

2. What is the highest level of education you completed?

- None 1
- Primary 2
- Secondary 3
- Tertiary/University 4
- Others (specify)_____ 5

3. What is your religion?

- Roman Catholic 1
- Protestant/Anglican 2
- Moslem 3
- Pentecostal 4
- SDA 5
- Others (specify)_____ 6

4. What is your Marital Status?

- Never married1
- Married.....2
- Divorced/separated.....3
- Widowed4

5. What is your occupation status?

- Unemployed 1
- Employed 2
- Student/Learner 3
- Others (specify)_____ 4

PART 2: KNOWLEDGE OF RISKS AND BENEFITS OF CIRCUMCISION

6. Have you ever heard of SMC? (End the question here for those whose answered “No”)

Yes 1

No 2

7. If yes, does SMC reduce the risk of HIV infection?

Yes 1

No 2

8. What was your main source of information about SMC (Question 6 above)? (Tick one)

Electronic media (TV) 1

Radio 2

Print media (newspapers /magazines) 3

Church 4

Health Facility 5

NGO 6

Friends/Peers 7

Others (specify)_____ 8

9. In your own view, what is the main benefit of MC? (Tick one)

Helps to keep the penis clean 1

Reduces the risk of wounds that can form in the fore skin 2

Lowers the risk of cancer in Men and Women 3

Reduces the risk of getting STIs 4

Reduces the risk of getting urinary tract infections (UTIs) 5

Lowers a man’s risk of injury during sex 6

Not aware of benefit 7

10. What do you think is the main risk associated with MC procedure? (Tick one)

<input type="checkbox"/> Pain /Bleeding	1
<input type="checkbox"/> Stigma /Rejection	2
<input type="checkbox"/> Loss of penis /amputation	4
<input type="checkbox"/> Sexual dysfunction	5
<input type="checkbox"/> Death	6
<input type="checkbox"/> Not aware of benefit	7

PART 3: UPTAKE OF CIRCUMCISION FOR HIV PREVENTION

11. Have you undergone SMC for HIV prevention? (this applies to only those who heard of SMC and relates to circumcision by medical practitioner in hygienic conditions).

<input type="checkbox"/> Yes	1
<input type="checkbox"/> No	2

12. If no, what are the current hindrances? (Tick all that apply)

<input type="checkbox"/> Fear of pain	1
<input type="checkbox"/> Distance from the service delivery point	2
<input type="checkbox"/> Not sure of the benefits	3
<input type="checkbox"/> Busy work schedule	4
<input type="checkbox"/> Stigmatization	5
<input type="checkbox"/> It is expensive	6
<input type="checkbox"/> Fear possible complications from the operation	7
<input type="checkbox"/> My wife is opposed to MC	8
<input type="checkbox"/> I am already old	9

13. If you have not yet undertaken SMC, do you intend to go for it?

Yes 1

No 2

PART 4: HEALTH CARE FACTORS INFLUENCING SMC UPTAKE

14. How far is the nearest MC facility from your place of residence?

Less than 4 km 1

5-10 km 2

Beyond 10 km 3

15. Are the SMC services free? 1. Yes 2. No

16. Apart from costs and distance, do you think those who go to the health facility or medical practitioner for SMC face any challenge in accessing the service?

Yes there exist other challenges 1

No there are no challenges 2

Not sure 3

17. If there are challenges other than cost and distance, what are they? (Tick all that apply)

SMC kits out of stocks 1

Health worker unfriendly 2

No privacy at the facility 3

Inadequate counseling on SMC 4

Too much delay 5

No trained provider 6

Thank you for your participation in this survey

Key Informant Guide

5. What challenges have you met in implementing SMC program?
6. What are some of the hindrances towards the uptake of SMC by males 15-49 years in this sub-county or community?
7. What motivates males 15-49 years in this sub- county to undergo circumcision?
8. What recommendations do you have in regards to promotion of uptake of SMC in this sub-county (or district for the case of district SMC team leader).

APPENDIX III: INTRODUCTORY LETTER



making a difference to health care

Dean's Office-Institute of Public Health and Management

Kampala, 7th November 2016

*Permission granted for
this academic research
14/11/2016*

MEDICAL OFFICER OF HEALTH
GULU MUNICIPAL COUNCIL
DATE: 14/11/2016

Dear Sir/Madam,

RE: ASSISTANCE FOR RESEARCH

Greetings from International Health Sciences University.


This is to introduce to you **Odong Tonny** Reg. No. **2011-MPH-RL-AUG-011** Who is a student of our University. As part of the requirements for the award of a Masters Degree of Public Health, the student is required to carry out field research for the submission of a Research Dissertation .

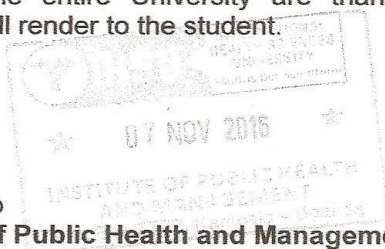
Tonny would like to carry out research on issues related to: **Uptake of safe male circumcision (SMC) for HIV prevention among males 15-49 years in Bardege Sub- county, Gulu district.**

I therefore request you to render the student such assistance as may be necessary for research.

I, and indeed the entire University are thanking you in anticipation for the assistance you will render to the student.

Sincerely Yours,


Alege John Bosco
Dean, Institute of Public Health and Management



The International Health Sciences University
P.O. Box 7782 Kampala - Uganda
(+256) 0312 307400 email: deaniphm@ihsu.ac.ug
web: www.ihsu.ac.ug

APPENDIX IV: CORRESPONDENCE LETTER

TELEPHONE NO. DIRECT
LINE-

.....
MOBILE 0781399147



OFFICE OF THE CHAIRMAN L.C. III

BARDEGE DIVISION
GULU MUNICIPAL COUNCIL,
P.O BOX 140, GULU

IN ANY CORRESPONDENCE ON
THIS SUBJECT PLEASE QUOTE
NO.
LD/BD/001/16

Date: 14TH /11/2016.

RE: TO WHOM IT MAY CONCERN.

This is to confirm that Odong Tonny got permission from Bardege Division leadership to support him in data collection on the topic **'uptake of safe male circumcision (SMC) for HIV prevention by males 15-49 years.**

He worked with the community members whom he trained on data collection methods. Tonny also contacted a number of informants within the division during data collection process.

Overall data was collected from all the four parishes within the division namely:- Kanyagoga, Kasubi, Forgod and Bardege Parish and this was done at household levels.

I look forward to the findings and final results of the study.

Thanks

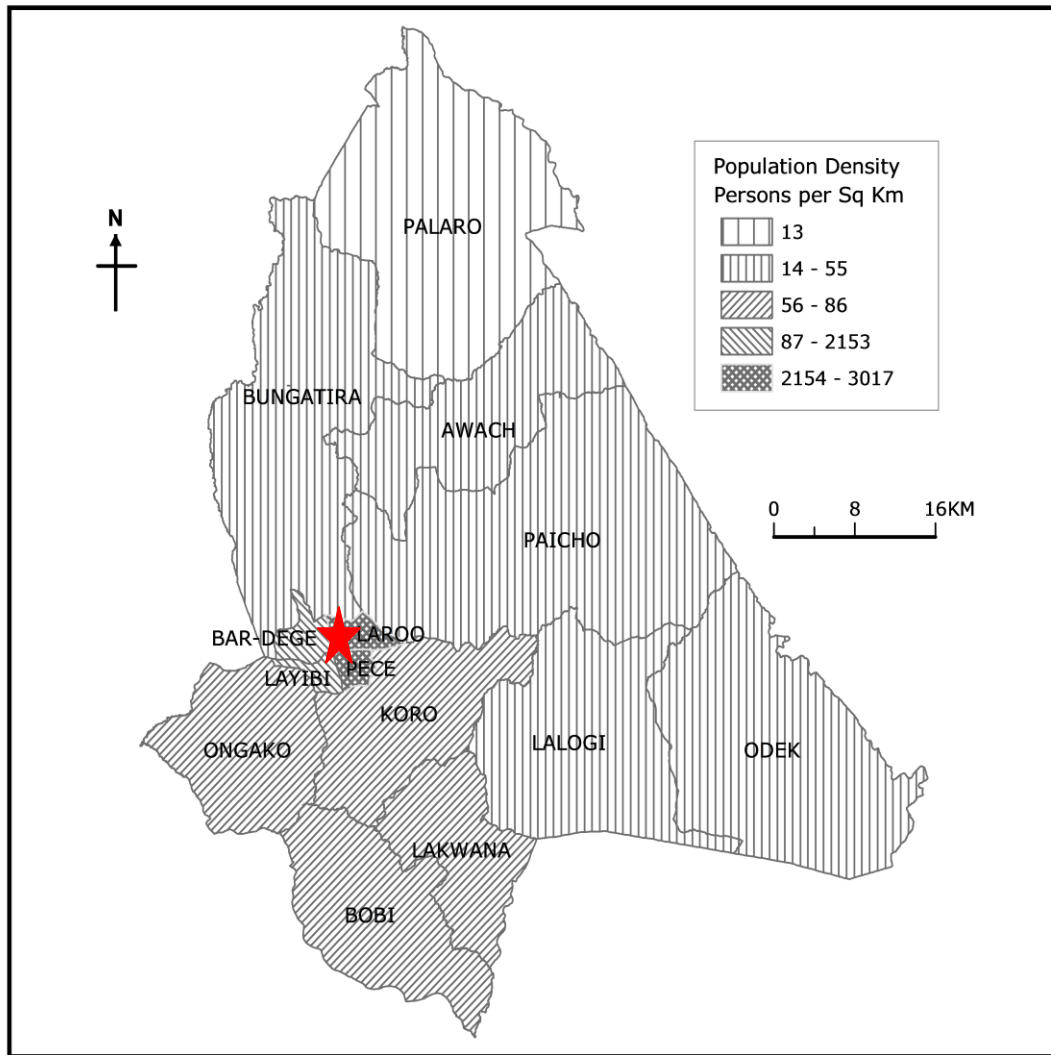
Yours sincere



Oola Patrick Lumumba

CHAIRMAN L.C.III BARDEGE DIVISION.

APPENDIX V: MAP OF BAR-DEGE SUB COUNTY



KEY



BAR-DEGE SUB COUNTY