



UNIVERSITY OF RWANDA

COLLEGE OF MEDICINE AND HEALTH SCIENCES

SCHOOL OF PUBLIC HEALTH

**FACTORS ASSOCIATED WITH LOW UPTAKE OF
VOLUNTARY MALE CIRCUMCISION AS AN HIV
PREVENTION STRATEGY AMONG MEN BETWEEN 18-49
YEARS: Case study of Nyanza District**

By

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DECLARATION

I, Pascal Nzamwita, do hereby declare that this dissertation entitled “*Factors associated with low uptake of voluntary medical male circumcision as an HIV prevention strategy among men between 18-49years: Case study of Nyanza district*” submitted in partial fulfillment of the requirements for the Master of Public at the University of Rwanda, College of Medicine and Health Sciences (CMHS), School of Public Health in the department of Community Health is my original study and has not previously been published elsewhere.

DEDICATION

I dedicate this study to the Almighty God, my wife, children, parents, brothers, sisters and colleagues for their support and encouragement throughout my studies. The study is also devoted to the supervisor and the co-supervisor who greatly took part in the accomplishment of the current study.

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Finally, to all those contribution was invaluable to this study, my sincere thanks and profound appreciation.

ABSTRACT

Background: Human Immuno-deficiency Virus/Acquired Immune Deficient Syndrome (HIV/AIDS) is the public health burden worldwide. Preventing and treating the diseases including HIV/AIDS Malaria, tuberculosis, Hepatitis, Ebola, and other communicable diseases remains agenda of sustainable development goal and world health organization. To achieve this goal of promoting health through prevention of behavioral risks leading to HIV/AIDS, various health program interventions have been developed in the global settings. Varying perceptions on VMMC outcome may also influence uptake rates. In Rwanda low uptake is mostly due to cultural and religious reasons.

Objective: The study aims at assessing the risk factors associated with the low uptake of VMMC as one of the strategies in HIV/AIDS prevention among the adults in Nyanza district.

Methods: Cross-sectional study design was conducted among adults male in Nyanza district.

Results: The prevalence of voluntary medical male circumcised was 35.8% in Nyanza district. This prevalence was higher than the national prevalence. Almost participants were knowledgeable about VMMC and the knowledge compromised six components that included knowledge on complications, advantage of circumcision in prevention of penile cancer, STIs and HIV prevention, condom use after circumcision, to abstain six weeks after circumcision, improve penile hygiene and heard about VMMC. Religion and education were significant the risk factors of uptake of VMMC. Results indicated that catholic were more likely to get uncircumcised compared to Muslim [OR=7.187(1.742-29.659), p=0.01]. The believers from other churches had more risk to get uncircumcised compared to Muslim [OR=6.035(1.731-21.039), p=.005]. In bivariate analysis, the results indicated that the participants who had secondary education were more likely to get uncircumcised compared to the adults males with primary education [OR=1.4(0.74-2.64), p=0.03] and who were illiterate were more likely to get uncircumcised compared to the individuals with primary education (OR=0.37(0.15-0.92), p=0.034).

Conclusion: Many of the study participants were uncircumcised male, but most of them had sufficient knowledge about MMC and its prevalence was slightly high compared to the countrywide. Factors which were associated with low uptake may be modified them the population may attend circumcision services as required. Programs targeting peers and parents as they are important referent others who have the ability to influence their peers

Key words: *Low uptake; Voluntary medical Male Circumcision; HIV/AIDS; Prevention; Men; Adult*

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ABBREVIATION AND ACRONYMS

AIDS	: Acquired Immune Deficiency Syndrome
HIV	: Human Immunodeficiency Virus
MMC	: Medical Male Circumcision
NGO	: Non-Government Organization
SMC	: Surgical Male Circumcision
STIs	: Sexually transmitted Infections
UNAIDS	: The joint United Nations program on HIV and AIDS
VMMC	: Voluntary Medical Male Circumcision
WHO	: World Health Organization

CHAPTER I: GENERAL INTRODUCTION

1.1. Introduction and literature of the Study

Human Immuno-deficiency Virus/Acquired Immune Deficient Syndrome (HIV/AIDS) is the public health burden worldwide. Preventing and treating the diseases including HIV/AIDS, Malaria, tuberculosis, Hepatitis, Ebola, and other communicable diseases remains agenda of sustainable development goal and world health organization. To achieve this goal of promoting health through prevention of behavioral risks leading to HIV/AIDS, various health program interventions have been developed in the global settings. The Joint United Nations program on HIV and AIDS (UNAIDS) and the World Health Organization (WHO) recommended the implementation of safe voluntary medical male circumcision considered as the appropriate health strategy for preventing HIV/AIDS and other sexual transmissible infections (1). The previous studies indicated that the communities that effectively use Voluntary Medical Male Circumcision (VMMC) were more likely to have low rate of HIV compared to the communities that did not utilize the VMMC intervention (2–4).

The accessibility to VMMC interventions in countless global countries is related to different factors including the religious, socio-cultural and medical reasons. Although there remains the low accessibility to VMMC in many countries of the world, the low accessibility is highly a public health concern in low and middle-income countries (LMICs). Hence, implementation of VMMC was reported to be a serious health problem among the elders acting as the guardians of community culture. The prior studies documented that VMMC was the effective intervention of HIV infection at 60% (5). It was found that 80% (20.3 million circumcised people) were provided VMMC intervention by 2015. This implementation was applied in the African countries that had a high prevalence of HIV. It was expected that 3.4 million new infections were have been prevented from HIV in the period of 2015 to 2025 (6).

The preceding studies conducted in Kenya demonstrated that the prevalence of HIV/AIDS is different in the different communities of this country. The various factors like socio-demographic factors were found to be significantly associated in this population. As the HIV is found to be the public health concern in other Eastern and Southern African countries, the HIV was highly prevalent in the communities that was not provided VMMC program (4,7).

Moreover, the household's collective reduced, taking into account the different involvement, having the circumcised friend or relative as well as being encouraged by the friend or family

relative were found to be the cause of accessing to the VMMC (8). The past studies indicated that the initial commitment of the community individuals are influenced by the reasons such as the fear of losing family revenue, fear of pain and fear of having wounds were the factors of not getting circumcised (2). The other studies revealed that the factors including individual perceptions on VMMC outcome contributed to the rate of uptake of VMMC.

1.2.Problem statement

The growing problem around which this thesis turns consists on how to increase male circumcision (MC) uptake as an HIV prevention strategy among men between 18-49 years after high prevalence rate of HIV infection or contamination –one of the pressing challenges taking up in health sector (2). In fact, one of the greatest impediment to the increase of male circumcision (MC) uptake, following HIV epidemic, is that communities are reluctant in up-taking other intervention for the prevention of heterosexually acquired HIV infection in men where HIV prevalence rates is high (1,7,9).

Long distance to health facilities, fear of pain, biased information from health facilities, discouragement from friends, long healing period, mandatory HIV testing before Male Circumcision set in, as factors associated with low uptake of addition strategy(2)).

How to break down these attitude and behavior, while increasing positive ones, and how to increase male circumcision uptake thus become a difficult task.

Therefore, in search of a way to reduce HIV infection among communities, it is generally contended that prevention strategies-a multifaceted effort requires important supplementary approach for the anticipation of heterosexually acquired HIV infection in men in region where HIV prevalence rates is high (5,10). In this regards, the current discourse point out to solutions delivered and build from partners initiatives(3,11). Notably the particular role of Voluntary Medical Male Circumcision (VMMC)-commonly understood as a medical technic approved by the WHO as additionally prevention strategy against HIV. Empirical investigation in this regards, are thus worth undertaking, notably in Rwanda, where the culture did not favor male circumcision (12). All the above considerations lead the researcher to the study research problem consisting in knowing factors of low uptake of male circumcision among male aged between 18 and 49 in Nyanza District in Rwanda.

VMMC is considered part of the comprehensive HIV prevention package for heterosexually acquired infections in men(13).

VMMC is also said to be a cost-effective HIV prevention measure and show that large-scale uptake of VMMC in a population with high HIV prevalence and a low circumcision rate has a considerable impact on the HIV epidemic and provides a cost-effective HIV prevention strategy(12,13). However, VMMC uptake in Nyanza is significantly low due to various factors. Nyanza district is one of 8 districts of South province where there is low rate of VMMC compared with other provinces 17.3, South province is the 2nd with high HIV prevalence after Kigali city 3.2. Nyanza district is the 1st district with high Sexually Transmitted Infections at National level, 8th of HIV prevalence nationally and low coverage of Male Circumcision of 15% (14). Therefore, the rationale of this study is to determine the prevalence of VMMC in Nyanza district and explore all possible factors that lead to uptake of VMMC in the study area. The results of the current study are important to design the appropriate strategies that reinforced VMMC intervention with the objective of long-term impact on the control of the HIV epidemics in Nyanza district.

1.3.Objectives of the research

1.3.1.Main objective

The main objective of this study was to assess the risk factors associated with low uptake of VMMC as one of the strategies in HIV/AIDS prevention among the adult's male in Nyanza district located in Southern Province of Rwanda.

1.3.2.Specific objectives

- To identify the prevalence of VMMC among men aged 18 to 49 years in Nyanza district of Rwanda;
- To evaluate knowledge of VMMC as HIV prevention strategy among men aged 18-49years in Nyanza district;
- To determine the risk factors of low uptake of VMMC among men aged 18 to 49 years in Nyanza district

1.4. Research Questions

- What is the prevalence of VMMC among men between 18-49 years in Nyanza district?
- What is the knowledge level about VMMC as HIV prevention strategy among men aged between 18-49 years in Nyanza district?
- What are the factors associated with low uptake of VMMC among men between 18-49 years in Nyanza district?

1.5. Conceptual framework

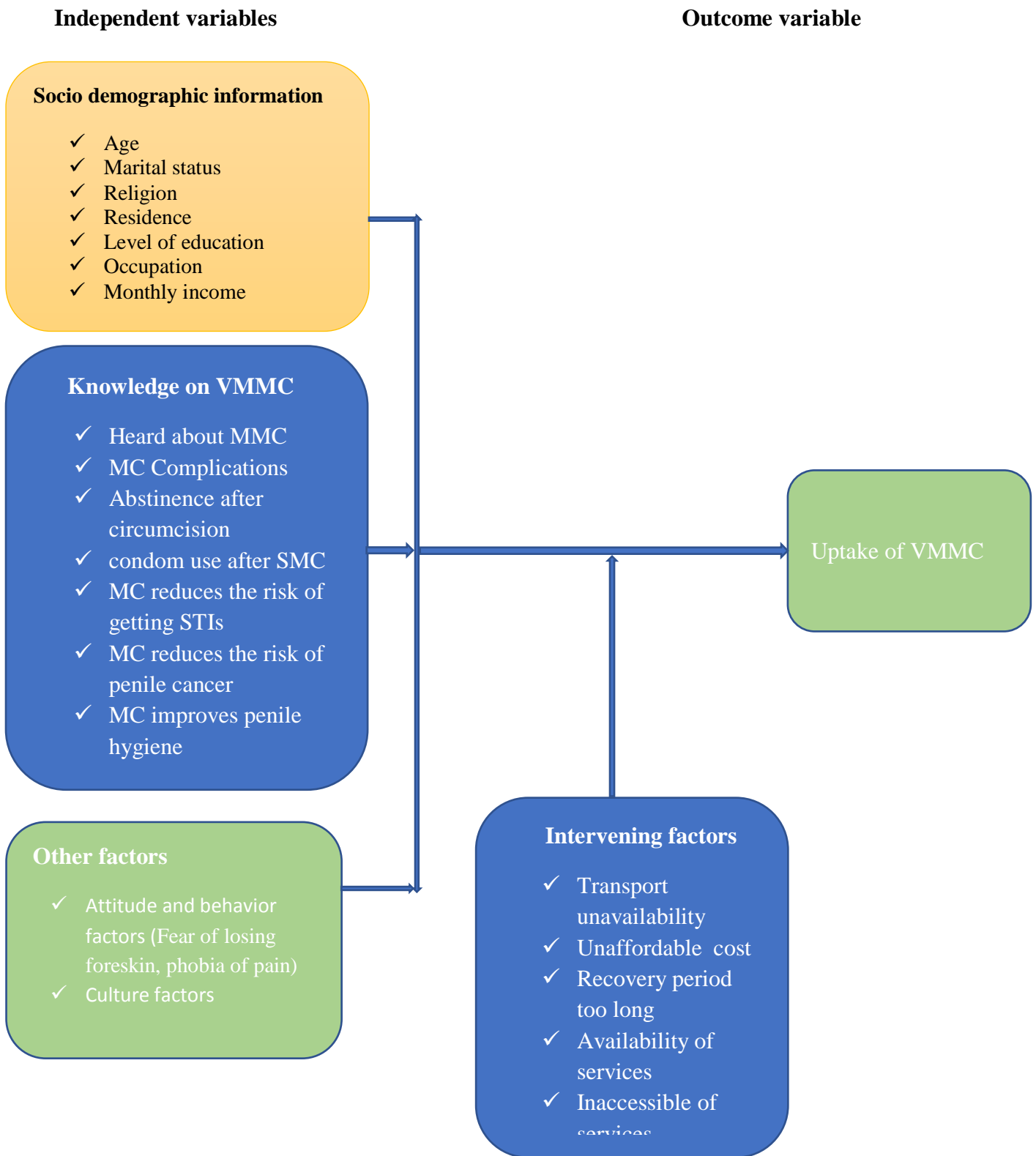


Figure 1: Conceptual framework

Voluntary Medical Male Circumcision is done to adult male among traditionally non-circumcising communities. It is aimed at preventing the transmission of HIV as it reduces the transmission by up to 60% and some take it as hygienic procedure. It is done in a health facility setting by trained clinicians. It due to this fact that the study will assess the factors contributing with low uptake of VMMC among male adults in Nyanza district as the area constitute the higher prevalence in STIs compared to other parts of the country. The conceptual framework demonstrates the interlinkage between the independent and dependent variables, low uptake of VMMC among adults male in Nyanza district and its associated factors is a major concern of the researcher.

Socio demographic factors may stimulate preference for VMMC, especially in regions with more recent uptake of the practice, such as USA. Studies in the USA have shown a strong association between preference for VMMC and high socioeconomic status, whereas low uptake of the service is associated with low socioeconomic status. 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 were observed among men with higher levels of education, of higher socioeconomic status and living in urban areas, whereas in Lesotho, circumcision was most common among men with no education, in the lowest wealth quartile and living in rural areas. The same factors will be assessed for determining why the uptake is low. With adequate knowledge regarding MMC and HIV/AIDS, male should have been circumcised with a high prevalence and hence preventing STIs and HIV/AIDS in general. Many factors may be associated with low uptake and high prevalence of STIs. Intervening factors are those factors which may influence the uptake indirectly when other factors play an important role in attending VMMC services for the purpose of HIV prevention.

CHAPTER II: RESEARCH METHODS

2.1. The design of the study

The study design used is cross-sectional survey

2.2. Study settings

The setting of this study was Nyanza district which is one of 8 districts of Southern province in Rwanda. It is the area compromised of the low prevalence of MC (17.1%) compared to other provinces of Rwanda. Nyanza district has 10 Sectors and 17 health facilities: Nyanza District hospital and 16 health centers where voluntary medical male circumcision should be done. It covers 672km². The population of Nyanza District is 323,719 peoples formed by Female 166,069 and Male 157,650 among them 73,514 males with 18-49 years old who are our study population. Nyanza District is divided in two parties: the Urban Area and Rural area and is the 1st district with high Sexually Transmitted Infections at National level 18%, 8th of HIV prevalence nationally with 3.1 and low coverage of Male Circumcision of 15%(14)

2.3. Target population

The target group for the study was all men who were between 18-49 years old and who were present in Nyanza district at the time of data collection, whether they live in Nyanza or not but their presence was making them eligible.

2.3. Inclusion and exclusion criteria

2.3.1. Inclusion criteria

Were included;

- Rwandan male aged between 18 to 49 years
- Present in the period of data collection in Nyanza district
- Consenting to participate with no psychological problems.

2.3.2. Exclusion criteria

Were excluded:

- Female
- Male below 18 and above 49 years old.
- Male with psychological problems

2.4. Sample size

The sample size calculation was done using the following **Yamane's formula** (1967) to compute the sample of Nyanza district.

$$n = \frac{N}{1 + Ne^2} = \frac{73514}{1 + 73514 \times (0.05)^2} = 397.8 \approx 398$$

The total sample size equal $398 + 39.8 = 438$

Where

- N: stands for the target population (males) aged 18 to 49
- n : stands for the sample size of the study and
- e: stands for the margin error (5%).

The stratified sampling was computed. To calculate the sample of each stratum the **formula of Bluman** was used.

$$n = NS_1 + NS_2 + NS_3 + NS_4 + NS_5 + NS_6 + NS_7 + NS_8 + NS_9 + NS_{10} + NS_{11} + NS_{12}$$

$$n_s = \frac{N_1 \times n}{N}$$

Where n stand for the sample size of the strata, «N1» stands for the total population for the strata

N ⁰	Sector	Residents (18-49years)	Sample
1	Busasamana	11167	67
2	Busoro	7616	44
3	Cyabakamyi	4562	28
4	Kibirizi	6984	41
5	Kigoma	7618	45
6	Mukingo	12542	75
7	Muyira	7646	46
8	Ntyazo	5883	35
9	Nyagisozi	5498	33
10	Rwabicuma	3998	24
Total		73514	438

Source: Rwanda 4th Population and Housing Census, 2012 (NISR)

Stratified and simple random sampling techniques was used in this study to select the participants at sector level. The sample size was proportionally divided according to the population of each sector of Nyanza district. Structured questionnaire was used for data collecting. The investigators was based at health center level where we expected many participants meeting the inclusion criteria and data was collected for the period of one week (02-06 September 2019).

2.5. Data collection

Simple random sampling method was used in data collection, and a structured questionnaire was utilized for data collection where every participant was administered a questionnaire.

2.6. Validity and reliability of the questionnaire

The structured questionnaires that was used in data collection was adopted from previously conducted researches regarding knowledge of VMMC and was validated by the investigators by doing the piloting study in Gasabo district, Remera sector. After collecting data from piloting, the investigator adjusted questions which had some misunderstandings for clarifying the questions to the participants.

2.7. Data management

The data collected from the study were coded, entered in SPSS version 21 to be analyzed, and then stored on external disk; filled questionnaires will be kept in closed cupboard in order to maintain confidentiality. The data will be stored electronically, password lock file software was used according to the University of Rwanda (UR) rules and regulation regarding research dissertation.

2.8. Data analysis

After collecting data, data were entered, categorized and analyzed using SPSS version 20. Both descriptive and analytical analysis was performed. The frequencies and percentages were computed for summarizing the socio-demographic characteristics of the recruited participants. For analytical analysis, logistic regression was computed for indicating the associated factors of the low uptake of VMMC uptake. By the prevalence of MC among male adults, descriptive statistics were performed and frequency and proportion were reported.

To evaluate the knowledge level on VMMC, the participants who answered correctly at least 4 questions among 7 were considered to have sufficient knowledge, descriptive statistics were also computed, frequency and proportion were reported.

To determine the factors associated with low uptake of VMMC as one of the prevention measures of HIV/AIDS bivariate and multivariate logistic regression were computed, and P values, Odds ratios and 95% CI were displayed to show the relationship between different variables and uptake of VMMC. Data was imported in Microsoft Excel, tables, were used for study results presentation.

2.9. Ethical consideration

The ethical approval was obtained from Institutional Review Board (IRB) of College of Medicine and Health Sciences (CMHS) of the University of Rwanda. After receiving this ethical clearance, the local leaders provided the permission for collecting data in Nyanza. At the sectors of Nyanza district, the data collectors explained to the participants the aim of the study and possible benefits. Indirect benefits were explained to the participants and their participation was voluntary and no patient was pushed to participate in research. The participants participated voluntarily and were able to withdraw from the study any time and would not penalize for doing so. Participants' privacy and confidentiality will be considered by using patient's codes instead of names. Privacy during data collection was ensured by identifying the private area before starting data collection. This means that the Principal Investigator visited all data collectors to ensure privacy for interviewees. In order to ensure the confidentiality, the study team explained to the interviewees that nobody will share the information; only study team will share them for research purpose. To ensure individual confidentiality, the participants' names was not disclosed. There were no risks to the participants in this study; this means the study aims to investigate the factors associated to the uptake of Voluntary Male Circumcision of Men between 18-49years in Nyanza District. Indeed, the recruited participants in the study were informed that there was no compensation or direct benefits to be given for participating in the study. So, there was no physical incentives but there would be benefit of improving male Circumcision program in Nyanza district, especially in health facilities because the research findings would be shared to the district leaders including health facilities Managers. Collected data by questionnaires was stored in pass-worded computers; computers access was only for researcher team nobody else was having access to that computer. Researcher, data collector and participants signed consent form. Data collectors were trained on research ethics prior to data collection and also training was conducted for allowing them being familiar to study tools.

CHAP III: RESULTS PRESENTATION

3.1. Socio demographic Characteristics

The total of 438 participants was enrolled into the current study. More than 67% were married and majority (20.3%) was 23-27 years. The majority (83.3%) of the participants had at least primary education. More than 87% of the participants of the current study were Catholics. The prevalence circumcised individuals in Nyanza was 35.8%. The results of the current study indicated that the occupation of the majority of the participants (81.3%) unemployed students and had the other jobs rather than self-employed nor employed. The respondents indicated that around 89.1% of the participants obtained below 50,000frw monthly and the majority (96.8%) of the respondents were from Nyanza district.

Table 1: Socio demographic Characteristics

Variables	Number (n=438)	Percentage
Age		
18-22 years	49	11.2
23-27 years	89	20.3
28-32 years	73	16.7
33-37 years	87	19.9
38-42 years	85	19.4
43 years and above	55	12.6
Marital status		
Single	125	28.5
Married	294	67.1
Separated/ divorced	19	4.3
Religion		
Catholics	382	87.2
Muslim	13	3
Others	43	9.8
Educational background		
Primary education	365	83.3
Secondary and higher	53	12.1
Illiterate	20	4.6
Occupation of the participants		
Non-employed, student and others	356	81.3
Self-employed	45	10.3
Employed	37	8.4
Monthly income		
Below 50,000	391	89.3
50,000 - 100,000	38	8.7
100,000 and above	9	2.1
Residence of the participants		
Nyanza district	424	96.8

3.2. Prevalence of circumcision by Social demographic Characteristics

The results of the current study indicated that the prevalence was 35.8% and the prevalence varied depending on the different socio-demographic status of the participants. They indicated that the highest prevalence (7.5%) of the uptake was in the range of 33-37years. The married participants were found to have a higher uptake of VMMC and there was a high prevalence of uptake of the VMM among the catholic, however the catholic were identified to have the high accessibility to VMMC interventions in Nyanza district. The results represented that 53.7% of uncircumcised participants had at least the primary education and there was the high prevalence of the VMMC among the unemployed, students and other uncategorized people. More than 53.2% had the monthly income that was less than 50000rfw in Nyanza district. More than 62% of the participants were residing in Nyanza district of southern province.

Table 2: Prevalence of circumcision by Social demographic Characteristics

Variables	Circumcised		Uncircumcised	
	Number (n=157)	Percentage	Number (n=281)	Percentage
Age				
18-22 years	17	3.9	32	7.3
23-27 years	32	7.3	57	13.0
28-32 years	28	6.4	45	10.3
33-37 years	33	7.5	54	12.3
38-42 years	24	5.5	61	13.9
43 years and above	23	5.3	32	7.3
Marital status				
Single	39	8.9	86	19.6
Married	114	26.0	180	41.1
Separated/ divorced	4	0.9	15	3.4
Religion				
Catholics	127	29.0	255	58.2
Muslim	9	2.1	4	0.9
Others	21	4.8	22	5.0
Educational background				
Primary education	130	29.7	235	53.7
Secondary and higher	15	3.4	38	8.7
Illiterate	12	2.7	8	1.8
Occupation of the participants				
Non-employed, student and others	123	28.1	233	53.2
Self-employed	18	4.1	27	6.2
Employed	16	3.7	21	4.8
Monthly income				
Below 50,000	138	31.5	253	57.8
50,000 - 100,000	15	3.4	23	5.3
100,000 and above	4	0.9	5	1.1
Residence of the participants				
Nyanza district	149	34.0	275	62.8
Out of Nyanza	8	1.8	6	1.4

3.3. Knowledge level Variables

The results of the current study indicated that the majority (95.7%) of the study among the participants heard about circumcision in different settings. Only 4.3% of the males adults in Nyanza did not hear about circumcision. Ninety-two and half (92.5%) of the circumcised individual needed to abstain from sexual activities for six weeks after the circumcision operation and 89% of them needed for condoms use after the male circumcision operation provided to them. The results reported that 97% of the participants were aware of the VMMC and they indicated that they knew that the VMMC was the medical operation that had the advantages of reducing the risks to get the sexual transmissible infections including HIV. Although 89.7% of the participants indicated that they knew that the VMMC operation contributed to the management and control of the risk to develop the penile caner, 98.9% of them also responded that this medical operation is important for improving the penile hygiene. Although some complications like infections, unknown complications, insufficient foreskin removed and excessive foreskin remove were lowly found to occur after being circumcised, the results indicated that the majority (82%) of the participants were answered that bleeding is the most complication after being circumcised. The results indicated that the majority of the participants (84.7%) were knowledgeable on the VMMC in Nyanza district of Rwanda.

Table 3: Knowledge level Variables

Variables	Number	Percentage
Heard about MMC		
Yes	419	95.7
No	19	4.3
Need to abstain 6 weeks after Circumcision		
Yes	405	92.5
No	33	7.5
Need for Condom use after SMC		
Yes	390	89.0
No	48	11.0
SMC reduces the risk of getting STDs		
Yes	425	97.0
No	13	3.0
MC reduces the risk of penile cancer		
Yes	393	89.7
No	45	10.3
MC improves penile hygiene		
Yes	433	98.9
No	5	1.1
Know about MMC Complications		
Infection	27	6.2
Bleeding	359	82.0
Insufficient foreskin removed	26	5.9
Excessive foreskin removed	16	3.7
I don't know	10	2.3
Knowledge on VMM		
Knowledgeable	371	84.7
Not Knowledgeable	67	15.3

3.4. Knowledge level by Social demographic Characteristics

The findings of the current study indicated that the participants were knowledgeable accordingly and differently depending on their socio-demographic status. Among the knowledgeable participants, the majority (19.5%) were aged 33-37years and 38-42% respectively whereas among the participants who were not knowledgeable, the majority was aged 18-22years. Basing on the marital status, among the participants who were knowledgeable and who were not knowledgeable, the majority were married (61%) and single (8%). Concerning the religion of the participants, the majority (78.1%) of the participants was knowledgeable in catholic and the majority (9.1%) among who were not knowledgeable was catholic.

The results indicated that among the participants who were knowledgeable, the majority (71.2%) had the primary education while among the unknowledgeable the majority (12.1%) had also primary education. The majority (75.1%) of knowledgeable about VMMC were informally non-employed, students and others. Among unknowledgeable participants about male circumcision, majority (8%) were self-employed. Results represented that among the knowledgeable participants, majority (77.4%) had monthly income below 50,000Rwf and among unknowledgeable, 11.9% occurred. The results also demonstrated that majority (83.6%) of the knowledgeable and majority (13.2%) of knowledgeable about VMMC were residing in Nyanza district.

Table 4: Knowledge level by Social demographic Characteristics

Variables	Knowledgeable		Not knowledgeable	
	Number (n=371)	Percentage	Number (n=67)	Percentage
Age				
18-22 years	8	1.8	41	9.4
23-27 years	77	17.6	12	2.7
28-32 years	66	15.1	7	1.6
33-37 years	84	19.2	3	0.7
38-42 years	81	18.5	4	0.9
43 years and above	55	12.6	0	0.0
Marital status				
Single	90	20.5	35	8.0
Married	267	61.0	27	6.2
Separated/ divorced	14	3.2	5	1.1
Religion				
Catholics	342	78.1	40	9.1
Muslim	10	2.3	3	0.7
Others	19	4.3	24	5.5
Educational background				
Primary education	312	71.2	53	12.1
Secondary and higher	45	10.3	8	1.8
Illiterate	14	3.2	6	1.4
Occupation of the participants				
Non-employed, student and others	329	75.1	27	6.2
Self-employed	10	2.3	35	8.0
Employed	32	7.3	5	1.1
Monthly income				
Below 50,000	339	77.4	52	11.9
50,000 - 100,000	24	5.5	14	3.2
100,000 and above	8	1.8	1	0.2
Residence of the participants				
Nyanza district	366	83.6	58	13.2
Out of Nyanza	5	1.1	9	2.1

3.5. Bivariate analysis of the risk factors of the uptake of VMMC

The results indicated that the marital status, residence, age of the participants, monthly income, occupation, and being knowledgeable about VMMC were not significantly associated with being uncircumcised in Nyanza district. The significant association was found between circumcision and religion as well as the educational background of the participants. In our bivariate analysis, we found that the religion was the significant predictor of circumcised. The catholic were found to be significant predictor of the uncircumcised where the results indicated that the catholic were 4.52 times more likely to get uncircumcised compared to Muslim [OR=4.52(1.36-14.95), p=0.014]. The participants who had secondary education were more likely to get uncircumcised compared to the adults males with primary education [OR=1.4(0.74-2.64), p=0.03] and who were illiterate were more likely to get uncircumcised compared to the individuals with primary education [OR=0.37(1.4-0.92), p=0.034].

Table 5: Bivariate analysis of the risk factors of the uptake of VMMC

Variables	Circumcised	Uncircumcised	95% CI		p-value
	Number	Number	OR		
Age					
18-22 years	17	32	Ref.		
23-27 years	32	57	0.946	(0.456,1.964)	0.882
28-32 years	28	45	0.854	(0.402,1.815)	0.681
33-37 years	33	54	0.869	(0.419,1.805)	0.707
38-42 years	24	61	1.350	(0.635,2.871)	0.435
43 years and above	23	32	0.739	(0.334,1.638)	0.457
Marital status					
Single	39	86	Ref		
Married	114	180	0.72	(0.46,1.12)	0.141
Separated/ divorced	4	15	1.70	(0.53,5.46)	0.372
Religion					
Muslim	9	4	Ref.		
Catholics	127	255	4.52	(1.36,14.95)	0.014*
Others	21	22	2.36	(0.63,8.83)	0.203
Educational background					
Primary education	130	235	Ref.		
Secondary and higher	15	38	1.4	(0.74,2.64)	.03*
Illiterate	12	8	0.37	(0.15,0.92)	.034*
Occupation of the participants					
Non-employed, student and others	123	233	Ref.		
Self-employed	18	27	1.443	(0.727,2.866)	0.295
Employed	16	21	1.143	(0.473,2.762)	0.767
Monthly income					
Below 50,000	138	253	Ref.		
50,000 - 100,000	15	23	0.84	(0.42,1.66)	0.61
100,000 and above	4	5	0.68	(0.18,2.58)	0.57

Residence of the participants

Nyanza district	149	275	Ref.		
Out of Nyanza	8	6	0.41	(0.14,1.19)	0.101

Knowledge about VMMC

Knowledgeable	135	236	Ref.		
Not Knowledgeable	22	45	1.17	(0.67,2.03)	0.577

Notice: () It estimates the significance level at 5%; Ref: Stands for the reference group*

3.6. Multivariate Analysis of the uptake of VMMC in Nyanza

On our multiple analysis of the current study, the results indicated that there was the significant association between the religious beliefs and educational background and the circumcision among the participants from Nyanza district. They indicated that the education and religion were significantly the risk factors of not being circumcised in this target district located in southern province of Rwanda. The results demonstrated that catholic were more likely to get uncircumcised compared to Muslim [OR=7.187(1.742-29.659), p=0.01]. The believers from other churches were less likely to get circumcision compared to Muslim [OR=6.035(1.731-21.039), p=.005]. It was found that the illiterate people of Nyanza were less likely to get uncircumcised compared to the adults male who had primary education. Illiterate was less the predictor of uncircumcised [OR=0.370.14-0.977); p=.0.045].

Table 6: Multivariate Analysis of the uptake of VMMC in Nyanza

Full model				Reduced model		
Characteristics	OR	95% CI	<i>p</i> -value	OR	95% CI	<i>p</i> -value
Age						
18-22 years	Ref.					
23-27 years	0.702	(0.230,2.147)	0.54			
28-32 years	0.450	(0.127,1.597)	0.22			
33-37 years	0.521	(0.145,1.869)	0.32			
38-42 years	0.759	(0.210,2.748)	0.67			
43 years and above	0.463	(0.123,1.736)	0.25			
Marital status						
Single	Ref.			Ref.		
Married	0.568	(0.333,0.969)	0.04*	0.536	(0.326,0.882)	0.014*
Separated/ divorced	1.448	(0.418,5.017)	0.56	1.394	(0.419,4.634)	0.588
Religion						
Muslim	Ref.			Ref.		
Catholic	7.187	(1.742,29.659)	0.01*	6.035	(1.731,21.039)	0.005*
Others	2.581	(0.597,11.153)	0.20	2.544	(0.659,9.820)	0.175
Education Level						
Primary education	Ref.			Ref.		
Secondary and higher	1.425	(0.702,2.895)	0.33	1.477	(0.768,2.841)	0.243
Illiterate	0.353	(0.126,0.988)	0.05*	0.370	(0.140,0.977)	0.045*
Occupation						
Unemployed, student and others	Ref.					
Self-employed	0.876	(0.267,2.881)	0.83			
Employed	0.812	(0.291,2.267)	0.69			
Monthly Income						
Below 50,000	Ref.					
50,000 - 100,000	1.165	(0.465,2.919)	0.74			
100,000 and above	1.046	(0.217,5.050)	0.96			
Residence						

Nyanza district	Ref.		
Out of Nyanza	0.445	(0.123,1.607)	0.22

Knowledge

Knowledgeable	Ref.		
Not Knowledgeable	1.250	(0.529,2.953)	0.61

Notice: () Indicates significant level at 5%; Ref: It indicates the reference group to be compared*

CHAPTER IV: DISCUSSIONS

The prevalence of voluntary medical male circumcision in this study was 35.8% in Nyanza district. This prevalence is higher than the national prevalence of circumcised men (30%) which was reported in the RDHS 2014-2015 and it was lower than the prevalence of Sub-Saharan African countries that reported 62% (15). The descriptive analysis revealed that the majority of the participants were aged 23-27years and it was in this group age the VMMC was prevalent at low level compared to other group of ages.

The results revealed that the VMMC was significantly associated with various factors including socio-demographic determinants. They discovered that religion and low uptake of VMMC among adults male in Nyanza district were significantly associated. These results were supported by the similar studies that indicated that the religion was associated with uptake especially in the culturally non-circumcised in Kenyan communities (16). The findings revealed that catholic and other religious believers were less likely to get circumcised than Muslim. Being catholic was the significant risk factor of uncircumcised. Catholics were 7.187 times less likely to get circumcised compared to Muslims while other believers were 6.035 times less likely to get circumcised compared to Muslim. These findings were similar to the previous studies that reported that the religious and socio-cultural beliefs make VMMC difficulties within non-circumcising communities (11,17). The individuals who had secondary education level were 1.4 times less likely to get circumcised compared to the adults male with primary education. The illiterate adults males were 0.37 times less likely to get circumcised compared to the participants who studied primary schools. These results were supported by the prior studies that indicated that education had the significant influence on circumcision (18).

The results revealed that the majority (84.7%) of the participants was mostly high knowledgeable. This result was contradicting the previous studies that the knowledgeable of VMMC was lower and it led to the low accessibility and susceptibility to the VMMC interventions (19,20). The results revealed that the age, marital status, residence and becoming knowledgeable about VMMC were not significant the risk factors of VMMC operation. This finding was similar to the results indicated in the prior studies that indicated that age, marital status, level of education were not significant associated with the circumcision uptake (19). But they were contradicted with the other results from other studies that significant associated between age, marital status and level of education and circumcision status (3).

Knowledge about VMMC was not found to be significantly associated with uptake; however it was found that the majority of the participants were knowledgeable about VMMC such as knowing the complications of the VMMC, knowing advantages of VMMC as the effective intervention to reduce the risk of penile cancer. These results were relevant with the prior studies that documented that lack of adequate knowledge about VMMC was a factor of low accessibility to VMMC in Botswana and then causes the increase of STIs and HIV/AIDS which was the major burden of the world (18).

4.1. Study limitations

The current study was limited to the participants from the study settings because it only included participants aged 18-49 years and the participants aged more than 49 years and who were less than 18 such as the adolescents and children were excluded from the study. Additionally, the study was limited to the information bias because the circumcision status was self-reported and the recruited respondents could not provide all the true status of circumcision for the various reasons. As the sample size was restricted to males, the perspectives from the females were not captured and then the researchers were unable to make the inferences about the contribution of women in VMMC uptakes in Nyanza district. Though, these expected biases were controlled by safeguarding confidential interviews with males adults, the proportionate sampling was crucial to enroll an suitable sample size from each of the recruited stratum from Nyanza district.

CHAP V: CONCLUSION, RECOMMENDATION

5.1. Conclusion

Like other studies conducted in African countries, the current study showed that males adults were mostly knowledgeable about VMMC and they know the advantages of the VMMC on health. The prevalence of VMMC was higher than the national one and the uncircumcision in Nyanza was associated with the factors including the religion and educational background. Accomplishing the high national VMMC targets in Rwanda will be the important contributor to health in furthering the HIV decline in Nyanza district

5.2. Recommendations

There is a need for the Ministry of Health and its implementing partners to increase the accessibility to VMMC through the strong sensitization and mobilization among the community members of Nyanza District. This goal should be achieved by creating more awareness about the safety and quality of services in government health facilities. In addition, providing health education in the public and private institutions that VMMC reduces the female to male transmission risk of HIV, and it prevents the STIs infections could lead to an increased uptake of VMMC services in Nyanza. We recommend the further research on determining the risk factors of uptake in the whole country. There is a need of conducting the study in Rwanda for indicating the influences of the VMMC on the STIs and HIV prevention, treatment and care. We recommend to the further researchers to conduct the similar study in Rwanda.

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APPENDICES

1. Informed consent for participation

1.1. Informed consent form in English

Introduction

My Name is Pascal NZAMWITA, Student at University of Rwanda, College of Medicine and Health Sciences, School of Public Health. I am going to conduct a research on Voluntary Medical Male Circumcision which is very important in protecting Sexually Transmitted Infections including Human Immunodeficiency Virus. You are invited to be part of this research.

Purpose of the research

Male Circumcision (MC) is the technique of removing the foreskin of the penis for health reasons .It is considered as the comprehensive HIV prevention package for heterosexually acquired infections in men.it is in this regards that we would like to conduct this research “FACTORS ASSOCIATED WITH ACCEPTABILITY OF MALE CIRCUMCISION AS AN HIV PREVENTION STRATEGY” in Nyanza district

Participation selection

You are being invited to take part in this research because you are aged between 18-49 years. Normally this cohort of age sexual active and group risk of contaminating Human Immunodeficiency Virus which most transmitted by sexual intercourse. You participation will contribute much to our understanding and knowledge on factors associated with uptake of Male Circumcision

Voluntary Participation

Your participation in this research is entirely voluntary. It is your choice whether to participate or not. If you choose not to participate will not affect your benefits, employment, political or access to health care.

Procedures

If you agree to participate, the following things will happen:

- After signing the consent form, you will be requested to answer the questions contained in the questionnaire.
- you are participating in a focus group discussion, after signing the consent form
- You will be engaged in a discussion with other group members by the researcher concerning what you think about the factors associated to the uptake of Male Circumcision. This will take about 30 to 45minutes.
- A tape recorder will be used to record the discussion so that the researcher is able capturing your exact statements.

Benefits

There will be no direct benefit to you, but your participation is likely to help us find out more information about the factors associated with acceptability of Male Circumcision. Following to your participation, this study will generate practical evidences to design important interventions. The study is to fulfill the requirements of my studies in Master of Public Health at University of Rwanda.

Risks

There are no personal risks inherent in the study. However, you may feel uncomfortable with some questions which may be unusual to you. In the event that you feel that the study has generated some uncomfortable/negative emotions/feelings in you, you may wish to withdraw from the study or talk about the emotions/feelings with the researcher.

Reimbursements

You will not be provided any incentive to take part in the research

Confidentiality

We will not be sharing information about you to anyone outside of the research team. The information that we collect from this research will be kept private. Any information about you will have a number on it instead of your name. Only the researchers will know what your number is and we will lock that information up with a lock and key. It will not be shared with or given to anyone except research team.

Who to Contact

If you have any questions, you can ask them now or later. If you wish to ask questions later, you may contact any of the following of my Supervisors Prof. Joseph NTAGANIRA on **0788864720** and email: jntaganira@nursph.org, Mr. Albert NDAGIJIMANA on **0788634428** and email: andagijimana@nursph.org or College of Medicine and Health Sciences Ethic Committee. This research is approved and funded by the University of Rwanda.

Participant consent:

I have carefully read and understood the provided information voluntarily agree to participate in this study.

Participant’s name	Signature:	Date:
Investigator’s name	Signature:	Date:

ICYEMEZO KIGARAGAZA KO UMUNTU YEMEYE NTA GAHATO KUJYA MU BUSHAKASHATSI

Iriburiro

Nitwa NZAMWITA Pascal ndi umunyeshuri muri Kaminuza y'u Rwanda mu ishami ry'ubuzima. Tunejeje mu bo dushaka kubaza muri ubu bushakashatsi bugamije kureba *“Impamvu zituma abagabo bafite imyaka iri hagati ya 18 na 49 batitabira kwisiramuzwa nk'uburyo bwo kwirinda ubwandu bw'agakoko gatera SIDA”*. Ubu bushakashatsi buri gukorerwa mu Karere ka Nyanza gaherereye mu Ntara y'Amajyepfo. Nta gisubizo na kimwe utanga kitari ukuri.

Icyo ubushakashatsi bugamije

Ubu bushakashatsi bugamije kugaragaza impamvu zituma abagabo n'abasore batitabira ukwisiramuzwa mu karere ka Nyanza. Nitumara kubona ibituma kwisiramuzwa bititabirwa, abagize itsinda ry'ubushakashatsi bazakora ubuvugizi buzatuma hafatwa ingamba zatuma abagabo bose bitabira iyi gahunda ifite kurinda SIDA n'izindi ndwara zose zanduriria mu mibonano mpuzabitsina idakingiye

Abatoranyijwe kujya mu bushakashatsi

Muri ubu bushakashatsi hatoranyijwe abanyarwanda b'abagabo batuye muri Nyanza kandi bafite hagati y'imyaka 18 na 49. Bashobora kuba barisiramuje cyangwa batarisiramuje. Ubaye udashobora kwisomera ibibazo, itsinda ry'abagize ikusanya-makuru muri ubu bushakashatsi baragusomera bakanagusobanurira kugira ngo usobanukirwe neza.

Ingaruka z'ubushakashatsi

Nta ngaruka mbi n'imwe urahura cyangwa uzahura nayo igihe wakwemera gutanga amakuru arebana n'ubu bushakashatsi. Abitabiriye ubushakashatsi bandikwa mu buryo bw'ibanga budatuma utanze amakuru abasha kumenywa n'uwo ari we wese

Ibyiza by'ubushakashatsi

Ubu bushakashatsi ni bwiza cyane kuko buzafasha mu kugaragaza akamaro k'ubufasha mu byerekeye kwisiramuzwa no kwirinda SIDA by'umwihariko ku bagababo. Ubu bushakashatsi buzafasha kandi Leta, Ministeri y'Ubuzima n'amavuriro byo mu Rwanda bitanga ubufasha

bwo kwisiramuzwa, kurushaho gutegura neza imigambi ihamye mu gushishikariza abagabo iyi gahuda hagamijwe kwirinda SIDA.

Kubika amabanga n'ibyavuye mu bushakashatsi

Abitabiriye ubushakashatsi bandikwa mu buryo bw'ibanga budatuma abasha kumenywa n'uwo ari we wese. Turagusaba kubitekerezaho neza akaba ari wowe ufata umwanzuro uhamye wo kwitabira ubu bushakashatsi. icyemezo icyo ari cyo cyose wafata kirakirwa neza. Gutanga amakuru muri ubu bushakashatsi ni ubushake bwawe. Ufite uburenganzira bwo gutanga amakuru, kutayatangira cyangwa ukaba wahagarika kuyatangira igihe icyo ari cyose wabishakira. Nta gihano cyangwa ingaruka mbi bihabwa uwanze gutanga amakuru. Ibyavuye mu bushakashatsi byose bibikwa mu ibanga rikomeye.

Impapuro zikoreweho ubushakashatsi zibikwa mu kabati gafunze kandi ibyashyizwe muri mudasobwa bifungwa n'imfunguzo z'ikorana-buhanga. Nyuma amakuru watanze azakusanyirizwa hamwe n'ay'abandi batanze, asesengurwe mu buryo bwa gishakashatsi bityo ibyavuyemo bikazatangazwa kandi nawe uzaba ubifiteho Uruhari rukomeye.

Ibyerekeye ibihembo

Utanze amakuru wese muri ubu bushakashatsi nta bihembo ahabwa, ahubwo ayatanga agiriye ubwitange mu gushaka kumvikanisha ikibazo. N'ubwo bwose nta gihembo gihita gitangwa, amakuru yose mutanga azagira umumaro ukomeye cyane mu kugaragaza impamvu zituma abagabo batitabira kwisiramuzwa kandi bizanafashe mu gushyiraho gahunda nshya zatuma hashyirwa imbaraga mu gukangurira abagabo kwisiramuzwa hagamijwe kugabanya ubwandu bw'agakoko gatera SIDA no gutuma umuntu agira ubuzima bwiza bw'imyorokere. Ikiganiro tugirana kimara hagati y'iminota 10 na 15

Uburenganzira n'amategeko by'utanga amakuru

Gutanga amakuru muri ubu bushakashatsi ni ubushake bwawe. Ufite uburenganzira bwo gutanga amakuru cyangwa kutayatangira. Igihe utanga amakuru ushobora kuba wahagarika kuyatangira igihe icyo ari cyose wabishakira. Nta gihano cyangwa ingaruka mbi bihabwa uwanze gutanga amakuru.

Uwo wakwiyambaza igihe ugize ikibazo kijyanye n'ubushakashatsi

Ubu bushakashatsi bugamije kumfasha kurangiza icyiciro cya kabiri cya Kaminuza mu bijyanye n'Ubuzima bw'Abaturage, nkaba niga muri Kaminuza y'u Rwanda. Ubu

bushakashatsi kandi buyobowe na Porofeseri Joseph NTAGANIRA. Uramutse ugize ikibazo mu gihe cyo gutanga amakuru cyangwa nyuma y'ubushakashatsi kandi icyo kibazo kikaba hari aho gihuriye nabwo, uhamagara: 250788864720 cyangwa ukandika kuri jntaganira@nursph.org, ndetse na Albert NDAGIJIMANA Kuri 0788634428 cyangwa ukandika kuri andagijimana@nursph.org.

Ikibazo cyose cyerekeranye n'uburenganzira bwawe bwo kwemera no gutanga amakuru buhutajwe wahamagara ubuyobozi bwa Kaminuza y'u Rwanda ishami rishinzwe etike

Kwemera amasezerano

Maze gusoma neza no kumva ibisobanuro byose byatanzwe byerekeye ubu bushakashatsi, nemeye nta gahato gutanga amakuru yose nsabwa.

Utanga amakuru:

Amazina:

.....Itariki:.....Umukono:.....

Uwakusanyije amakuru:

Amazina:

.....Itariki:.....Umukono:.....

2. Questionnaires

2.1. Questionnaire in English

I am a MPH student in University of Rwanda/School of Public Health and am carrying out a study on **“Factors associated with acceptability of male circumcision as an HIV prevention strategy among men between 18-49 years: Case study of Nyanza District”**.

The data collected will be treated with confidentiality and at no time will you be required to identify yourself by name.

I would like you to grant me permission to ask you few questions, regarding VMMC and HIV Prevention

Variables	Code	Tick the right answer
DEMOGRAPHIC INFORMATION		
1. Age in Years	
2. Marital status	Single	
	Separated	
	Married	
	Cohabitant	
	Divorced	
3. Religion	Catholic	
	Protestant	
	Muslim	
	Others(Specify)	
4. Level of education	Illiterate	
	Primary education	
	Secondary education	
	University and above	
5. Occupation	Non-employed	
	Self employed	
	Employed(Salaried)	
6. Monthly income(in Frws)	Below 50,000	
	50,000-100,000	
	100000 and above	

7.Residence	Nyanza district	
	Outside Nyanza(Southern Province	
	Others(Specify)	
Knowledge on VMMC		
8.Know about MMC	Yes	
	No	
9.Are you circumcised	Yes(If yes Answer Q10)	
	No	
10.How old were you when circumcised	Childhood	
	Adolescence	
	19 years and above	
11.Know About MMC Complications	Infection	
	bleeding	
	Insufficient foreskin removed	
	Excessive foreskin removed	
	Others...	
	I don't know	
12.Need to abstain 6 weeks after circumcision	Yes	
	No	
13.Need for condom use after SMC	Yes	
	No	
14.SMC reduces the risk of getting STIs	Yes	
	No	
15.MC reduces the risk of penile cancer	Yes	
	No	
16.MC improves penile hygiene	Yes	
	No	
Knowledge on HIV prevention Strategy		
17.HIV is among Sexual transmissible infection	Yes	
	No	
18.HIV is a preventable infection	Yes	

	No	
19.SMC reduce the chance to get HIV/AIDS	Yes	
	No	
20.SMC protect only female to male sexual transmitted infections	Yes	
	No	
21.Does abstinence one of the major strategy for HIV prevention	Yes	
	No	
22.Does SMC prevent 100% HIV infection	Yes	
	No	
23. Do you know any other means for HIV prevention?	Yes(If Yes proceed with Question 24)	
	No	
24. Does this Prevent HIV infection?	Faithfulness, Abstinence, Use of condoms	
	Faithfullness, SMC, drinking	

25. Factors impeding male from undergoing Male Circumcision

1=Strongly Agree; 2=Agree; 3=Neutral; 4=Disagree; 5=Strongly Disagree

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Availability of service					
Lack of Knowledge on MMC Advantages					
Recovery Period Too Long					

Urupapuro rw'ibazwa mukinyarwanda

Ndi umunyeshuri muri kaminuza y'u Rwanda mw' ishuri ry'ubuzima rusange,nkaba ndi gukora ubushakashatsi kubintu bishobora kuba bifitanye isano numubare w'abagabo basiramuwe hano mukarere ka Nyanza .

Amakuru yose uri butange azabikwa kandi agirwe ibanga ,kandi nta narimwe imyirondoro yawe izashyirwa hanze kubwimpamvu izo arizi zose.

Nagirango niba mubyemeye mbahe uru rupapuro rwibibazo ,maze musubize uko mwumva impavu ndetse nimpavu zibangamira ubwitabire buri hejuru kugusiramurwa nkabumwe muburyo bwo kwirinda indwara zandurira mumibonano mpuzabitsina harimo na SIDA.

Ikibazo	Igisubizo	
Ibiranga uwitabiriye ubushakashatsi		
1.Ingano mumyaka	
2.Irangamimerere	Ingaragu	
	Uwatandukanye numugore batashakanye byemewe	
	Ubana numugore muburyo bwemewe namategeko	
	Ubana nuwo batashakanye byemewe	
	Uwatandukanye nuwo bashakanye byemewe	
3.Iyobokamana	Umugatolika	
	Umuporoso	
	Umusiramu	
	Irindi	
4.Amashuri wize	Sinize	
	Nize amashuri abanza	
	Nize amashuri yisumbuye	
	Nize kaminuza/hejuru	
5.Icyo ukora	Ntakazi mfite	
	Ndikorera	

	Mfite akazi	
6.Ayo winjiza kukwezi(in Frws)	Munsi 50,000	
	Hagati 50,000-100,000	
	100000 no hejuru	
7.Aho utuye	Akarere ka Nyanza	
	Hanze ya Nyanza(Mumajepfo)	
	Ahandi(havuge)	
UBUMENYI KU GUSIRAMURWA KWABAGABO		
8.Wumvise Ugusiramurwa kwabagabo?	Yego	
	Oya	
9.Urasiramuye	Yego	
	Oya	
10.Niba usiramuwe,wabikorewe ryari	Ndi umwana	
	Ndi ingimbi	
	Nkuze	
11.Uzi ingaruka zishobora gukurikira gusiramurwa	Indwara	
	Kuva amaraso	
	Gukuraho uruhu rutoya	
	Gukuraho uruhu runini	
	Izindi(Zivuge)	
	Simbizi	
12.Ukenera kwifata nyuma yo gusiramurwa	Yego	
	Oya	
13.Ukenera agakingirizo nyuma yo gusiramurwa	Yego	
	Oya	
14.Gusiramurwa bigabanya amahirwe yo kurwara indwara zandurira mumibonano mpuzabitsina	Yego	
	Oya	
15.Gusiramurwa bigabanya amahirwe kanseri yigitsina	Yego	
	Oya	

16.Gusiramurwa byongera isuku yigitsina	Yego	
	Oya	
Ubumenyu kuburyo bwo kwirinda SIDA		
17.Agakoko gatera sida kari muri zimwe mundwara zandurira mubibonano mpuzagitsina	Yego	
	Oya	
18.Agakoko gatera Sida kari mundwara zirindwa	Yego	
	Oya	
19.Gusiramurwa bigabanya amahirwe yo kurwara SIDA	Yego	
	Oya	
20.Gusiramurwa biranda gusa indwara zandurira mukubonana kumugore numugabo	Yego	
	Oya	
21.Ese kwifata ni bumwe muburyo bwo kwirinda SIDA	Yego	
	Oya	
22.Gusiramurwa birinda SIDA 100%	Yego	
	Oya	
23. Hari ubundi buryo uzi bwo kwirinda SIDA	Yego	
	Oya	
24. Ese ibi birinda SIDA	Ubutahemuka, Kwifata no Gukoreha agakingirizo	
	Ubudahemuka, Gusiramurwa no kunywa inzoga	

25.Impamvu zituma abagabo batitabira gusiramurwa

1=Ndabyemera cyane; 2=Ndabyemera; 3=Ndifashe; 4=Simbyemera; 5=Simbyemera nagato

Impamvu	Simbyemera na gato	Simbyemera	Ndifashe	ndabyemera	Ndabyemera cyane
Serivise zitaboneka					
Ubumenyi buke kugusiramurwa					
Igihe cyo gukira kirekire					

Budget

Activity	Number	Frequency	U. Cost	Total
Research preparation and piloting	5	1	10,000	50,000
Data Collection or Enumerators	5	5	10000	250,000
Data entry and Statistical Analysis	1	1	200000	200,000
Communication fees	5	1	5000	25000
Total				525,000



CMHS INSTITUTIONAL REVIEW BOARD (IRB)

Kigali, 23rd /August /2019

NZAMWITA Pascal
School of Public Health, CMHS, UR

Approval Notice: No 425/CMHS IRB/2019

Your Project Title *“Factors Associated With Acceptability of Voluntary Male Circumcision as an HIV Prevention Strategy among Men Between 18-49 Years: Case Study of Nyanza District”* has been evaluated by CMHS Institutional Review Board.

Name of Members	Institute	Involved in the decision		
		Yes	No (Reason)	
			Absent	Withdrawn from the proceeding
Prof Kato J. Njunwa	UR-CMHS	X		
Prof Jean Bosco Gahutu	UR-CMHS	X		
Dr Brenda Asiimwe-Kateera	UR-CMHS	X		
Prof Ntaganira Joseph	UR-CMHS			X
Dr Tumusiime K. David	UR-CMHS	X		
Dr Kayonga N. Egide	UR-CMHS	X		
Mr Kanyoni Maurice	UR-CMHS		X	
Prof Munyanshongore Cyprien	UR-CMHS	X		
Mrs Ruzindana Landrine	Kicukiro district		X	
Dr Gishoma Darius	UR-CMHS	X		
Dr Donatilla Mukamana	UR-CMHS	X		
Prof Kyamanywa Patrick	UR-CMHS		X	
Prof Condo Umutesi Jeannine	UR-CMHS		X	
Dr Nyirazinyoye Laetitia	UR-CMHS	X		
Dr Nkeramihigo Emmanuel	UR-CMHS		X	
Sr Maliboli Marie Josee	CHUK	X		
Dr Mudenge Charles	Centre Psycho-Social	X		

After reviewing your protocol during the IRB meeting of where quorum was met and revisions made on the advice of the CMHS IRB submitted on 16th August 2019, **Approval has been granted to your study.**

Please note that approval of the protocol and consent form is valid for **12 months.**

You are responsible for fulfilling the following requirements:

1. Changes, amendments, and addenda to the protocol or consent form must be submitted to the committee for review and approval, prior to activation of the changes.
2. Only approved consent forms are to be used in the enrolment of participants.
3. All consent forms signed by subjects should be retained on file. The IRB may conduct audits of all study records, and consent documentation may be part of such audits.
4. A continuing review application must be submitted to the IRB in a timely fashion and before expiry of this approval
5. Failure to submit a continuing review application will result in termination of the study
6. Notify the IRB committee once the study is finished

Sincerely,



Professor GAHUTU Jean Bosco
**Chairperson Institutional Review Board,
College of Medicine and Health Sciences, UR**

Date of Approval: The 23rd August 2019

Expiration date: The 23rd August 2020

Cc:

- Principal College of Medicine and Health Sciences, UR
- University Director of Research and Postgraduate Studies, UR