KNOWLEDGE, ATTITUDES AND PRACTICES ON VOLUNTARY MEDICAL MALE CIRCUMCISION FOR HIV PREVENTION IN THE OSHANA REGION OF NAMIBIA

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ABSTRACT

The study was conducted in the Oshana region with the purpose of identifying the existing knowledge, attitudes, and practices among the men aged 18-49 years old with regard to Voluntary Medical Male circumcision (VMMC) for HIV prevention. The study sought to assess and describe the knowledge and attitudes and practices (KAP) of men aged 18-49 in the Oshana region with regards to VMMC for HIV prevention, explore and describe the reasons for men not taking up VMMC for HIV prevention and analyze the differences between circumcised and uncircumcised men with regards to knowledge and attitudes on VMMC. The study employed a quantitative, cross-sectional analytic research design. A combination of stratified random sampling and convenient sampling was used. The data was collected using a self-administered questionnaire from a sample of 381 respondents. Data was analysed using Epi-Info 7, SPSS and Excel. The findings of this research reflected that many respondents were circumcised. The knowledge of respondent's regarding circumcision was quite high. The knowledge aspect was analysed in terms of their awareness, definition of VMMC, benefits, risk, provision of the services, cost of the services and the link between circumcision and HIV. Almost all the participants (97.64%) were aware of the existence of VMMC and 76.64% could define VMMC and give its similarities and differences with traditional circumcision. There was generally a positive attitude towards circumcision, and this could be seen in that the people were willing to be circumcised and even encouraged their family members to be circumcised. Majority said that VMMC is acceptable in their religion (71%). They

also did not have problems in their cultures as 71% of the participants also said that their cultures did support the practice. The people were willing to talk about it and learn more and this is an indication of a positive attitude. Respondents who were not circumcised were willing to use the service after receiving knowledge about the benefits of circumcision. The research recommended that male training in the area of VMMC must continue to ensure that men have the information that they need, and enhance the much needed positive attitude and hence influence their practices of VMMC. Outreach programs must continue using radio, pamphlets, television and traditional authorities.

LIST OF ACRONYMS

UN	United Nations
IATT	Interagency Task Team
ANC	Ante Natal clinic
TRA	Theory of Reasoned Action
KAPs	Knowledge, Attitudes, and Practices
B.C.	Before Christ
HBM	Health Belief Model
CDC	Centers for Disease Control and Prevention
HIV	Human Immunodeficiency Virus
HCT	HIV Counseling and Testing
IEC	` Information, Education, and Communication
MC	Male Circumcision
MOHSS	Ministry of Health and Social Services
STI	Sexually Transmitted Infection
STDs	Sexually Transmitted Diseases
UNAIDS	Joint United Nations Program on HIV/AIDS
VMMC	Voluntary Medical Male Circumcision
WHO	World Health Organization

DECLARATION

By submitting this thesis, I declare that the entire work contained therein is my own and is my original work, I also declare that I am the owner of the copyright thereof (unless to the extent explicitly otherwise stated) and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

Name and Surname……

Signature…….

Date……..

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Finally, I sincerely would like to thank my wife Jaruavi Sussie Vejorerako for her continuous support through the entire course of my studies and the research process. She always understood, encouraged and supported me.

DEDICATION

I will dedicate this thesis to my family, my beloved wife and my four children for their support, patience and encouragement from the beginning of the research. I have not always been available to provide love and support that you are entitled to because of the time I spent working on the research project. Therefore, I would like to wholeheartedly dedicate this research to you and, once again, I thank you for your emotional and physical support; without you nothing would be possible.

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CHAPTER 1: ORIENTATION OF THE STUDY

1.1 INTRODUCTION

This study aimed at identifying the existing knowledge, attitudes, and practices among the men aged 18-49 in the Oshana Region with regard to Voluntary Medical Male Circumcision (VMMC) for HIV prevention. The Oshana Region is one of the fourteen regions in the Republic of Namibia. The region is geographically situated in the northern part of Namibia bordered by the Ohangwena Region to the north, the Oshikoto Region to the east, the Omusati Region to the west and the Kunene Region to the south. The region has three main towns as well as rural villages with its inhabitants being mostly the Oshiwambo-speaking people and they are traditionally not circumcising. According to the Namibia 2011 population and housing census, the total population for Oshana is 176 674 and the proportion of males is 77455 of which the 15-49 year olds account for 47%, which is 37878 males 15-49 years old.

VMMC involves the removal of all or part of the foreskin of the penis and is one of the oldest and most common surgical procedures worldwide. Various reasons have been given for the adoption of circumcision as a practice in different cultures around the world. Though the origin of male circumcision is not known with certainty, the oldest documentary evidence for circumcision comes from ancient Egypt (Marck, 2009). World Health Organization (2009) reveals that in Africa, circumcision has ancient roots among several ethnic groups in sub-equatorial Africa, and is still performed on adolescent boys to symbolize their transition to warrior status or adulthood.

Data from a range of observational epidemiological studies, conducted since the mid-1980s indicated that circumcised men have a lower prevalence of HIV infection than uncircumcised men. Numerous observational studies have reported a significant protective effect of male circumcision against HIV and other sexually transmitted infections (STIs) in men (Bailey, Plummer, & Moses, 2001).

Ecological studies have shown that the countries in sub-Saharan Africa with the highest HIV prevalence are those in which Male Circumcision (MC) is little practiced (Halperin, Fritz, McFarland, & Woelk, 2005). Based on the epidemiological and experimental evidence to date, MC could have a significant impact on the HIV epidemic in the most highly affected countries. If sufficient numbers of males are circumcised, there could be an effect similar to herd immunity since preventing men from becoming infected will also protect their sex partners (Halperin et al, 2005). A randomized controlled trial of male circumcision and HIV incidence in Orange Farm, South Africa was stopped prematurely due to an observed protective effect of MC of 60% (Auvert, et al., 2005). And all men who were in the control group were offered male circumcision services. This effect was consistent with the protective effect found in cohort studies.

Based on the strength of the evidence, recommendations were made that MC should be considered a new intervention for HIV prevention and should be promoted as part of a comprehensive HIV prevention package. The WHO/UNAIDS conclusions and recommendations on male circumcision for HIV prevention specify that countries with a high prevalence of HIV, low prevalence of male circumcision and

heterosexual epidemics should consider the scaling up of male circumcision as part of the comprehensive HIV prevention package (Kebaabetswe, et al, 2013).

In the Eastern and Southern Africa (ESA) Region, 14 focus countries, of which one is Namibia; have been identified by the UN Interagency Task Team (IATT) for technical support to scale up their male circumcision programs (World Health Organisation, 2007). According to the MOHSS (2013), the HIV prevalence amongst pregnant women 15-49 years old attending ante natal care (ANC) clinics in Oshana Region for their first visit was 18.8% in 2010 and the prevalence of circumcision was 21 %.

Following WHO/UNAIDS recommendations, the Government of the Republic of Namibia declared VMMC as a priority biomedical intervention in the National Strategic Framework for HIV and AIDS Response 2010/11-2015/16 and articulated the national objective to increase the VMMC coverage rate from 21% to 80% of adolescent and adult males aged 15 to 49 years.

VMMC was introduced in Namibia in 2009 as a pilot project in four regions including Oshana, and rolled out later in 2010 to other regions with low circumcision rate and high HIV prevalence such as Ohangwena, Omusati, Kavango, Zambezi, Khomas and Erongo. The roll out experienced very low turnout of men to access services because acceptance of MC by men and by parents of males in traditionally non-circumcising communities particularly in Oshana Region was a serious issue (MOHSS, 2013).

In chapter 2 of the study, a literature review related to knowledge, attitudes and practices on VMMC for HIV prevention globally is presented as well as a review and analysis of theory related to behavior and attitude called the Health Belief Model. Chapter 3 provides the methodology for the study. Chapter 4 presents the findings of study. Finally, Chapter 5 discusses the findings and provides recommendations.

1.2 PROBLEM STATEMENT

Since 2007 the WHO and UNAIDS have recognized male circumcision as an effective intervention for HIV prevention, particularly in regions where the incidence of heterosexually acquired HIV infection is high, such as sub-Saharan Africa. (Pappas-Deluca, Simeon, Kustaa, & Halperin, 2009), Namibia was among the 14 countries that were identified as priority countries to add MC as an additional HIV prevention method. The Oshana Region is among the regions with lowest male circumcision (MC) prevalence rate of 14.1% (Pappas-Deluca, et al, 2009) and High HIV prevalence of 17.5% (MOHSS, 2012).

The Oshana Region was fully capacitated to scale up VMMC for HIV prevention services in 2010. According to the information provided by the Oshana regional governor in the New Era Newspaper of 24 June 2014, only 2809 men were circumcised from the 29886 targeted which accounts for 9.3% of the target population (Hoek, 2014). This indicates that there is low VMMC services uptake in Oshana Region.

The researcher assessed factors on Knowledge, Attitude and Practices (KAPs) that influence the VMMC services uptake among men in Oshana Region. The level of

knowledge and attitudes can influence the individual's decision to be or not to be circumcised, which can serve as a barrier or promote the uptake of services. The general acceptability of circumcision in the community also influences the individual's willingness to get circumcised.

A cross-sectional study that was done in Botswana, Namibia, and Swaziland on attitudes towards male circumcision for HIV prevention indicated that in Namibia only 34 % of young men had a plan to get circumcised. However, there is very low services uptake and there is little published quantitative evidence of knowledge and attitudes about VMMC for HIV prevention, beyond studies of its acceptability, therefore the researcher would like to assess the knowledge, attitudes and practices on VMMC in Oshana region.

1.3 OBJECTIVES OF THE STUDY

The study sought to:

- assess and describe the knowledge, attitudes and practices of men aged 18-49 in the Oshana region with regard to Voluntary Medical Male Circumcision (VMMC) for HIV prevention;
- explore and describe the reasons for men not taking up VMMC for HIV prevention services in the Oshana region;
- and, analyse the differences between circumcised and uncircumcised men with regards to knowledge and attitudes on VMMC.

1.4 SIGNIFICANCE OF THE STUDY

The study identified the existing knowledge, attitudes, and practices among the community in the Oshana Region with regard to VMMC for HIV prevention, which contributes to the improvement of VMMC services by addressing identified KAPs barriers and gaps in the community. The findings of the study can be generalized to other three northwestern regions (Omusati, Ohangwena, and Oshikoto) because of their similarities in cultural practices and language.

1.5 PARADIGMATIC PERSPECTIVE OF THE STUDY

Research that concerns human beings is done in an environment where there should be a model or pattern contain a set of legitimate assumptions and design for collecting and interpreting data, which is termed as paradigm (Barker, 2003). In the health and social research field, research should be done in such a way that information is gathered for the management, control and elimination of possible threats to human health but in the process the dignity and privacy of the participants is respected. In this light the assumptions of the study are based on ontological, epistemological, axiological and methodological perspective.

Ontology

Ontology is the study of the nature and structure of the entity's social reality or the identification of the constitutive components and fundamental characteristics of this social order (Chassagnon, 2014). Ontological assumptions are concerned with what constitutes reality. In this study it was assumed that circumcision exists and that it is being practiced in the Namibian communities, in Oshana Region, traditionally or

medically. It was also assumed that there exists traditional, religious or community beliefs that would affect an individual's decision on whether to go for VMMC or not.

Epistemology

Epistemology is the study of possibilities, nature, sources and limitations of the knowledge in the field of study. A researcher uses epistemology to define what constitutes and what does not constitute knowledge (Hallebone & Priest, 2009). The researcher undertook this research project based on the assumption that the participants will have their own knowledge and understanding of what is true for them about the phenomena under study. Some of their knowledge can be based on their culture, beliefs and values. Another form of knowledge is the knowledge that they have received from the health education on VMMC from health workers, the media and from other people. Participants also have knowledge about VMMC derived from their own experiences and how they interpret those experiences. The researcher had attempted to design the study to be able to capture all these different forms of knowledge of the participants about VMMC.

Axiology

Values are important in research and the researcher should uphold the research ethics (Hill, 2004). The researcher is involved in the health sector but did not use personal values, prejudices and perceptions to overshadow the findings of the study. The

researcher had to assume that what the people were saying was correct when if even when it contrasted their knowledge and experiences.

Methodology

Methodology is the systematic, theoretical analysis of the methods applied to a field of study. It comprises the theoretical analysis of the body of methods and principles associated with a branch of knowledge (Irny & Rose, 2013). The study adopted a quantitative approach. The practice and art of data analysis lies in understanding which assumptions, models and estimators, are appropriate for a given data set. Quantitative approach is used because the study sought to find the number of people that shared the same views and hence used that to conclude for the population. The study also sought to assess the relationship between one's circumcision status and their views and used mathematical approaches to conclude.

1.6 DEFINITION OF TERMS

KNOWLEDGE: For the purpose of this study knowledge is one's ability to have facts and information on VMMC acquired through experience or education; is about the understanding of what VMMC is. Its benefits and risks, and where VMMC is provided in the Oshana Region.

ATTITUDES: For the purpose of this study, attitudes refer to one's feelings, personal opinions or viewpoints on VMMC.

PRACTICES: For the purpose of this study, VMMC practices refer to one's actual application or use of circumcision, belief that VMMC can work for them, and undergoing the VMMC procedure.

1.7 RESEARCH ETHICS

According to Brink, Van der Walt and van Ransburg (2013), the following fundamental principles should be applied during the research in order to minimize potential harm to the participants:

1.7.1 Protection of the dignity, rights, and welfare of research participants

The researcher obtained ethical clearance from the Namibia Ethical Committee in the MOHSS and the University of Namibia Ethics Committee. Permission was also obtained from the Headman's of the respective communities through the office of the governor and the regional education directors.

Regarding informed consent, the researcher explained the study process, goals, and objectives, benefits, risk and time required to the participants. The researcher also provided information leaflets with the above information and obtained written consent on the form that was attached. The study was also based on voluntary participation; therefore participants were given an option to opt out at any stage of the study. Anonymity and confidentiality were ensured throughout the research process.

The researcher used study codes that linked individual participants to their responses/data. Each participant was assigned a study identification (ID) number prior to collecting data which was recorded on a separate form with each participant's name along with their unique study ID (e.g., 001). This document is stored separately from data documents. This ID was recorded on the questionnaire. The files were stored in a lockable cabinet and a computer with password protection was used to store data and reports, the password will only be known by the researcher.

1.7.2 Assurance of accuracy of scientific knowledge

The researcher ensured scientific accuracy of knowledge and honesty by avoiding bias, falsifications, modifications and omitting data. The researcher will also share findings with others especially all stakeholders, in this case, the University, MOHSS and the community at large.

1.7.3 Protection of intellectual properties

The Researcher attempted to acknowledge all the work cited through proper citation and referencing in the APA style to avoid plagiarism. The researcher also acknowledged all people who contributed to the study such as supervisors, different authors and statisticians performing statistical analysis and language editors.

1.8 SUMMARY

In summary, Chapter 1 provided an introduction to the study, which highlighted the background of the study and the problem statement justifying the necessity to conduct the study. The significance of the study and the limitations are also discussed in this chapter. The chapter also highlighted the research ethics adhered to during the study process, which focused on protecting the dignity, rights, and welfare of research participants, ensuring the accuracy of scientific knowledge and protect intellectual properties. The next chapter presents the literature review related to this research.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

In this chapter, the literature focused on the history of circumcision in different religious systems and cultures in and around Namibia. The literature also analysed studies that were conducted in different parts of the world on the practice of male circumcision and its potential to reduce HIV infections by 60%. The knowledge, attitudes and practices that are related to male circumcision as part of the strategy to encourage safe sex are also explored. Finally, the chapter reviewed the Health Belief Model (HBM) as it is related to behaviour and attitude change towards health and the conceptual framework for this study is derived from this model.

2.2 BACKGROUND

Circumcision is the surgical removal of the foreskin, the tissue covering the head (glans) of the penis. During circumcision, the foreskin is freed from the head of the penis, and is cut off (American Task force on Male Circumssion, 2012). Male circumcision (MC) is associated with various cultural factors, including religious practices, rites of passage into adulthood, tribal identity and the promotion of hygiene. The earliest documentary evidence for circumcision is from Egypt. Tomb

artwork from the sixth dynasty (2345–2181 B.C.), shows a circumcised man. One picture from this period shows the procedure being performed on a standing adult male (Amin & Din, 2012). The Bible, notably in the book of Genesis (17:11) indicates the origin of circumcision among the Jews in the age of Abraham, who lived around 2000 B.C. This is also documented in other religious denominations.

In many African societies, and among certain ethnic groups, MC is carried out for cultural reasons, as an initiation ritual and a rite of passage into manhood. During these initiation rituals or ceremonies, the whole community is involved. Family members, teachers, traditional circumcisers and traditional healers carry out different roles and functions before, during and after traditional male circumcision ceremonies. Traditional circumcisers are not the only people in contact with the initiates while they are in the circumcision school (DaiSik, Sung-Ae, & Myung-Geol, 2012).

In Namibia among the Ovaherero tribe, tradition advocates that every young man should be circumcised to prevent infection of the male genitalia associated with the foreskin. The process is done during the early infancy of the child's life, as early as one month after birth, mostly before the age of three. The child's parents take him to the traditional circumciser, where he is placed on a table with his extremities fastened or held down. A variety of surgical instruments such as ropes, clamps, and a scalpel is used to grasp the foreskin; separate it from the glans, slit it, stretches it, crush it, and eventually amputate it. In the olden days, a knife known as an *okaruvyo* in the Otjiherero language was used in the surgical removal of the foreskin.

Nowadays, a knife or razor is used and traditional circumcisers know certain trees with properties that assist the healing process after circumcision (Lumpkin, 2010). It is said that, when the wound starts healing, it needs to be wiped with warm water and ekara *romungondo* in Otjihereo; a paste made from the leaves of certain trees is to be applied. If one uses the ekara romungondo paste, the child's wound will not become septic. Should the wound nevertheless become septic, another medication called omujapu is applied to absorb the fluid in the wound. As a general rule, however, ekara romungondo is used in winter, whilst omujapu is used in autumn (Lumpkin, 2010).

As part of the Ovaherero culture, undergoing the procedure offers young men special privileges among the elders, such as the drinking of certain milk beverages, which were only reserved for men who are circumcised (Tjihenuna, 2014). According to Tjihenuna, it was also unheard of for fathers to give their daughters' hand in marriage to uncircumcised men. Uncircumcised men are looked down upon and considered unclean and they were not welcome in the council of older men. It is bestowing manhood upon a young boy, he said. He also says that in the early days, water was scarce, and men kept themselves clean by way of circumcision (Tjihenuna, 2014).

The tradition of male circumcision has survived into modern times due to the benefits of the practice. People who are circumcised are deemed to have the advantage that they can easily wash their penis as they can easily wash under the foreskin (Darby & Van Howe, 2011). If the penis is not properly washed, dirtiness collects under the foreskin and this might cause infections for the man or his/her sexual partner. In some cases, the foreskin of an uncircumcised penis may be

difficult to retract and this might lead to the swelling of the foreskin. There is a high risk of urinary tract infections among uncircumcised males during early childhood life. Repeated urinary tract infections in early life are a common occurrence, even if they are treated they usually increase the risk of kidney infections later in life (Dinh et al, 2015)

Reproductive health research over the last 30 years has shown that circumcised males had a decreased risk for sexually transmitted infections, prevention of penile problems and decreased the risk of cervical cancer in sexual partners. According to health statistics, cervical cancer is less common in sexual partners of circumcised men (Boyle & Hill, 2011).

VMMC also reduces the risk of exposure to other infections such as human papillomavirus and herpes simplex virus-2. Dinh et al, (2015) noted that studies have shown correlations between the surface area of the foreskins and HIV incidence rates.

World Health Organisation did not pay attention to circumcision in the early phases of the HIV/AIDS pandemic. This was because there were fears that the methods of circumcising one male after another with the same blade, contaminated with blood, could spread the virus. Health education campaigns to educate the population about the risk and the handing out of sterilised blades were launched to address this. The next time that traditional male circumcision caught the attention of health researcher was when there was a discrepancy noted between rates of HIV/ADS infections between population who practiced VMMC and populations that did not. The

population that practiced VMMC had significantly lower rates of HIV infections (Chikutsa & Maharaj, 2015)

In Namibia, this was true, the populations with the lowest infection rate were the regions with a population that practiced VMMC such as Kunene and Omaheke with 50% and 57% circumcision prevalence respectively, mostly done by traditional circumcisers (Pappas-DeLucas, et al, 2009). There was a HIV prevalence rate of less than 13% in both region (MOHSS, 2012) while regions that did not culturally practice circumcision had a high prevalence of HIV, such as the Omusati, Ohangwena, Oshana and Zambezi regions. All of these regions have less than 7%of VMMC rates and Oshana with 14.1% (Pappas-DeLucas, et al, 2009).

The practice of VMMC has been very controversial for many people, despite its benefits in reducing the rate of HIV infection. Marera, Singoei, and Nyaribo (2013) and Mutabazi et al, (2012) asserted that circumcised men are less likely to contract the HIV virus as shown by studies that were conducted by the World Health Organisation, which supported that the vaginal to penile HIV infection is reduced by 60%. Bailey, Egesah, and Rosenberg (2008) elaborate that the way infection is reduced is thought to be related to the reduction of HIV target cells (Langerhans cells, CD + T cells, and macrophages) in the inner mucosal surface of the foreskin. (Nazli, et al, 2010) espoused that the epithelial surface acts as a barrier to HIV. The different mucosal surfaces have an inherent mechanism that assists by preventing the transmission of the virus. HIV tends to proceed beyond these barriers and the penetration becomes easier in a situation where the person suffers from a sexually transmitted infection (STI) or physical trauma. Once there is a breach the virus is

able to access many cells, such as dendritic cells, T cells and macrophages, found in the tissues beneath.

Kharsany & Karim (2016) noted that for VMMC to provide public health benefit requires wide spread coverage to over 80% with priority in the countries with high prevalence of HIV and low prevalence of VMMC, and also that maale circumcision has the potential to reduce 5, 7 million new infections in years between 2006 and 2016. With the findings of the three groundbreaking studies, which were conducted in Orange Farm, South Africa, Kisumu in Kenya and Rakai in Uganda, on the protective effects of VMMC by reducing the risk of HIV infection among men by 60%, WHO made recommendations that concurred that male circumcision was the best strategy to follow in areas with a high HIV prevalence and low VMMC prevalence (Auvert, et al., 2005)

However, Bailey, Egesah, and Rosenberg (2008) explained that individuals that undergo circumcision either at the hospital or through traditional practitioners can experience adverse effects. The adverse effects that were identified were bleeding, excessive pain, lacerations, torsion, infection and erectile dysfunction. Mubekapi (2013) explained that the acceptability of male circumcision is a potential challenge among non-circumcising societies.

The foreskin of a male who is uncircumcised may experience a condition called phimosis (American Task force on Male Circumcision, 2012). This is a condition in which the foreskin becomes difficult to retract and can lead to inflammation of the foreskin or head of the penis. It is also noted that penile cancer tends to be more

common in men that are not circumcised. Although there are myths regarding circumcision such as its potential to enhance or detract from sexual pleasure. Circumcision has no impact on a person's sexual pleasure and this led to the conclusion that the removal of the surface skin can lower the risk of HIV acquisition; it should be added as an additional HIV prevention method (American Task force on Male Circumcision, 2012).

2.2.1 Knowledge, Attitudes and Practices on Male Circumcision

The success of any circumcision programme lies in the knowledge, attitudes, and practices of circumcision in the communities. Knowledge of circumcision is acquired differently by different people, some are circumcised traditionally, when they are babies, some are born and grow in communities that practice it and some are born in none circumcising communities, therefore they have to learn about it when they are adults. For those that learn about it, they need to be correctly educated about it. Knowledge is very important because there are many myths around circumcision that could lead to poor decision-making with regard to having surgery (Njeuhmeli, et al, 2011). Some believe that if they are circumcised then they do not need to use protection such as condoms ever again. Some believe that once they are circumcised they cannot enjoy sex as they used to and how such myths encourage or discourage attitude is also very important to the success of circumcision practice. In communities where it is an embarrassment to be circumcised, few people would do it and in communities where it is an honour more people would do it (Njeuhmeli, et al., 2011).

The attitude of the people towards the practice of circumcision is very important towards the success of circumcision in any given community. Some women will not marry a man that is circumcised (Amin & Din, 2012). Therefore correct information is necessary for the people to be able to practice circumcision for the right reasons.

Circumcision is practised differently in different places. Some communities have practised it customarily for many generations and some have since stopped the traditional approach and have been doing it medically. People born in communities that practice circumcision are more likely to do it, than those who do not. Some people who are born in communities that practice circumcision and tend to view the practice as being better if it is done in the traditional setting and are not impressed with the medical circumcision (Anderson & Cockcroft, 2012). This is guided by a person's perception of the whole process. To change practices there is need to influence peoples' attitudes and views in the communities.

The potential of male circumcision to reduce HIV transmission by 60% has been noted in many countries. This has led to efforts to implement male circumcision as a complementary measure to other ways of reducing new HIV transmission. According to Westercamp and Bailey (2007), there have been studies conducted to assess the acceptability of introducing male circumcision services in traditionally non-circumcising communities in Botswana, Kenya, Malawi, South Africa, Swaziland, Tanzania, Uganda, Zambia, Namibia, and Zimbabwe. Given the variety of ethnic groups practicing traditional male circumcision and the general lack of research focusing specifically on attitudes towards it, the people interviewed were generally most concerned about pain, cost and safety, which might indicate that traditional

circumcision would be less acceptable since pain is a key feature of traditional male circumcision and there is growing awareness about significant complications associated with traditional procedures (Westercamp & Bailey, 2007).

2.3 Conceptual Framework

It is very important for all research studies in the social and behavioural sciences to have a conceptual framework on which they base their research because it provides the rationale to guide the study. The conceptual framework provides an overview of what should be expected, clarify concepts and propose relationships among concepts in the study; it is usually a broad collection of ideas and principles that relate to the research under study. The framework also provides a context for interpretation of the study findings (Denzin & Lincoln, 2012).

Tamene, (2016) defines a conceptual framework as a network of interlinked concepts that together provides a comprehensive understanding of a phenomenon or phenomena. In this research, the Health Belief Model (HBM) was reviewed. The Model is based on the assumption that once people are informed about the way HIV and sexually transmitted diseases are transmitted, and other health problems involved with foreskin, they will change their actions. Most of the outreach done in different countries by different organisations and governments regarding the promotion of VMMC is based on the premise that once the people are informed the uptake of VMMC will increase. This theory can be used as a tool to appreciate how people act in a group towards VMMC. The HBM has been adopted to create a conceptual framework for this research.

2.3.1 HEALTH BELIEF MODEL (HBM)

The study applied the HBM as a conceptual framework. The HBM is one of the most widely recognised conceptual frameworks of health behaviour, focusing on behavioural change at the individual level. Since the decision for undergoing circumcision is a health behaviour that individuals should make based on an evaluation of the benefits and obstacles makes HBM applicable in this study.

The HBM was created in the 1950s by social therapists Irwin M. Rosenstock, Godfrey M. Hochbaum, S. Stephen Kegeles, and Howard Leventhal at the U.S general health service to better comprehend the far-reaching disappointments of screening projects for tuberculosis (Rosenstoch, 1974). Individuals vary in their health beliefs due to various factors as illustrated in the HBM Chart.

Table 1- Health Belief Model

<table>
<tr><td colspan="8">Health belief model chart (circumcision)</td></tr>
<tr><td rowspan="5">2.3.1.1 Modifying Variables

(Culture, education level, past disease experience, motivation)</td><td>2.3.1.2 Perceived Severity</td><td rowspan="5">-</td><td rowspan="5">2.3.1.5 Perceived barriers</td><td rowspan="5">+</td><td rowspan="3">2.3.1.6 Cues to Action</td><td rowspan="5">=</td><td rowspan="5">Taking action (or not)</td></tr>
<tr><td>+</td></tr>
<tr><td>2.3.1.3 Perceived Susceptibility</td></tr>
<tr><td>+</td><td>2.3.1.7 Self efficacy</td></tr>
<tr><td>2.3.1.4 Perceived</td></tr>
</table>

	benefit						
(Base score for this person's health)	(Base score as to the belief that not being circumcised will harm and individual)		(Base score for barrier for circumcision)				

(Adapted from Rosenstoch, 1974)

2.3.1.1 Modifying Variables

Singular attributes, including statistics, psychosocial, and auxiliary factors, can influence recognitions that are reality, helplessness, advantages, and boundaries of health-related behaviours (Rosenstock, 2010). Demographic factors incorporated culture, education levels, past disease experience and motivation, among others (Glanz, Rimer, & Viswanath, 2011). The culture can have either a positive or negative impact on the health action decision, for example, some cultures such as the Ovaherero groups consider circumcision as fundamental to life, and in other cultures, circumcision is not accepted and those who circumcise are considered outcasts. These two scenarios would affect the uptake of circumcision services. The level of education is expected to have an impact on the decisions one takes on health issues. Education brings more informed decision-making and an increased likelihood to seek medical care (Du Plooy-Cilliers, Davis, & Bezuidenhout, 2014). The experience one has had with a particular disease is expected to affect reaction to the threat of the same or similar diseases, for example, someone who suffered a severe STI is more likely to consider circumcision as a way of preventing contracting another STI, or they may become more ambivalent about contracting STIs because they feel that adequate treatment is available (Kebaabetswe, et al., 2013).

2.3.1.2 Perceived Severity

Perceived severity alludes to the subjective appraisal of the severity of a medical problem and its potential consequences (Janz & Becker, 2010). The HBM demonstrates that people who perceive that a given health problem as severe or serious will probably take part in practices to prevent the health problem from happening or decrease its severity.

People will have the knowledge about the health problem or a condition after they get information about its facts, which include the statistics on the morbidity and mortality, perceived severity refers to the beliefs a person holds concerning the effects a given disease or condition would have on one's state of affairs. Buglar, White, and Robinson (2010) explained that these effects can be considered from the point of view of the difficulties that a disease would create, for instance, pain and discomfort, loss of work time, financial burdens, and difficulties with family, relationships, and susceptibility to future conditions.

This means the burden that a person may confront after contracting HIV such as emotional stress and AIDS can lead a person to do what they can to protect themselves so that they are not in a position where they may get an infection. For men, this awareness of perceived severity of HIV infection may lead to an uptake in VMMC services. It is important to include these emotional and financial burdens when considering the severity of HIV or another condition.

2.3.1.3 Perceived susceptibility

Perceived susceptibility alludes to subjective evaluation of the danger of building up a health problem (Janz & Becker, 2010). The HBM display predicts that people who

see that they are vulnerable to a specific medical issue will take part in practices to decrease their danger of building up the health problem (Rosenstock, 2010). Individuals with low perceived susceptibility may deny that they are at risk of getting a specific illness. Individuals who trust that they are generally safe from sickness will probably take part in undesirable or dangerous practices. People who see a high possibility of contracting a specific medical issue will probably take part in practices to diminish their exposure to the condition (Amin & Din, 2012).

The blend of perceived severity and perceived susceptibility is alluded to as perceived threat. Perceived severity and perceived susceptibility to a given health condition rely upon information about the condition (Marck, 2009). The HBM predicts that higher perceived danger prompts to a higher probability of engagement in health advancing practices.

Weld, Padden, Ramsey, and Bibbs (2008) expound that each individual has his/her own perception of the likelihood of experiencing a condition that would adversely affect one's health. In the context of this research, this would apply to men's susceptibility to contracting the HIV virus. Individuals vary widely in their perception of susceptibility to a disease or condition (Weld, Padden, Ramsey, & Bibbs, 2008). Those at the lower end of the extreme deny the possibility of contracting an adverse condition. Individuals in a moderate category admit to a statistical possibility of disease susceptibility. Those individuals at the high extreme of susceptibility feel there is a real danger that they will experience an adverse condition or contract a given disease (Buglar, White, & Robinson, 2010). Raising awareness about the potential of VMMC to reduce HIV infection by 60% seeks to

change the attitudes, knowledge, and practices that people demonstrate towards HIV and safe sex. If the men's level of awareness of susceptibility increases towards HIV then they are likely to increase their uptake of VMMC.

2.3.1.4 Perceived Benefits

Health-related practices are additionally impacted by the perceived benefits of taking action. Perceived benefits allude to an individual's appraisal of the esteem or viability of participating in health uplifting conduct to the reduction in danger of contracting a disease (Glanz, et al , 2011). If an individual trusts that a specific activity will diminish helplessness to a medical issue or lessen its reality, then he or she is probably going to take part in that activity paying little mind to target actualities in regards to the adequacy of the action (Darby & Van Howe, 2011). For instance, more people who trust that wearing sunscreen prevents skin cancer will probably wear sunscreen than people who do not trust sunscreen.

Taking action toward the prevention of disease or toward dealing with an illness is the next step to expect after an individual has accepted the susceptibility of a disease and recognised its seriousness. The direction of an action that a person chooses will be influenced by the beliefs regarding the action, one should have firm believe on the desired action (Schwarzer, 2014). Stanhope and Lancaster (2010) perceive that the benefits of taking action imply that individuals actually appraise a situation in order to see the benefits that may accrue to them due to that action. In the case of raising awareness of VMMC, this means men will do a cost-benefit analysis of taking up VMMC or of continuing without the VMMC.

2.3.1.5 Perceived Barriers

Perceived barriers refer to a person's perception of the physical, emotional and financial barriers for adopting the new behaviour. An individual may believe that there is a benefit to adopting the new behaviour; however, due the perceived barrier, the new action or behaviour may not take place (Bakker, Buunk, and Siera & van der Eijnden, 2012). Barriers related to the characteristics of a treatment or preventive measure may be inconvenient, expensive, unpleasant, painful or upsetting. These characteristics may lead a person away from taking the desired action. In the case of VMMC, the barriers may be related to the cost involved in undergoing the procedure and transport to and from the health facilities, the time lost from work from the time of the procedure up to the recovery time and other adverse events involved in VMMC procedure such as pain, infection of the wound and trauma to the penis, bleeding (Westercamp & Bailey, 2007). Other barriers are related to accessibility of services such as availability of quality VMMC services within the community where men can easily access services for free within walking distance.

Health-related practices have an element of perceived barriers to taking action (Glanz, et al, 2011). Perceived barriers allude to an individual's evaluation of the obstructions to conduct change. Even if an individual sees a health condition as undermining and trusts that a specific activity will viably diminish the risk, barriers may avoid engagement in the health advancing conduct. At the end of the day, the perceived advantages must exceed the perceived barriers all together for conduct change to occur. Perceived barriers include the perceived burden, perceived cost, perceived threat, for example symptoms of a therapeutic technique and uneasiness

(Rosenstock, 2010). Another example is the absence of access to reasonable medical insurance and the observation that an influenza antibody shot will bring about huge agony may become barriers to accepting this season's cold virus immunisation.

According to Chikumba, Godlonton, Munthali & Thornton (2015) the World Health Organisation selected Malawi as a country to scale up VMMC because of its high prevalence of traditional circumcision which was estimated to be at 10,6% in the age group 15-49 years, by 2015, only 8 % of the target set by WHO males were circumcised. Chinkhumba, et al (2015) also indicated that the studies that were conducted in the rural areas of Malawi revealed that there was a reduction in risky sexual behaviour among men, but did not increase the uptake of circumcision. In Malawi as in other African countries, male circumcision is rooted in culture and is done traditionally, however, with the introduction of medical circumcision, there was a surprisingly low service uptake.

The perception of the participants in Zambia was that circumcision would help to protect them from STIs and was also vital for hygiene reasons. The respondents indicated the reasons that would affect the uptake of circumcision in Zambia, were the cost of circumcision, the pain that accompanies the circumcision, the availability of a medical facility that is run by competent staff to offer circumcision and cultural traditions that did not believe in the practice of circumcision (Westercamp & Bailey, 2007).

2.3.1.6 Cues to Action

An individual's perception of the levels of susceptibility and severity provide the force to act. Benefits minus barriers provide the path of action (Westercamp &

Bailey, 2007). However, it may require a 'cue to action' for the desired behaviour to occur. These cues may be internal or external.

The HBM suggests that a cue, force or trigger, is necessary for promoting engagement in health-promoting behaviours. Physiological cues, such as pain are an example of an internal cue to action (Darby & Van Howe, 2011). External cues include events or information from acquaintances, the media, or health care providers promoting engagement in health-related behaviours. Examples of cues to action include a reminder postcard from a dentist, the illness of a friend or family member, and product health warning labels. The intensity of cues needed to prompt action varies between individuals by perceived susceptibility, severity, benefits, and barriers (Darby & Van Howe, 2011). For example, individuals who believe they are at high risk of a serious illness and who have an established relationship with a primary care doctor may be easily persuaded to get screened for the illness after seeing a public service announcement, whereas individuals who believe they are at low risk for the same illness and also do not have reliable access to health care may require more intense external cues in order to get screened.

2.3.1.7 Self-efficacy

Self-efficacy was added to the four segments of the HBM in 1988 (Gollaher, 2009). Self-efficacy alludes to an individual's impression of his or her fitness to effectively play out a behaviour. The addition of self-efficacy to the HBM demonstrates attempts to better clarify singular contrasts in health behaviours. The model was initially created keeping in mind the end goal to clarify engagement in one-time health related practices, for example, being screened for a tumour or getting an

immunisation (Bongaarts, Reining, Way, & Connant, 2012). Eventually, the HBM was connected to more considerable behaviour change for individuals to prevent diseases, for example, weight loss, working out, and stopping smoking. Developers of the model perceived that trust in one's capacity to impact change, or self-efficacy, was a key part of health conduct change.

The HBM has been connected to foresee a wide assortment of health-related behaviours, for example, being screened for the early identification of asymptomatic sicknesses and getting inoculations. Recently, the model has been connected to comprehend patients' reactions to indications of infection, consistency with restorative regimens, way of life behaviors, for example, sexually hazardous behaviors, and behaviors identified with incessant diseases, which may require long haul behavior support, notwithstanding introductory behavior change (Janz & Becker, 2010). The HBM and similar models are therefore used to guide health promotions or health behavioural change interventions. This was also true here for this project, it shows the links between the VMMC project and the model, the aim of the VMMC programme is to promote circumcision as an additional HIV prevention method for sexually active men with multiple sexual partners, which make them susceptible to HIV infection. Other health promotion messages include the other benefits of VMMC, facts about HIV/AIDs and other sexual reproductive health issues that affect men. The aim of these is to promote a positive perception in men towards health, particularly with regard to HIV prevention.

2.4 DISCUSSION OF THE HBM

The model has been applied to the various cases in sub-Saharan Africa to explain the health decisions taken by people. According to Green & Murphy (2014), the model suggests that individuals make calculations about whether the benefits of a promoted behaviour change outweigh its practical and psychological costs or obstacles. That is, individuals conduct an internal assessment of the net benefits of changing their behaviour, and decide whether or not to act. The HBM was originally developed as a systematic method to explain and predict preventive health behaviour (American Task force on Male Circumssion, 2012). It focused on the relationship of health behaviour, practices and utilisation of health services. The HBM attempts to predict health-related behaviour in terms of certain belief patterns. Emphasis is placed on the above-described categories. The decision taken by a person to circumcise or not is based on the education given on benefits and the process of circumcision, which influences the individual's perception of the whole process. Modifying factors include demographic variables, perceived threats, and cues to action. The likelihood of the action discusses factors in the probability of appropriate health behaviour; it is the likelihood of taking the recommended preventive health action.

The combination of these factors causes a response that often manifests into action, provided it is accompanied by a rational alternative course of action (Glanz, et al , 2011).

2.4.1 Conceptual application of the health belief model

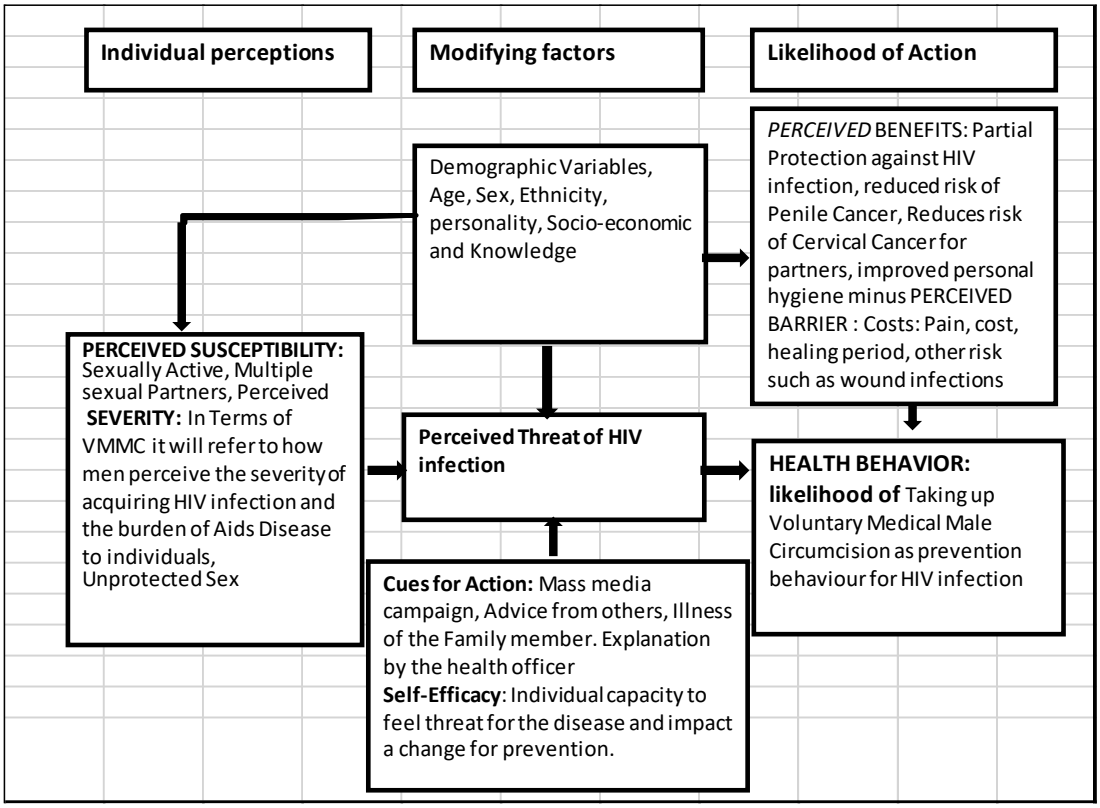

Figure 1- Conceptual application of the Health Belief Model adapted from Rawlett (2011).

The study applied the Health Model in Figure 1 above, the model explains different factors that influences individual decision to go for VMMC procedure or not to go. This means that the uptake of VMMC depends on the attitudes, knowledge, and beliefs that people in Namibia have towards VMMC as a strategy to prevent new HIV infections. The way men view VMMC will ultimately have an impact on the way they are likely to react to it. If the individual perceives the threat of contracting HIV as real, the risk of it being severe and then they also conclude that the risk can be reduced through VMMC, then they are likely participate in VMMC.

Shirzadi, Jafarabadi, Nadrian, & Mahmoodi, (2016) indicated that HBM states that the perception of a personal health threat itself is influenced by at least three factors: general health values, which include interest and concern about health; specific

health beliefs about vulnerability to a particular health threat; and beliefs about the consequences of the health problem. Once an individual perceives a threat to his/her health and is simultaneously cued to action, and his/her perceived benefits outweigh his/her perceived threats, then that individual is most likely to undertake the recommended preventive health action. There may be some variables such as demographic, socio-psychological, and structures that can influence an individual's decision. Westercamp and Bailey (2007) also revealed that common reasons given for favouring VMMC were the social, political, and sexual benefits that could accrue when interacting with those in predominantly circumcised groups (Westercamp & Bailey, 2007). How circumcision is perceived to influence sexual drive, sexual performance, and sexual pleasure for the man himself or for his partner is likely to influence decision making around VMMC.

Participants in many studies believed that circumcision enhances sexual pleasure (Fleming, 2016). Morris & Krieger, 2013 noted in studies done in Malawi, Uganda, and Zambia that the respondents believed that VMMC leads to enhanced sexual pleasure. This was in agreement with the study that was conducted by Westercamp and Bailey 2007, to review diiffereent studies on the accepeteablity of VMMC for HIV prevention in Sub-Sahara Africa found that a high proportion of men and a majority of women believed that circumcised men enjoyed sex more than uncircumcised men. About half of female participants reported a preference for circumcised men. A study in South Africa found that men were eight (8) times more likely to prefer circumcision if they believed that circumcised men enjoyed sex more, and six (6) times more likely to prefer circumcision if they believed that women

enjoy sex more with circumcised men (Pappas-Deluca, et al, 2009). Other studies did not find a consensus between circumcision and the enhancement of sexual pleasure on the part of the man or the woman (Kebaabetswe, et al., 2013). For some, circumcision was irrelevant to pleasure, as pleasure was more related to emotional attachment and past sexual experience. Other reasons for being circumcised reported by participants included the belief that it was easier for circumcised men to use condoms, that VMMC proved manhood, that urination was easier, and that not being circumcised brought bad luck (Auvert, et al., 2005).

Today, most Christian denominations are neutral about biblical male circumcision, neither requiring it nor forbidding it. Gollaher (2009) indicated that in East Africa, specifically in Kenya among the Bantu and Nilotic peoples, such as the Maragoli and Idakho of the Luhya, the Kikuyu, Kalenjin and Maasai, circumcision is a rite of passage observed collectively by a number of boys every few years, and boys circumcised at the same time are taken to be members of the same regimen. Gollaher further indicated that the Xhosa tribe from the Eastern Cape in South Africa has a circumcision ritual. The ceremony is part of a transition to manhood. It is called the Abakwetha - "A Group Learning". A group of normally five aged between 16 and 20 years go off for three months and live in a special hut. The circumcision is the climax of the ritual. Nelson Mandela describes his experiences undergoing this ritual in his autobiography - "The Long Walk to Freedom" (Gollaher, 2009).

Apprehension about pain during and after the procedure was reported to be the major barrier to VMMC acceptability in most studies (Bailey, Muga, Poulussen & Abicht, 2002). Participants belonging to non-circumcising ethnic groups were familiar with

the circumcision practices in neighbouring circumcising tribes, where the pain was a key characteristic of the procedure. As a rite of passage to becoming a man and self-respect, the endurance of the pain from circumcision is often an integral aspect of the ceremony (Kheswa, Nomngcoyiya, Adonis, & Ngeleka, (2014).

The cost of the procedure was a significant barrier to VMMC acceptability by participants in many studies (Bailey, et al, 2001). Some participants expressed the opinion that if Government promotes circumcision, it should be provided at health clinics and hospitals for free or at reduced cost (Bailey, et al, 2001). Others recognised the need to pay for services because free circumcision was viewed as being of potentially poor quality (Ngalande, Levy, Kapondo, & Bailey, 2006).

Male and female participants in Zambia believed that, if the VMMC procedure was free or extremely inexpensive, more men would be willing to get circumcised. In one study as many as 34% of participants who initially stated that their preference was to remain uncircumcised changed their minds when the proposed cost of the procedure was set very low. The cost of traditional circumcision was considered to be high in many areas and there is a gradual shift from traditional to medical circumcision in part for this reason. Traditional circumcision is often expensive due to the costs of food, drink, special clothing and other items required during prolonged celebration (Bailey, et al, 2001).

This part of the research reviews the figures of males that have taken part in circumcision in different countries. Lukobo and Bailey (2007) in studies that were done in Zambia showed that the participants were willing to undergo circumcision

provided it was done by the hospitals and that they did not incur any costs from the exercise. This assertion demonstrates that people are not in favour of traditional circumcision and would prefer it to be done in a medical setup.

(Godlonton, Munthali, & Thornton, 2011), conducted a study on the knowledge and attitudes of men that were circumcised and those that are not circumcised using the behaviour risk model. The same study noted that HIV infections will not fall if the behaviour of men does not change regarding safe sex. The argument is that if circumcised men believe that circumcision reduces the risk they may react by engaging in more risky behaviour, what is termed risk disinhibition.

Mubekapi (2013) conducted a study in Tanzania on the awareness of people on the ability of VMMC to reduce new HIV infection. The study sought to establish the knowledge, attitudes, and practices regarding HIV infection. In the study, more than half of the participants were circumcised. The study also noted that the uptake of male circumcision was high (95%). The reasons for the uptake were the prevention of STIs/HIV, promoting hygiene, and for religious and cultural reasons. The study concluded that although the uptake of VMMC was high, the programme must continue to raise awareness of VMMC.

In studies that were done in Botswana, Kebaabetswe et al., (2013) observed that many respondents admitted that they would circumcise a boy if it was free at the hospital. This shows that the uptake of VMMC was also depended on the process being free of charge. The same study noted that before the participants were briefed on VMMC only 60% were for circumcision and after the explanation, on the

importance of VMMC, the number rose to 90%. The participants in the same study expressed the sentiments that the VMMC must be done in a hospital. Many of the participants making up 90% of the group out of a sample of 605 respondents indicated that the ideal age of circumcision was 6 years old and that the participants preferred for the circumcision to be done in a hospital. This is an indication that most people are not prepared to pay for the procedure but would do it if it was free. This could be an indication on the way they value the procedure. If it was so important they would do it at any cost.

Bailey et al., (2002) carried out a study in Nyanza in East Africa and noted that the participants favoured VMMC for the purpose of hygiene and cleanliness. Their outcome maintained that among the African tribes there were, however, people who tended to embrace VMMC for the purpose of peer identification. Westercamp and Bailey (2007) reviewed thirteen studies that were done in nine countries including Kenya, Botswana, South Africa and Swaziland. Sixty nine percent of the respondents asserted that they would be circumcised and would also recommend it to their sons.

In Zambia, Ndopu and Siame (2009) studied115 sexually active men in Kitwe, and showed that 94% of the men knew about male circumcision and its ability to reduce HIV transmission. The number of men that were not circumcised was 71% and among this number 57% confessed that they were willing to be circumcised. The reasons that 60% of the participants gave for desiring circumcision was to prevent HIV infection and 29% wanted to be circumcised for cultural reasons and 11% wanted to be circumcised for hygiene reasons.

However, a misconception was discovered by Ndopu and Siame (2009). They found that among the 115 participants 72% indicated that there is no need to wear condoms if you are circumcised. For this, the participants claimed that their sources of information for participating in VMMC were the mass media, health care providers and friends. Ndopu and Siame (2009) hence underscored the necessity to dismantle the myth that VMMC makes the use of condoms redundant and therefore it becomes unnecessary to practice safer sex. The same study urged all men to go for voluntary circumcision and to practice safer sex which involves the use of condoms and microbicides.

Alanis and Lucidi (2004) noted that many studies have been done to see if VMMC reduces the rate of HIV transmission to female partners, which showed no protective effect. The studies that were done in Uganda showed no sign of reduction of HIV transmission to female partners by VMMC. Mndzebel and Tegegn (2014) conducted a study at Botswana University among male students exploring the knowledge and awareness of males regarding VMMC. The findings of this research revealed that 95, 4% had heard about VMMC and from this group 64, 8% were not circumcised. 34, 1% stated that they were aware of the possible complications that may arise due to VMMC. The study concluded that although many students were aware that it led to a reduced chance of contracting STIs, the evidence on the ground does not support that many of them would take up circumcision. Mndzebel and Tegegn (2014) exposed that about 196 students felt that the tip of the penis must be covered by a skin. Participants in the study were also aware that it is important to abstain from sex for 6 weeks in the post-circumcision period.

World Health Organisation [WHO], (2007) explained that VMMC should not replace other forms of practising safe sex. WHO (2007) emphasises that providing information on safe sex is of the utmost importance to discourage people engaging in high-risk behaviour and developing a false sense of security. Male circumcision is a part of the complementary strategy to reduce HIV infection.

Men who resume sex before six weeks are at the risk of contracting HIV and also of infecting their partners. Wamai, et al. (2011) noted that of some of the impediments to the implementation of VMMC are a lack of appropriate medical facilities, institutional policies that are related to policy implementation, funding, and changes related to social cultural beliefs in the area VMMC. Wamai also identified institutional challenges that are related to male circumcision as epitomised by the situation in Ethiopia where the hospitals had no capacity to handle more than 10 circumcisions per day. There was also a lack of qualified staff and inadequate training.

Cultural beliefs can also be a barrier to VMMC. Bailey et al (2002) indicated that cultural beliefs acted as an impediment to VMMC, because it was not part of their culture. Circumcision was seen as a threat to their identity as a people. Other impediments to male circumcision among the Luo were the pain related to male circumcision, bleeding during the circumcision and the cost associated with VMMC. In circumstances in which non-sterile equipment was used, there was also a fear of infections from such procedures.

2.5 CONCLUSION

In this chapter, the historical background of circumcision was reviewed, which indicated that circumcision has been in existence since the time of Abraham, 2000 B.C. and in many African societies. In certain ethnic groups, male circumcision is carried out for cultural reasons, as an initiation ritual and a rite of passage into manhood. In Namibia, among the Ovaherero tribes, circumcision forms part of their cultural norms and is mandatory for each boy to circumcise before the age of three.

The knowledge, attitudes, and awareness of men regarding VMMC were explored in relation to men's willingness to be circumcised. It is indicated that there are barriers related to knowledge and attitude that can affect VMMC service uptake. The HBM was selected to provide a theoretical model to the study; the model suggests that individual's perceptions about whether the benefits of a promoted behaviour change outweigh its practical and psychological costs or barriers. Barriers are dependent on other factors such as demographics and individual perception of personal risk, severity and cues to action. The HBM was proposed to appreciate the reasons that hinder many people from taking action to prevent contracting infection such as HIV in the context of using VMMC services.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

In this chapter, the research design and data collection procedures are looked at. The population of the research is examined; the research ethics and also the sampling methods used in the research are discussed. Finally, the chapter will present a summary of the chapter.

3.2 RESEARCH DESIGN

The study employed a quantitative, cross-sectional analytic research design. It involved collecting and converting data into numerical form so that statistical calculations could be made and conclusions drawn. This design provided answers to the research questions by measuring the association between variables using different statistical methods and tests, which enabled the researcher to analyze the data, which includes conclusions on relationships between different variables. Data was collected from a cross-section of the study population at a single point in time to examine the relationship between VMMC and knowledge, attitudes and practices in the Oshana Region.

Cross-sectional studies provide a snapshot of the frequency of a disease or other health-related characteristics in a population at a given point in time (Denzin & Lincoln, 2012). This methodology was used to assess the relationship between the uptake of male circumcision services and other variables such as knowledge, attitudes, and practices. Each of the preceding was measured against service uptake.

3.3 THE POPULATION OF THE STUDY

The study population was men aged 18-49 years in the Oshana Region. The study included all males whether they are circumcised or not. According to the Namibia 2011 population and housing census, the total population for Oshana is 176 674 and the proportion of males are 77455. 37878 or 47% of men are aged 15-49 (National Planning commission, 2012). The age groups segregation used in the population and housing census made it difficult to get an exact total number for target age of 18-49 years old, the closest age group that was used is 15-49 years.

3.4 AREA OF STUDY

The study area is the Oshana Region, the urban and rural population. According to the 2012 population and housing census report, the region consist of ten constituencies (four urban and six rural) with three main towns which constitute the urban population. The three towns are Oshakati which is the capital of the region, Ongwendiva and Ondangwa. With regard to health services, the region have one Intermediate Hospital, one district hospital, four health centres and fourteen clinics, with each constituency having at least one to two clinics. The region also have one private hospital in Ongwendiva town with numerous private clinics in all three towns (National Planning Commission, 2012).

The rural population live in the rural areas of the region which comprises of the six rural constituencies namely Okaku, Okatana, Okatyali, Ompundja, Uukwiyu Uushona and Uukwiyu. The main source of income is Omahangu crop farming, cattle farming and seasonal fishing from Oshana (shallow area where rain water collects). The main form of housing in rural area is traditional dwelling made of woods and thatch roofing (National Planning Commission, 2012).

The 2012 population and housing census report also indicates Oshana regional employment rate of 65% with sources of income from: Farming 13%, Salary/Wages 40%, Cash Remittance 5%, Business, None Farming 17% and Pension 19%.

Oshana region was chosen because it is a none-circumcising community and with the roll-out of VMMC services to the region, there a slow uptake of services by the community as indicated in the problem statement above.

3.5 SAMPLE AND SAMPLING METHOD

A combination of stratified random sampling and convenient sampling was employed. According to the Namibia 2011 population and housing census, the Oshana Region is demarcated into ten (10) political constituencies of which six (6) are rural and four (4) are urban. Initially, the constituencies were arranged into two strata (groups) of urban and rural, five constituencies were selected by simple random sampling, three from the six possible rural constituencies and two from the four possible urban constituencies.

Finally, the convenient sampling method was used to obtain the final sample as required. A total number of hundred and sixty (160) participants were selected from the rural constituencies, 66 from Okaku, 52 from Okatana and 42 from Uukwiyu Uushona respectively. The remaining 221 participants were also obtained by convenient sampling from urban constituencies; 123 obtained from Ongwediva and 98 from Oshakati East. The number of participants from each constituency was calculated based on the proportional representation of the population of the selected constituencies. The sample size is calculated using the statistical computer software Epi-Info that automatically calculates the sample size after the population size has been entered into the system. The study population size is 37848 the sample size is 381 calculated at 95% confidence interval.

Table 2- Oshana Region Constituencies and their Population Sizes as Obtained from the Population and Housing Census of 2011 Report.

Strata 1: Rural Constituencies		Sample size	Strata 2: Urban Constituencies		Sample size
Okaku	19007	66	Ondangwa	36846	

Okatana	14801	52	Ongwendiva	34065	123
Okatyali	3187		Oshakati East	27227	98
Ompundja	4659		Oshakati West	20676	
Uukwiyu Uushona					
Uukwiyu	4114				
Total Rural	57860	160	Total Urban	118814	221
%	45%			55%	
Total Population for Oshana Region	176674				
Total Population for the selected Constituencies	45900		61292	107192	

Inclusion criteria

- Men aged 18 to 49 years old
- Circumcised or uncircumcised
- From Oshana Region

Exclusion criteria

- Minors less than 18 years and more than 49 years
- Women
- Not from Oshana Region

3.6 DATA COLLECTION METHOD

The method of data collection method was a survey and the instrument used was a self-administered questionnaire assessing the knowledge, attitude, and practices (KAPs) of male circumcision for HIV prevention. The questionnaire consisted of four sections with section A focusing on demographic information of the participants, progressively Section B focused on assessing the knowledge of VMMC

using close- ended questions and Likert scale questions. Section C focused on assessing attitude towards VMMC using the Likert scale as well and finally Section D focused on assessing VMMC practices.

The questionnaires were also administered to those participants with little or no formal education using trained data collectors that asked them the questions verbally in the appropriate vernacular language(Oshiwambo) and filled in the participant's responses on the questionnaire. The questionnaire contained questions on: demographics such as sex, age, marital status, educational level, occupation and locality; the respondents' knowledge of procedure, benefits, where services are offered, risk, male circumcision and sex, cost, male circumcision and pain, healing process and when to go for male circumcision; the respondents' attitudes in accepting male circumcision, personal, cultural/tradition, religion and willingness to tell others about male circumcision and finally the practices of circumcision.

The data was collected from 12 to 23 September 2016. The first day was used for the recruitment and training of the data collectors. Five data collectors were recruited from the existing team of health assistants in the region, one data collector for each constituency. The actual data collection started on 13 September 2016 and it was taking 30-45 minutes to complete the questionnaire. The data collector were dropped every day at each constituency in the morning and picked up in the afternoon. The data was collected around shopping centres, schools and other places were communities gathered during the day. Otherwise data collector moved from house to house in rural constituencies. The total number of 381 questionnaires was handed out and all 381 were received and completed making it 100% response rate.

3.7 DATA ANALYSIS

The analysis enabled the researcher to determine the extent the relationship existed between two or more variables. To discover this complex relationship between the variables in this study, the analysis of the data was done using Statistical Package for Social Sciences (SPSS) and Microsoft Excel. Descriptive and inferential statistics were used for this study. The descriptive statistics involves tabulating, depicting, and describing the dataset. The univariable inferential statistics (Chi-square test) is used to estimate characteristics of a total group based on data from a smaller set (sample) of observations using a confidence interval. To test the correlation of the mentioned target variables in the study, the Spearman's rank correlation was used by testing the relationship between two variables (independent and dependent). Since the study has more than one independent variable, multivariate regression was also used to determine the impact each independent variable has on the dependent variable.

3.7 RELIABILITY AND VALIDITY

Reliability is the extent to which results are consistent over time and an accurate representation of the total population under study. According to Du Plooy- Cilliers, et al (2014), reliability is based on the emphasis of credibility of your research and it demands consistency and moreover, it can be seen as the extent to which the results can be generalised and similar results obtained if the research was conducted again.

Validity determines whether the research instruments measures what it was intended to measure or how truthful the research results are, and the extent to which the instrument that was selected actually reflected the reality of constructs that were being measured (Du Plooy-Cilliers, et al , 2014).

To ensure validity in the study the following different forms of validity were applied: face validity, content validity, and construct validity. Face validity refers to what the questionnaire superficially appears to measure, (DeVon, et al., 2007) defined face validity as the degree to which test respondents view the content of a test and its items as relevant to the context in which the test is being administered. In this study, questionnaires were discussed with the pilot study respondents to get their views on the questions, their feelings were that the questionnaire was going to measures what it appears to measure, this was further discussed with a statistician and supervisors in order to determine whether it was going to address the research objectives. They all believed that it appeared to be answering the study questions.

Construct validity is used to ensure that the measure actually measures what it is intended to measure (i.e. the construct), and no other variables. The data questionnaire was reviewed with a statistician and the supervisor, and contents of the questionnaire were presented at a University of Namibia seminar where experts reviewed the whole study proposal and the contents of the data collection tools. The researcher was present at the review to obtain feedback.

Content validity ensures that the measure covers the broad range of areas within the concept under study. According to Polit and Beck (2006) content validity is the degree to which an instrument has an appropriate sample of items for the construct being measured. In this study, for content validity, experts in the area of study who are the supervisors critically reviewed the sample items of the instrument and feedback was provided for the researcher's input.

Finally, the data collection tools were pretested by conducting a pilot study in the Khomas region. Ten questionnaires were administered to men aged 18-49 in the Havana settlement of Windhoek. Havana settlement was selected because of the similarity in population characteristics with Oshana. The participants from the pilot study were not included in the main study because the pilot study was conducted in a different region. Completed questionnaires were entered into SPSS software for analysis. These helped the researcher to test the adequacy of the instrument and assess the feasibility of the full-scale study

3.7.1 Finding of the pilot study

The data analysis from the data collected during the pilot study showed that participants are knowledgeable about VMMC for HIV prevention. As evidenced by the more than 98% having heard about VMMC of which the majority, almost 95%, heard about VMMC from radio and about 80% indicated that they heard VMMC from television and less than 30% heard from health providers and pamphlets. With regards to knowledge, the data from the pilot study also revealed that participants knew about most the VMMC benefits especially about the fact that VMMC helps to reduce the chance of men getting HIV infection and prevention of STIs. The issue of improvement of hygiene and prevention of cancer among men was also indicated as a benefit. Although many of the participants, up to 70%, were not yet circumcised, there was a positive attitude toward VMMC among all the uncircumcised participants as they indicated that they were willing to be circumcised so that they protect themselves against HIV and they were also willing to recommend VMMC to friends or relatives and also take their boys for VMMC.

With regards to the preferred time of the year to go for VMMC, the majority of participants preferred to go for VMMC during winter although they knew that VMMC was provided throughout the year at public health facilities in the Khomas Region.

After the pilot study, the following questionnaire amendments were made:

- It was realized that Part A, on demographic information, there was no question to capture whether the participant's constituency of origin is rural or urban. The question was added to the questionnaire.
- It was also realized that the questionnaire was so lengthy which was very costly for printing, this helped the researcher to adjust the questionnaire and reduce it by two pages without cutting any questions. It saved cost and helped with the planning of the data collection process and time needed.
- It was realized that most statisticians are not conversant with EPI INFO 7 statistical software, therefore, the data analysis software was changed to Statistical Package for the Social Sciences (SPSS).

In summary, it was clear that the questionnaire was able to produce the data that it was intended to get therefore it was a valid and reliable tool for this study. With those minimal amendments that were done, the researcher decided to proceed with the study.

3.8 SUMMARY

The research examined the research philosophy of the work. The population that took part in this study was also highlighted. The research philosophy that shaped this

work is a quantitative research design. Data was collected using a questionnaire that had closed-ended questions, which is in line with quantitative research design. The next chapter presents the data for this research.

CHAPTER 4: RESULTS AND DISCUSSION OF THE FINDINGS

4.1 INTRODUCTION

This chapter of the thesis presents the findings of the research on the knowledge, attitude, and practices on voluntary medical male circumcision (VMMC) for HIV prevention in the Oshana Region, Namibia. The findings of the study are presented in the form of tables, graphs and pie charts that are supported with narratives. The analysis of the study describes the demographic information of the participants in part A followed by the analysis of the knowledge of the participants on VMMC in part B, then the attitudes of the participants are analysed in part C and finally the practices of circumcision are analysed in part D. The differences between circumcised and uncircumcised men with regard to attitudes on VMMC are also analysed.

4.2 DEMOGRAPHIC INFORMATION

A total number of 381 men aged from 18-49 years participated in this study and their mean age was 29 years. Of the total participants, 55 were married, 317 were single, 7 were separated, one was a widower and one was divorced. Fifty seven point seven percent of the participants lived in an urban area and the remaining 42.35 lived in a rural area. The majority (73.2%) of the participants had completed secondary education. Of the total participants, 86 were employed, 127 were unemployed, 101 were students and 67 were self-employed. In this study participant's ethnic group and beliefs were not investigated.

4.3 KNOWLEDGE ABOUT VOLUNTARY MEDICAL MALE CIRCUMCISION

In this section, the research sought to find out if the respondents had heard about the programme of voluntary male circumcision. The focus of the question was to extract knowledge of the respondents on VMMC, which is being offered by the Ministry of Health and Social Services as an intervention to reduce risk of new HIV infections.

4.3.1 Have you ever heard about Voluntary Medical Male Circumcision?

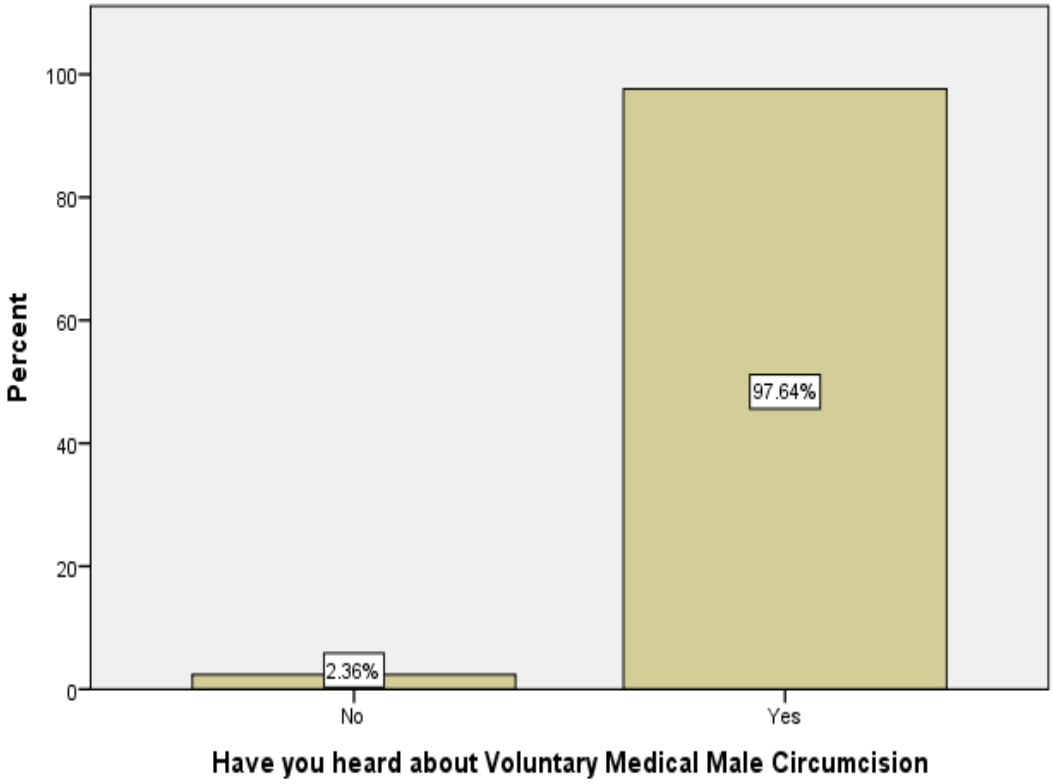

Figure 2: Participants' knowledge on VMMC

Figure 2 shows participants awareness on VMMC, which indicate that, of the 381 participants, 97.64% indicated that they have heard about circumcision and 2.36% indicated that they have never heard about circumcision. About 206, which is the majority of the participants indicated they heard about VMMC from health providers and 168 participants indicated they heard about VMMC from the radio and 124 heard

from friends or relatives while only 58 participants read from pamphlets and 25 from schools. Very few participants (36) had seen VMMC information on Television.

Table 3: Sources of VMMC Information

Sources of VMMC information	Frequency	Percent
Friend/Relative	31	8.1
Health Providers	154	40.4
Leaflets/Pamphlets	5	1.3
Radio	148	38.8
Schools	22	5.8
Television	21	5.5
Total	381	100.0

4.3.2 What is Voluntary Medical Male Circumcisions?

The participants were also asked to indicate if they knew the definition of Voluntary Male Circumcision. The purpose of the question was to find out if the respondents could offer a definition of VMMC. The question was a follow up to the preceding one, which also sought information on the VMMC.

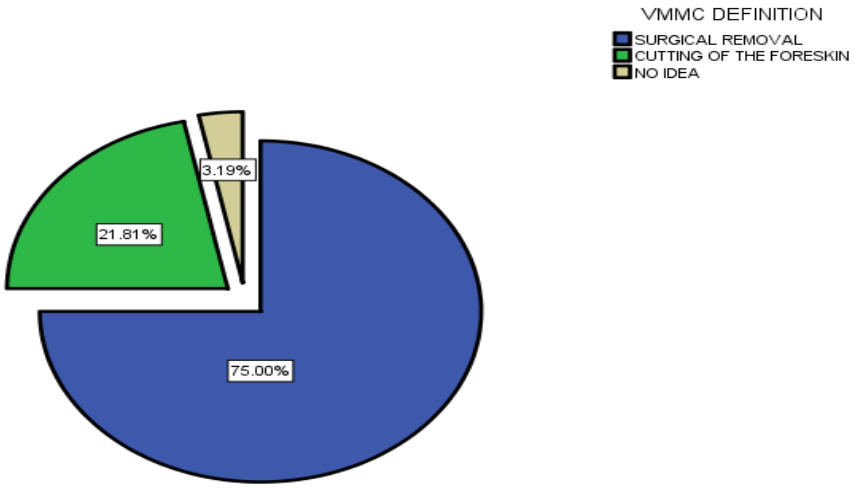

Figure 3: Definition of VMMC

Of about 75% participants defined Voluntary Medical Male Circumcision (VMMC) as a surgical removal of the foreskin from the head of the penis while only 21.81% defined it as cutting of the foreskin from the penis, the remaining 3.19% indicated that they had no idea what VMMC is as illustrated in Figure 3.

4.3.3 How is pain controlled when one is undergoing VMMC procedure?

The respondents were also asked to indicate how pain is controlled when one is undergoing VMMC procedure. Their responses were analysed as shown in figure 4.

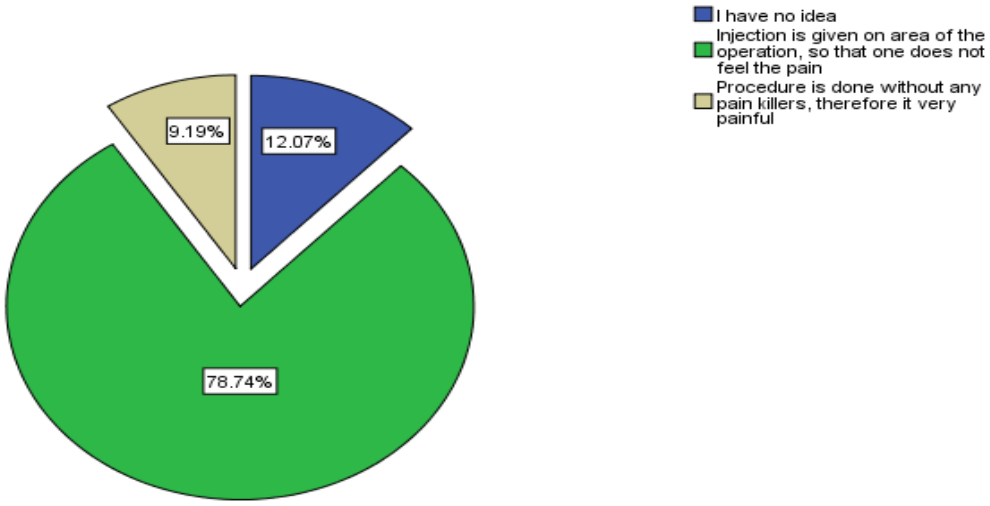

Figure 4: Pain control during VMMC procedure

About 78.74% of the participants indicated that pain is controlled by an injection given before the procedure, while only about 9.19% responded that the procedure is done without a pain killer while 12.07% indicated that they had no idea about how the pain is controlled during the medical circumcision procedure.

4.3.4 What are the benefits of Voluntary Medical Male Circumcision?

The question that was posed to respondents sought to enumerate the benefits of VMMC. The ability of the respondents to take up VMMC service depends on their awareness of the benefits that the programme offers. The assumption is made that if the respondents are unaware of the benefits, then they are unlikely to take part in VMMC.

Table 4: Benefits of Circumcision

Benefits	Frequency (n=381)	%
Decrease in physical problem	11	2.9
Lower incidence of inflammation	3	0.8
Reduce urinary tract infection	3	0.8
Less erection problem	2	0.5
Reduce the chances of getting infected	252	66.1
Decrease in certain STDs	212	55.6
Reduce the chance of getting cancer	134	35.2
Improves hygiene	137	36.0

With regards to the benefits of voluntary medical male circumcision, only 11 participants agreed that VMMC decreases a physical problem, while three said that it lowers incidences of inflammation and reduces urinary tract infections. Most participants about 252 agreed that VMMC reduces the chances of getting infected with HIV. Two hundred and twelve participants said it decreases the chance of getting STDs while 134 and 137 said it reduce the chance of getting cancer and improves hygiene respectively. Only two participants believe that the use of VMMC leads to reduced erection problems.

4.3.5 Does circumcision provide full protection against HIV infection?

Inaccurate knowledge regarding VMMC can pose a huge risk to the respondents, especially if they assume that the VMMC on its own can lead to a reduction in the risk of HIV infection. This may lead to a situation where males can engage in unprotected sex and expose themselves to risk. It is for this reason that the respondents were asked to indicate if they are aware of the fact that the VMMC does not protect males from new HIV infection.

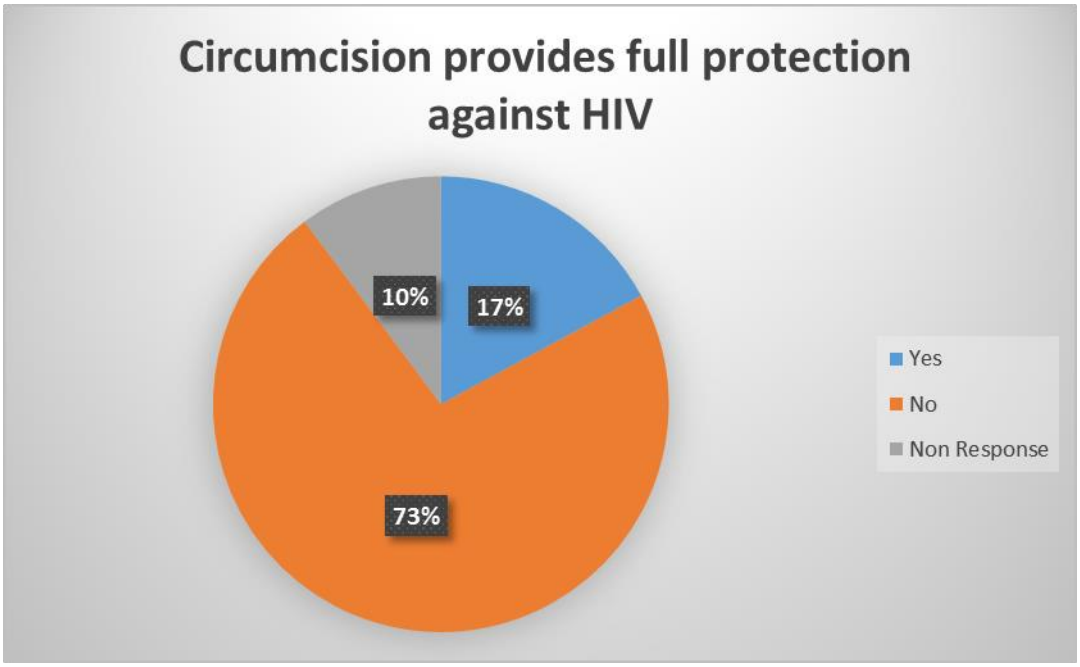

Figure 5: Circumcision Protection against HIV

Figure 5 shows the participants' response to whether circumcision provides full protection against HIV. Sixty five (17%) participants believe that circumcision provides full protection against HIV, while 277 said it does not and 39 did not answer the question. While 73% of the respondents were correctly informed that circumcision does not provide full protection against HIV. On the other hand, 10%

had no idea and hence left the question open while 17 % of the respondents who answered that VMMC provides full protection have a greater risk of having unprotected sex if they are circumcised because of their understanding, which put them at risk of contracting HIV and other STIs.

4.3.6 Besides Voluntary Medical Male Circumcision, what other HIV prevention methods are there?

The respondents were asked to state other HIV prevention methods. The aim of the question was to collect data on the awareness that people have regarding HIV prevention methods. The question had a range of choices that the participants were supposed to select from such as (1) Faithfulness, (2) Abstinence and (3) Condom or female condom usage.

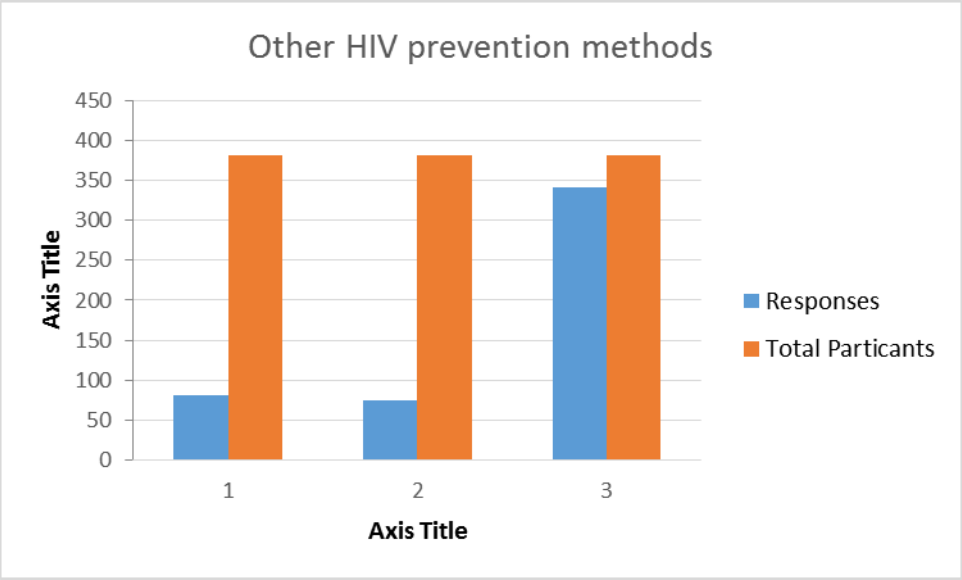

Figure 6: Other HIV Prevention Methods

With regards to other HIV prevention methods about 341 participants indicated the Condom and Femidom an additional prevention method and only 75 indicated

abstinence and 81 indicated faithfulness. For this question, participants had an option of choosing all the methods, but the majority chose condom.

4.3.7 Where are voluntary medical male circumcision services provided?

This item was designed to collect data on the VMMC centres available and it required the participants to select centres which offer the service. A number of centres were offered such as schools, hospitals, outreach among many other centres

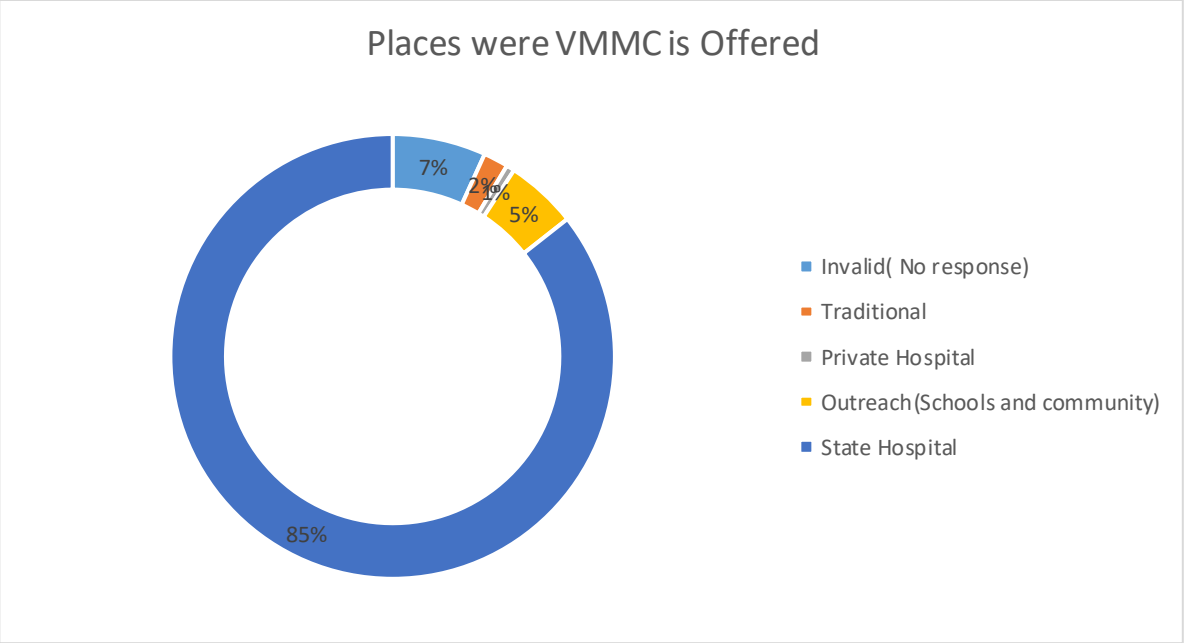

Figure 7: *Places where VMMC services is offered*

and the respondents were expected to select the centres they are familiar with.

For the 355 who answered the question, 85% indicated that VMMC services are provided at the public health facilities (hospital/health centres/clinics while 5% indicated that VMMC is provided through outreach service in schools and other community places, 2% indicated that VMMC is provided traditionally, of which

0.5% said is provided in the Forest while another 1% said is provide at the private hospital. 7% gave an invalid or no response.

4.3.8 How much does it cost to get circumcised?

The respondents were asked to indicate the cost that they pay for the service of circumcision. The respondents had to select the range of prices such as free and those that pay a stipulated fee. Many of the respondents stated that circumcision was for free. Among the respondents 5% said that VMMC cost between N$0 and N$100 while most 95% said it is for free. One of them said it cost between N$101 and N$500. No one said it cost N$501 or more.

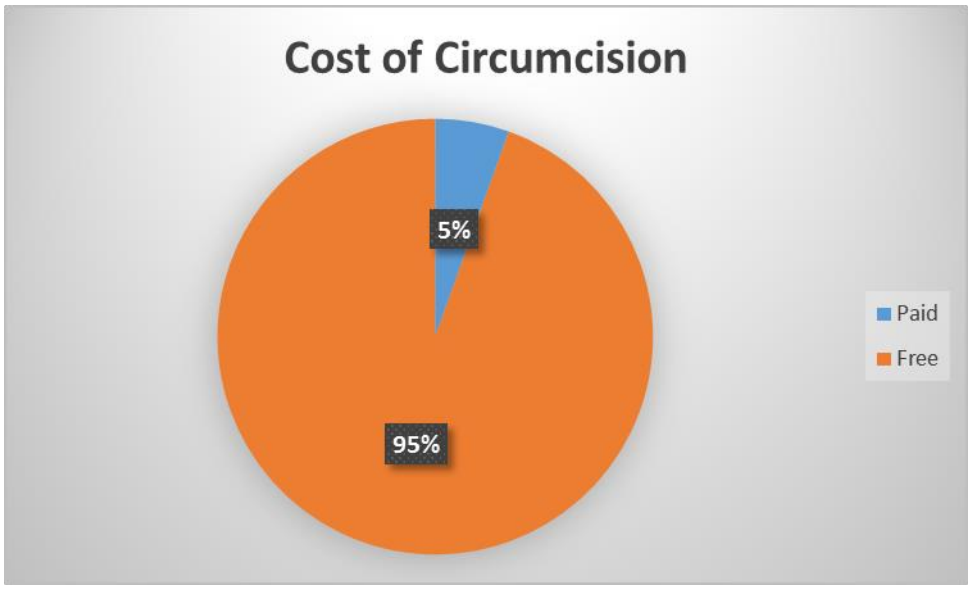

Figure 8: The cost of Circumcision

4.3.9 What is the risk involved with voluntary medical male circumcision procedure?

The respondents were asked to identify the risks that are related to male circumcision. A range of choices were offered such as bleeding, infection of the wound, reaction to anaesthesia, pain and severe removal of the foreskin.

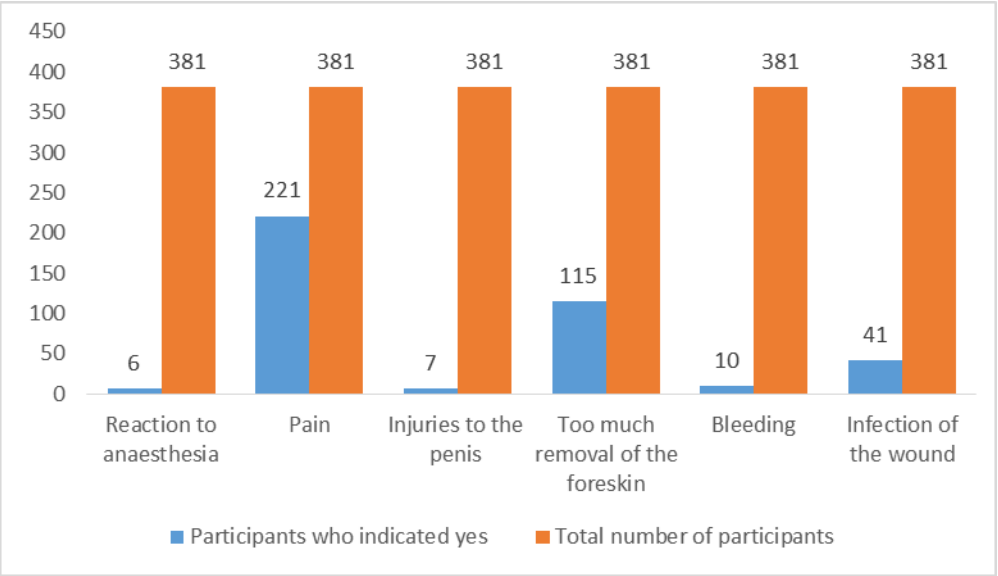

Figure 9: Risk involved with voluntary medical circumcision procedure

In assessing the risk involved with voluntary medical male circumcision procedure, participants were given the option to choose all variables that they felt were a risk. The options they had to choose from were reaction to anaesthesia, pain, injuries to the penis, too much removal of the foreskin, bleeding and infection of the wound. Most of the respondents, those are 221 of the 381 indicated that the pain was the greatest risk associated with circumcision, and 115 of the 381 specified that circumcision risks too much removal of the foreskin. The factor that was thought to pose the lowest risk is reaction to anaesthesia as only 6 respondents thought it was a risk, and 7 thought that circumcision could cause injuries to the penis. This is an indication that the main cause of concern is pain and the fear of having too much foreskin removed.

4.3.10 Which period of the year is voluntary medical male circumcision services provided?

The respondents were asked to indicate the period the VMMC services are available. A range of responses were stated such as summer, winter and throughout the year. The total responses that were obtained were 381.

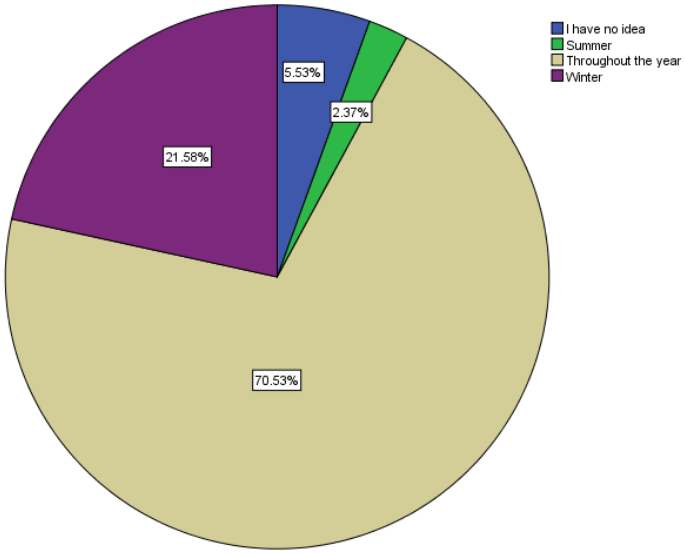

Figure 10: Period of Year where VMMC is offered

As illustrated in Figure 10 above, the majority of the respondents (70.5%) thought that the VMMC services were available throughout the year, and this indicates that there is an understanding in the community in the Oshana Region about the schedule when VMMC services are provided at the hospital. On the other hand, the other respondents itemised that the services were available seasonally as 21.58% thought they were available only in winter, 2.37% indicated that they were available only in summer. Only 5.53% did not have an idea of how the services are offered. This shows that the majority of the people were informed of the schedule of VMMC in the region.

4.3.11 When do you prefer to go for Voluntary Medical Male Circumcision?

The respondents were asked to indicate the time of the year they would consider as ideal to go for VMMC. The range of choices were summer, winter, throughout the year and the repondents that had no idea. It is important to know the time that the respondents would want to go for VMMC so that programmes can be designed around such time frameworks. The range of responses that were given are illustrated below.

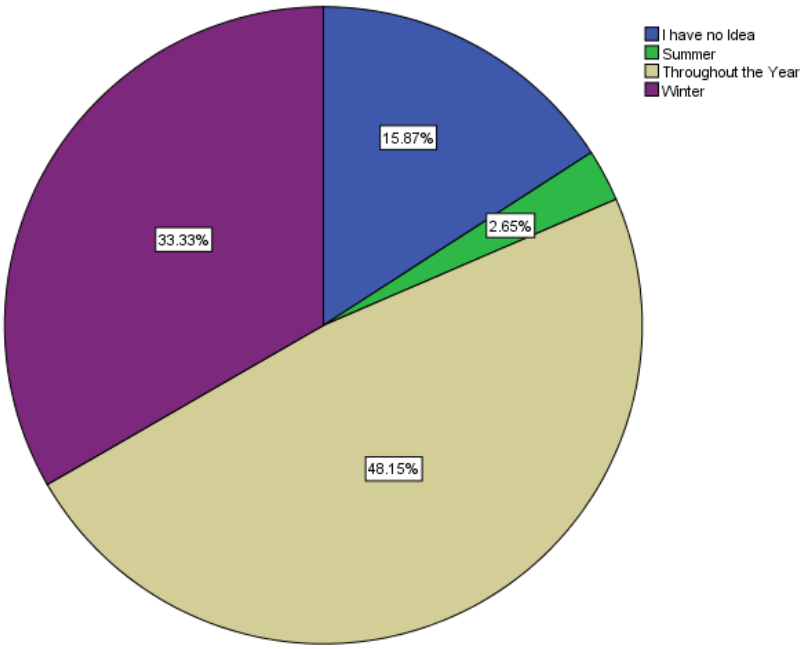

Figure 11: Preferred time for VMMC

Figure 11 shows that 48.15% were not concerned with the season as they indicated that they could go anytime of the year, while 33.33% were of the opinion that they preferred winter, while 2.65% preferred summer. On the other hand, 15.87% did not have an idea of how circumcision works and hence they could not choose a season.

4.3.12 In Which VMMC services were provided versus preferred time to go for VMMC?

The respondents were asked to indicate the time they would go for circumcision and they were offered a range of options such as summer, winter, throughout the year. The respondents who had no idea about what may serve as an ideal season were also allowed to choose the option that they had no idea.

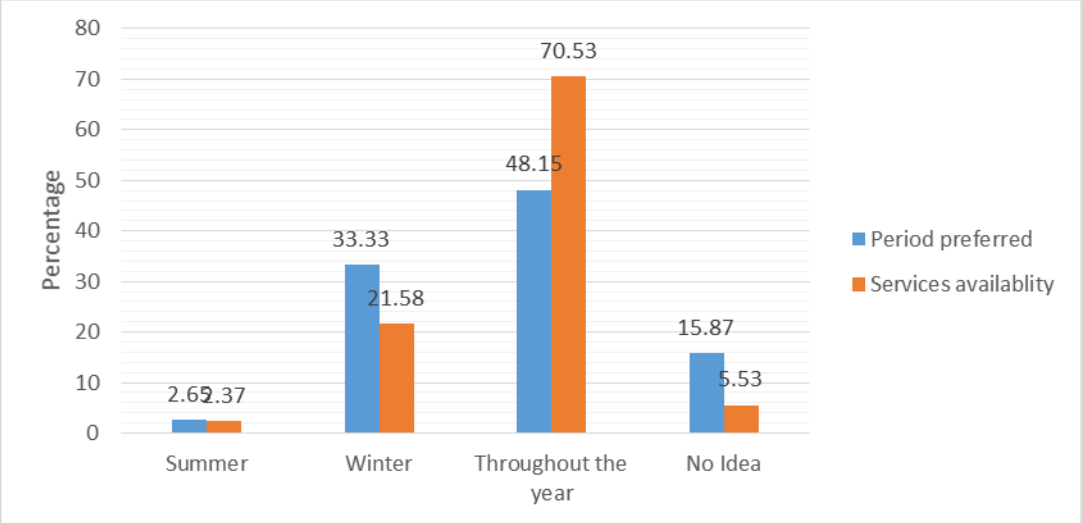

Figure 12: Period in which VMMC services are provided versus preferred time to go for VMMC

The perception of the participants of the availability of the services is very important compared to the actual period when services are available. Seventy percent point five of the respondents thought that the service was available throughout the year and 48.15% would go anytime throughout the year. 21.58% Twenty one percent point fifty eight of the respondents thought that the VMMC services were only available in winter. On the other hand 33.33% preferred the procedure to be done in winter. This might mean an increased number of clients coming in winter. The least number of clients would be expected in summer. Though 15.87% could not decide might mean that they are so uninformed about circumcision.

4.3.13 How long does it take for circumcision wound to heal before one can start having sex?

One of the questions that was posed to the respondents was about the time it would take to heal after undergoing circumcision and the responses are presented in Figure 13 below. Most of the respondents, (85.8%) were of the opinion that the healing takes six weeks. This is the correct period that the process is expected to take. This means that the respondents have correct information on which to decide upon. Only 4.7% had no idea and this is a very small percentage as compared to the group that is informed.

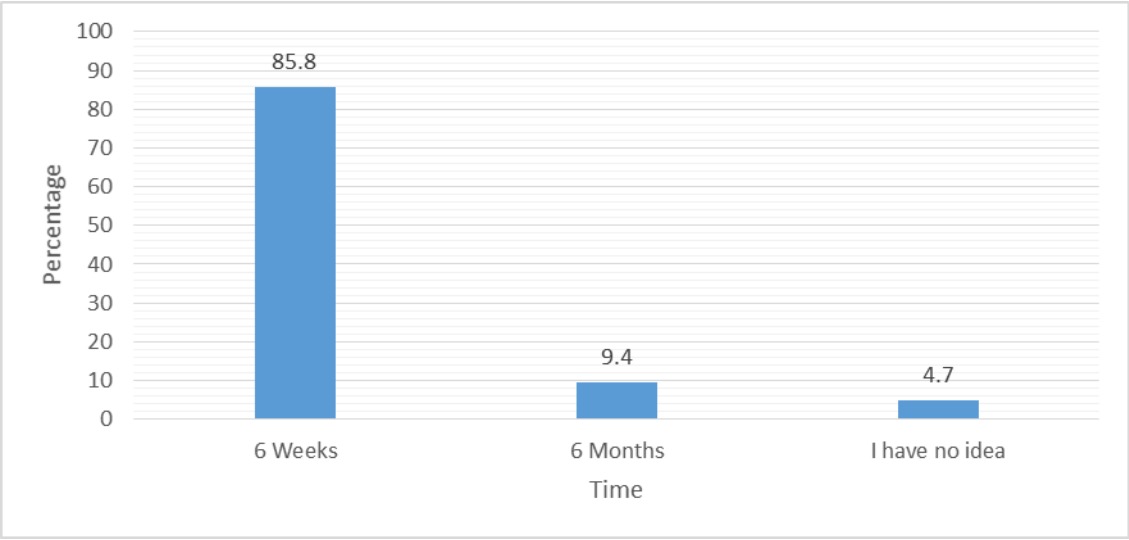

Figure 13: Period it takes after circumcision before engaging in sexual intercourse

4.3.14 Relationship between Voluntary Medical Male Circumcision and HIV

The respondents were asked to indicate the relationship between VMMC and HIV. The question enquired whether the participants were aware that if the foreskin tears during sex it can increase the risk of a person contracting HIV infection. The respondents were expected to select responses such as neither agree nor disagree,

disagree, strongly disagree, agree and strongly disagree. The data collected on this question is presented in Figure 14.

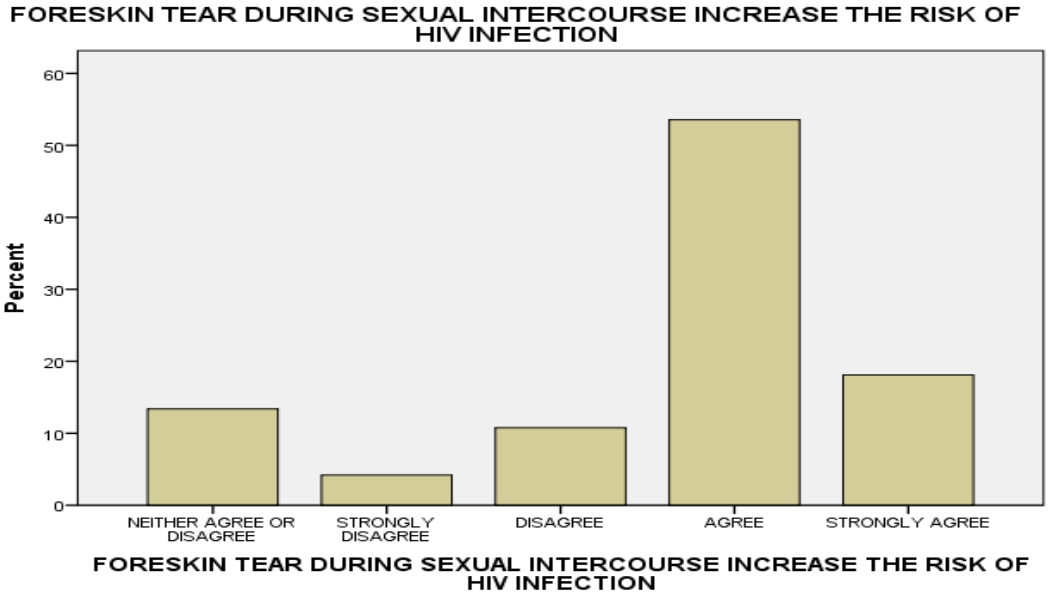

Figure 14: Foreskin Tear during Sex Intercourse Increase the Risk of HIV Infection

More than 70% of the participants agreed that the skin tearing during sexual intercourse increased the risk of getting HIV while about 15% said they neither agree nor disagree. There were about 15% of the participants who did not agreed that foreskin tears during sexual.

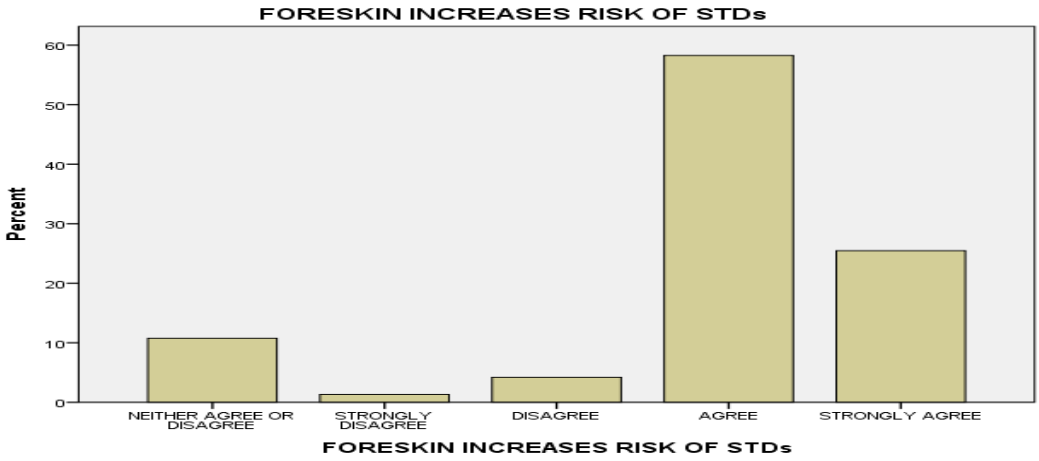

Figure 15: Foreskin and risks of STDs

About 59% of the participants agreed that foreskin increases the risk STDs, while only about 25% said that they strongly agreed that a torn foreskin can increase the chances of contracting an STD. Ten percent said they had no idea that foreskin damage causes an increase in the risk of getting STDs while 6% did not agree and strongly disagreed that foreskin damage increases the risk of STDs in uncircumcised men.

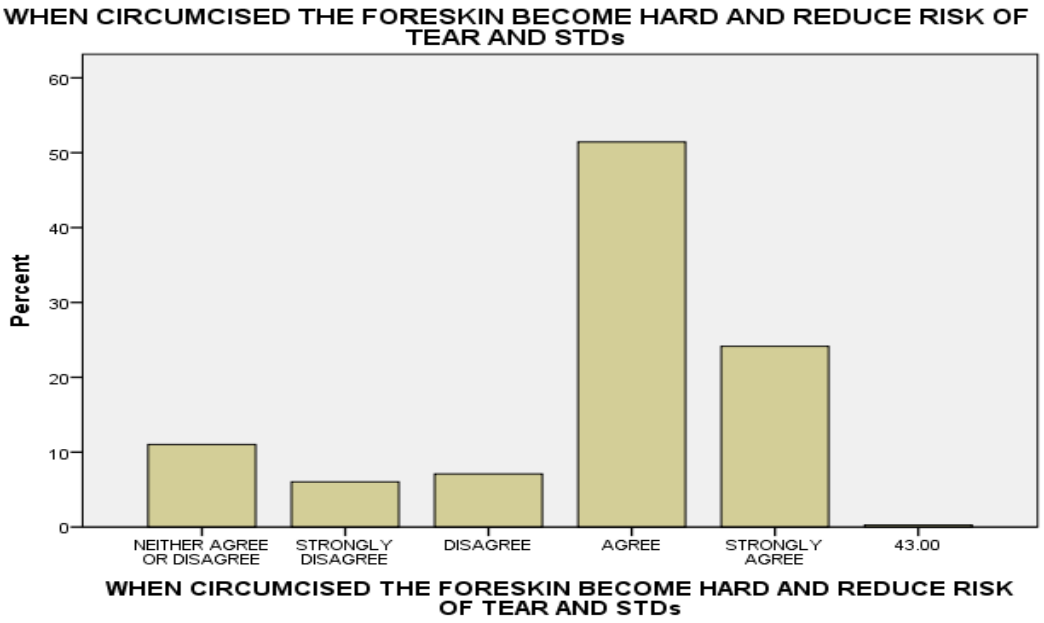

Figure 16: When circumcised, the foreskin becomes hard and reduces risk of tearing and STDs

Most participants agreed that when one is circumcised the foreskin becomes hard and reduces the risk of the foreskin tearing and contracting STDs. Only about 10% of the people did not agree while about 11% did not know.

4.4 ATTITUDES TOWARDS MALE CIRCUMCISION

4.4.1 Circumcision acceptance and religion

The respondents were asked to indicate how their religious allegiances allowed them to take part in VMMC. The responses were organised on a continuum of neither agree or disagree, disagree, strongly disagree, disagree, agree and strongly disagree. The spectrum of responses is presented in Figure 16 below.

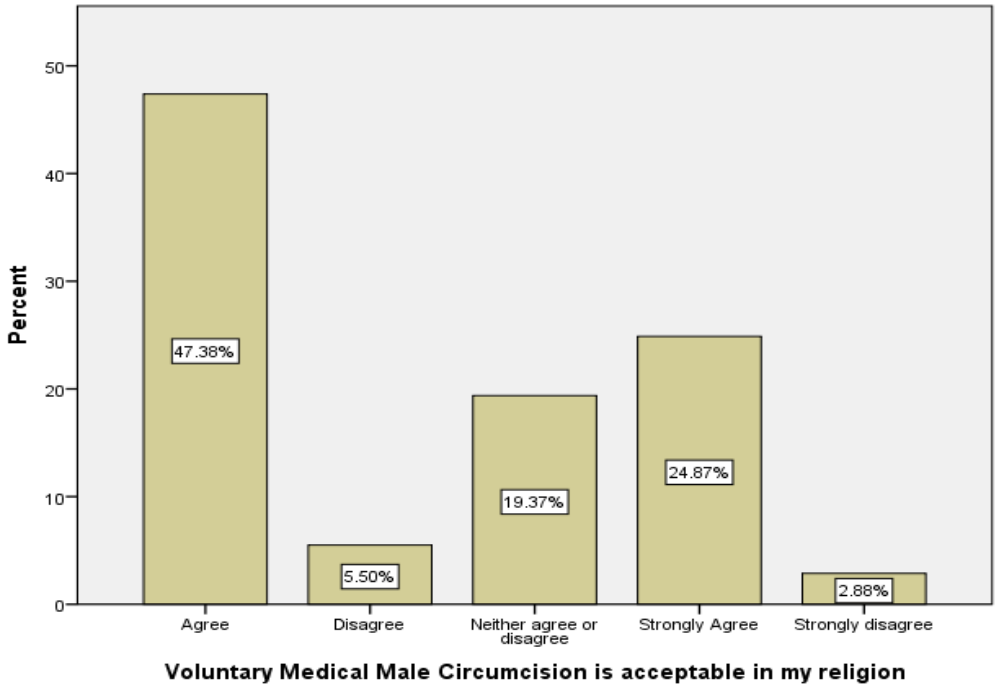

Figure 17: VMMC is acceptable in my religion

Of the participant, 19.37% neither agreed nor disagreed that voluntary medical male circumcision is acceptable in their religion while only 2.88% strongly disagreed and 5.5% disagreed, 47.38% and 24.87% participants agreed and strongly agreed respectively.

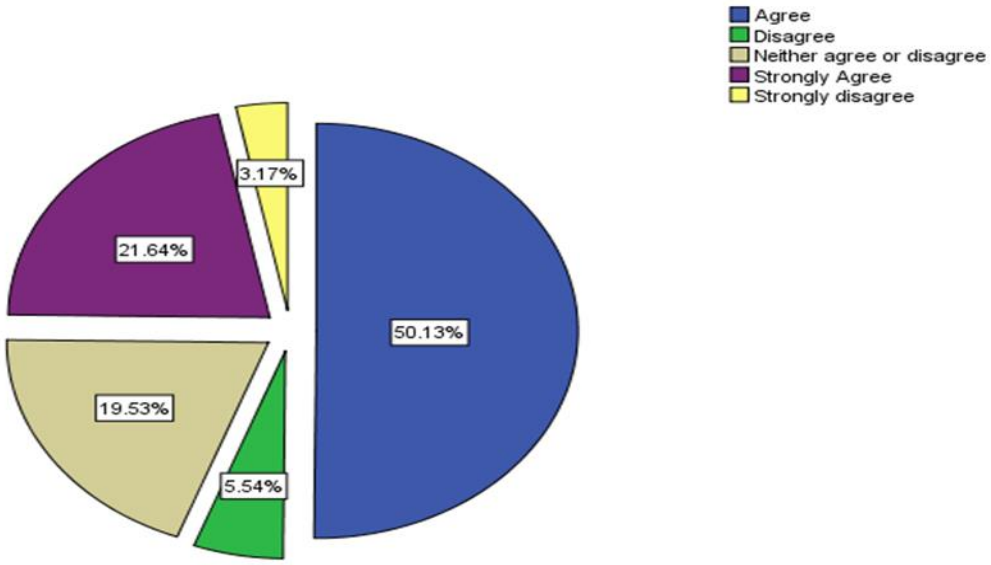

Figure 18: VMMC acceptable in my Culture

Of the participants 19.53% neither agreed nor disagreed that voluntary medical male circumcision was acceptable in their culture while only 3.17% strongly disagreed. Five point forty three disagree, 50.13% and 21.64% of the participants agree and strongly agreed respectively. The goal of this question was to determine if the VMMC was acceptable to the respondent's cultural beliefs.

Table 5: Safety of VMMC

	Frequency	Percent	Valid Percent	Cumulative Percent
Neither agree or disagree	31	8.1	8.1	8.1
Strongly disagree	2	0.5	0.5	8.7
Disagree	9	2.4	2.4	11.0
Agree	230	60.4	60.4	71.4
Strongly agree	109	28.6	28.6	100.0
Total	381	100.0	100.0	

More than 80% of the participants agreed that voluntary medical male circumcision was a procedure to undergo.

4.4.4 I think Voluntary Medical Male Circumcision as an HIV prevention procedure would work for me personally.

The respondents were asked to indicate if VMMC as a prevention procedure would work for them individually. The respondents were allowed to select from a range of answers on a scale of neither agree, strongly disagree, disagree, agree and strongly agree. The data that was collected is illustrated in the Figure 18.

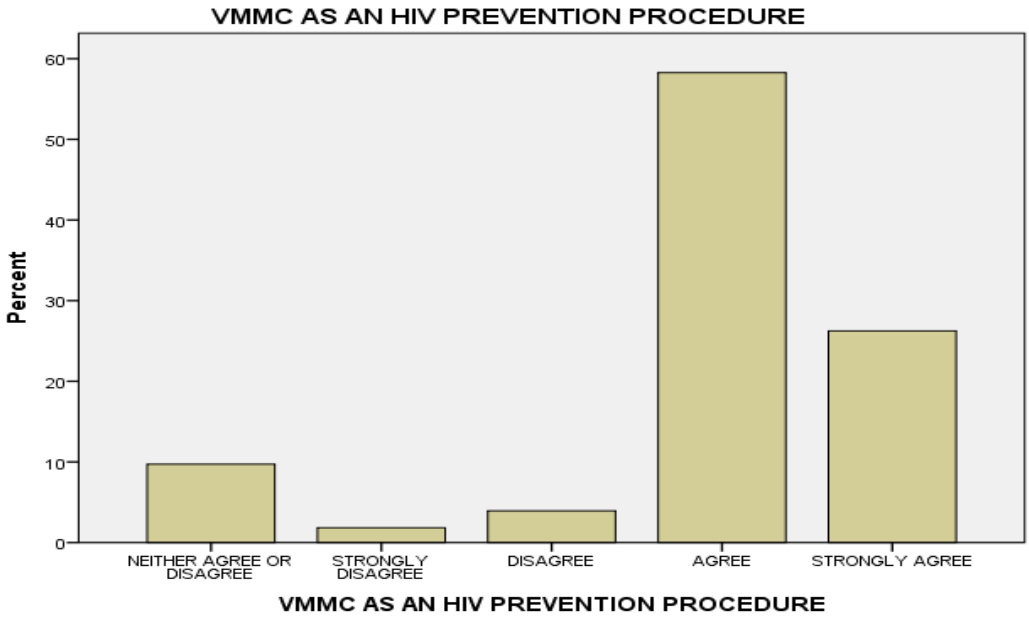

Figure 19: VMMC as an HIV Prevention procedure

More than 50% of the participants agreed and another 28% strongly agreed that Voluntary Medical Male Circumcision as an HIV prevention procedure would work for them. About 10% of the participants did not agree or disagree that VMMC as an HIV prevention procedure would work for them. Another 2% strongly disagreed and about 4% disagreed that VMMC as an HIV prevention method would work for them.

4.4.5 People should be medically circumcised to prevent HIV/AIDS

The respondents were asked to indicate their view on the statement. The data that was collected is reflected in Figure 20.

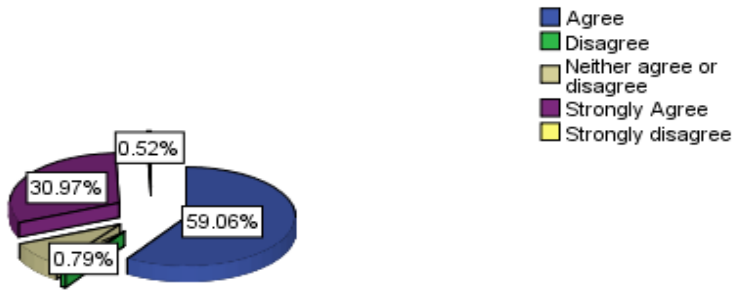

Figure 20: Medical circumcision prevents HIV

4.4.6 I personally accept and am willing go for voluntary medical male circumcision

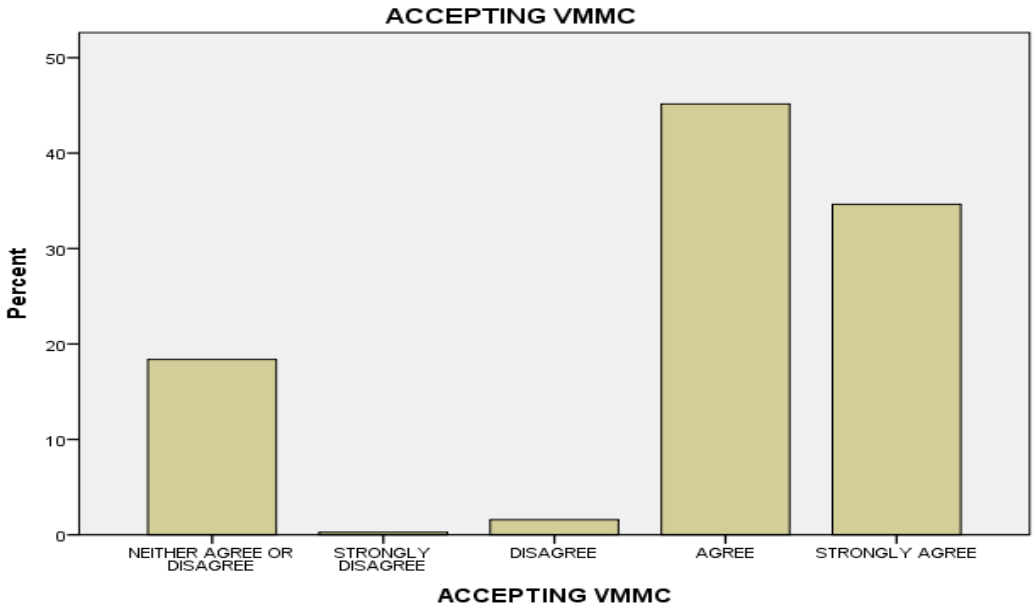

Figure 21: Personal acceptance of VMMC

There is a positive response toward VMMC as most participants accepted and were willing to undergo the VMMC procedure. Almost 20% of the participants neither agreed nor disagreed that they were willing to accept and go for VMMC, while less than 5% did not agree that they accepted or were willing to go for the procedure.

4.4.7 Will tell and encourage people to go for Voluntary Medical Male Circumcision

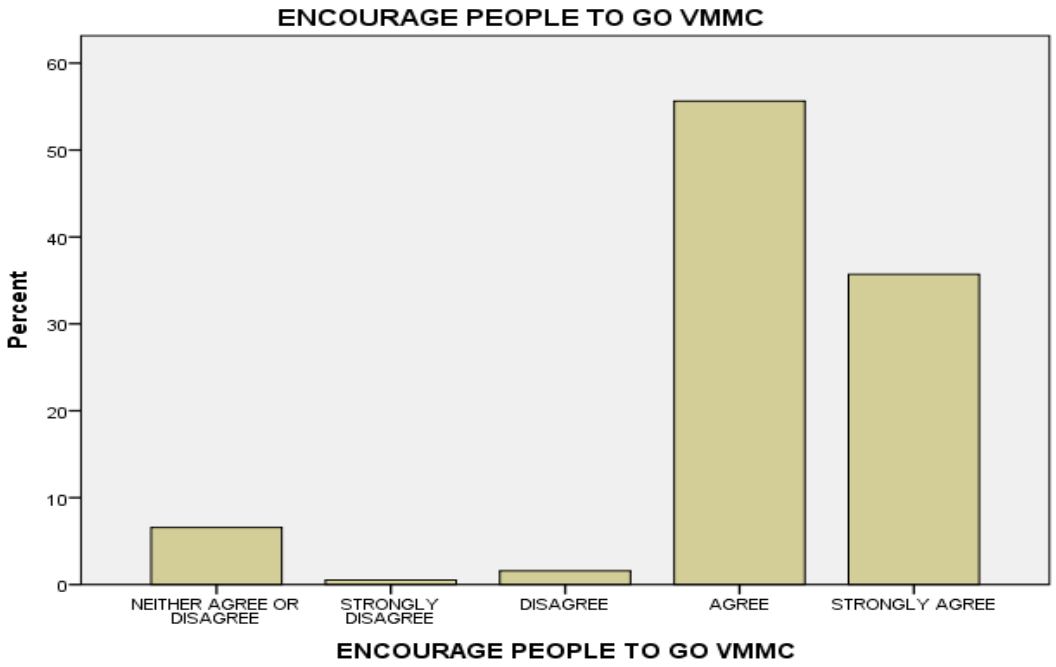

Figure 22: Encouraging people to go for VMMC

More than 80% of the participants cumulatively agreed and strongly agreed that they will tell and encourage other people about VMMC while only a small percentage disagreed or strongly disagreed to encourage others on VMMC. The remaining 6% did not agree or disagreed. This showed a positive attitude towards encouraging others to undergo for VMMC procedure.

4.4.8 I will approve if my son, friend or brother go for Voluntary Medical Male Circumcision.

The respondents in the study were asked to indicate if they would allow their son friend or brother to go for circumcision. The respondents had to choose from a number of items that were provided. The data is presented in the Figure 22 below.

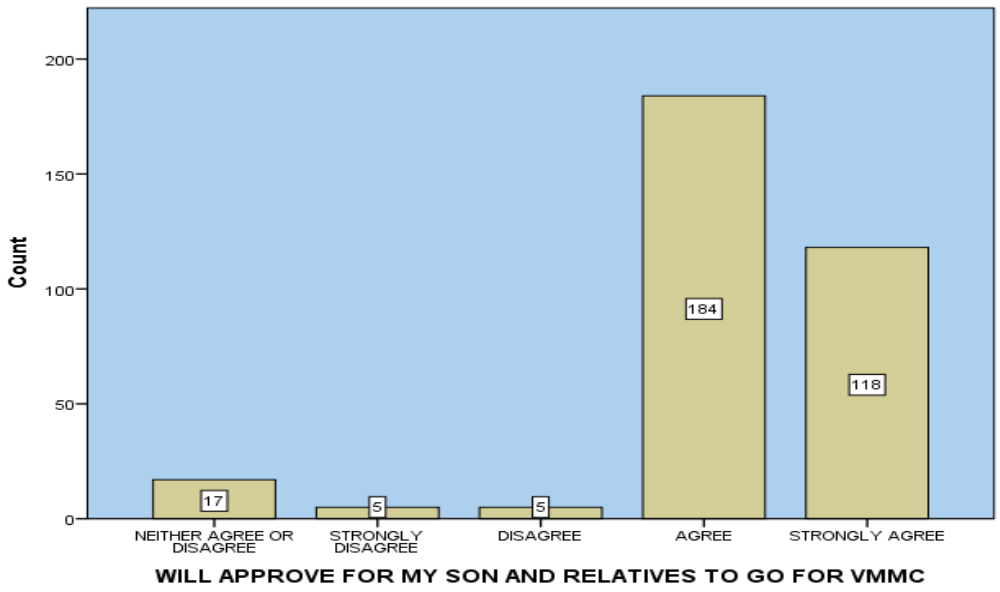

Figure 23: Will approve for my son and relatives to go for VMMC

The data showed that half of the respondents, of about 184 indicated that they agreed with the view that it is appropriate to ensure circumcision of their son or sons. One hundred and eighteen respondents indicated that they strongly agreed. This reflects that many of the respondents were in agreement with the view that their sons must be circumcised. Only 17 respondents remained neutral, while five strongly disagreed and five were also in disagreement. The number that would not take their sons for circumcision was 10 altogether, while, 17 would abstain from making a clear decision.

4.5 PRACTICES OF VMMC

4.5.1 Have you undergone circumcision?

The respondents were asked to indicate if they had undergone circumcision. The purpose of asking the question was to find out the prevalence of circumcision among the male respondents. The data that was obtained is presented in Table 6 below.

Table 6: Circumcision status

Circumcised	Frequency	Percent	Valid Percent
YES	252	66.1	66.1
NO	129	33.9	33.9
Total	381	100.0	100.0

The data showed that the majority of the respondents, 252, which reflected 66, 1% had been circumcised and 129 had not been circumcised. The percentage of respondents who were not circumcised was 33, 9%. The total number of respondents who took part in this question was 381.

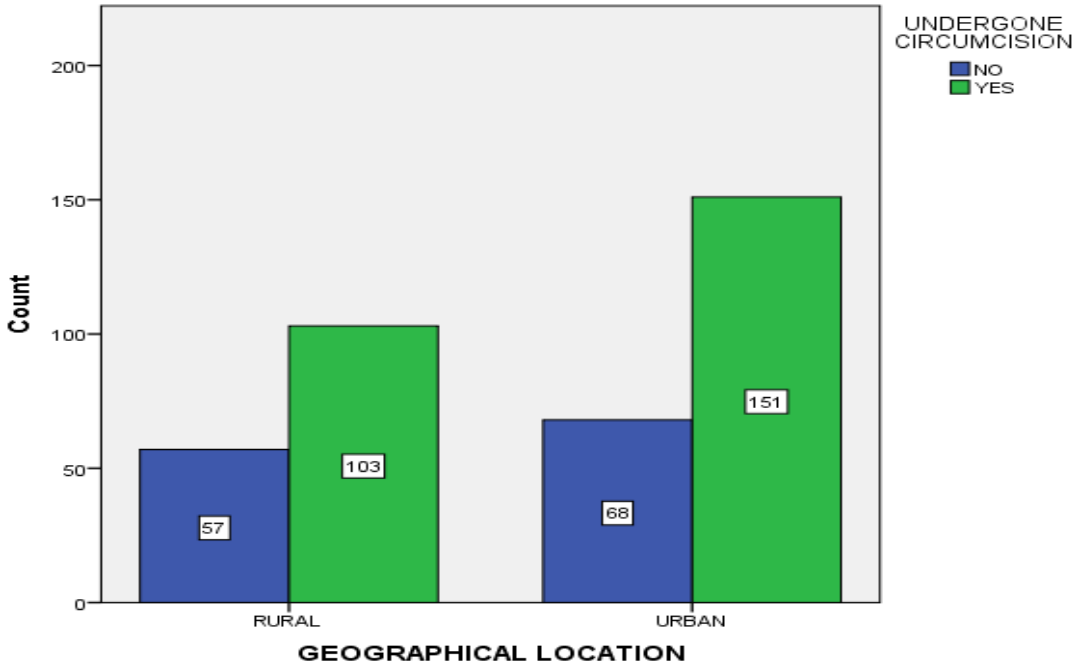

Figure 24: Geographical location and circumcision status

The geographical location of the respondents was analysed. It emerged that more people in urban areas were circumcised than in rural areas. The number of people in urban areas who were circumcised was 219 and in rural areas the number was 160. Of all the 381 participants 66.1% reported to have been circumcised and the remaining 33.9% were not circumcised. The majority of circumcised men were between the age of 18 and 30 years old as indicated in the figure below. The figure also shows the distribution of circumcision status among different ages of the participants.

The participants were asked to indicate the number of people that had been circumcised according to age groups. The data that was collected was presented in a pyramid in Figure 25.

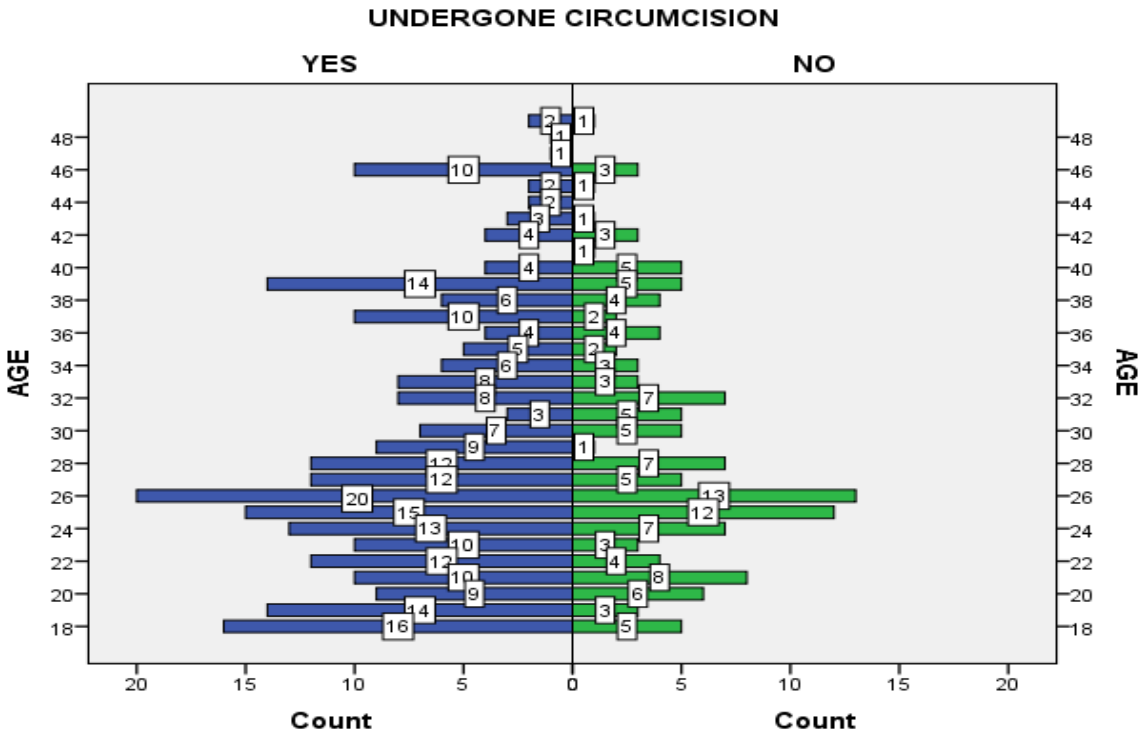

Figure 25: Circumcision status and per age group

4.5.1.1 Medically or Traditionally

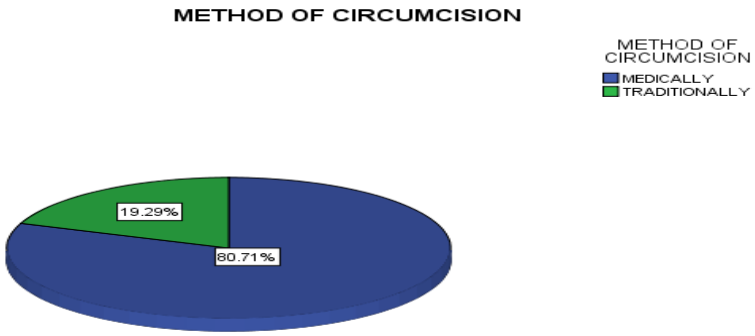

Figure 26: Method of Circumcision

The figure above shows the methods of circumcision for those participants that reported to be circumcised. Of all the 252 circumcised participants 80.7% reported

having been medically circumcised while the remaining 19% reported having been traditionally circumcised.

4.5.2 What are the reasons you got circumcised?

The respondents were asked to state the reasons that led them being circumcised. The data that the respondents gave was presented in a figure 26. Some of the reasons that were offered were religious considerations, problems with the foreskin, cultural practice, social pressure and other reasons that were not presented on the bar graph.

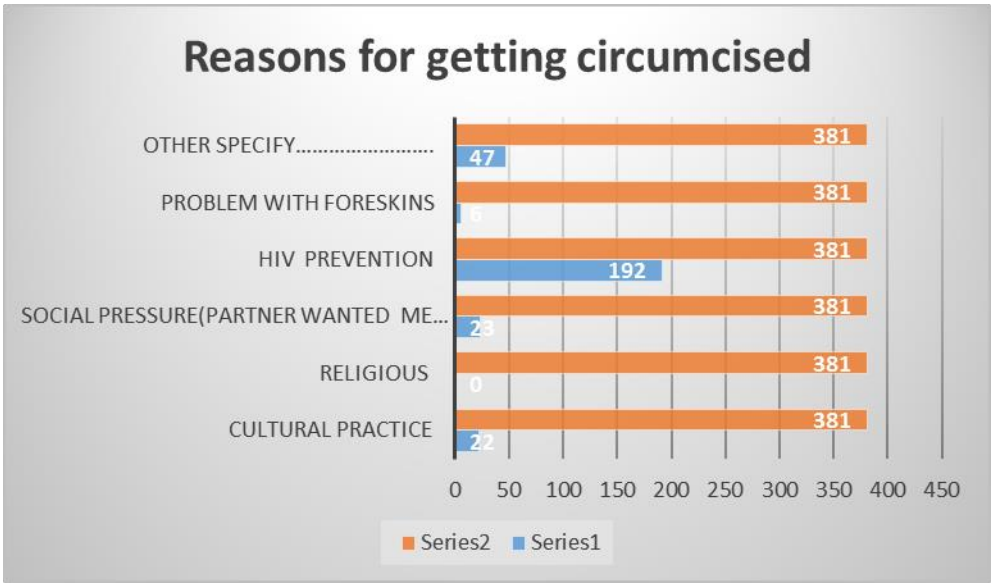

Figure 27: Reasons for getting circumcised

The major reason that led to male circumcision was the need to reduce the risk of HIV transmission. The second biggest category was other reasons such as personal hygiene and this was followed by social pressure and cultural practice. Religious reasons were not cited by anyone as a reason for undergoing circumcision.

4.5.3 If you are not circumcised are you willing to be circumcised?

Those who are not circumcised were asked if they would want to be circumcised. The outcome is illustrated in the Table 7 below.

Table 7: Willingness to be circumcised

		UNCIRCUMCISED	
		Number	%
WILLINNES TO BE CRICUMCISED	Yes	122	95
	No	7	5
Total		129	100

The table above shows the willingness of non-circumcised men to undergo the VMMC procedure. Of all the 129 participants who reported not to be circumcised 95% of them said that they were willing to be circumcised, while 5% of them said that they are not willing to be circumcised, while this shows positive attitudes towards VMMC among the non-circumcised participants.

4.5.4 If no, what are the reasons for not wanting to be circumcised?

The question tried to establish the reason for undergoing the procedure. Out of the seven who responded to the question, six were of the opinion that there is no need. This means that these people still need to be convinced on the importance of circumcision.

Table 8: No need to be circumcised

	NO NEED		
	NO	YES	Total
NOT WILLING TO BE CIRCUMCISED	6	1	7
Total	6	1	7

In investigating the possible causes of not being circumcised, the respondents were asked if the cause could be fear of pain. The study found that out of the nine respondents to that question eight were willing to be circumcised but they were afraid of the pain and only one said they were not afraid of the pain.

4.6 THE DIFFERENCES BETWEEN CIRCUMCISED AND UNCIRCUMCISED MEN WITH REGARDS TO KNOWLEDGE AND ATTITUDE ON VMMC

The data collected regarding the men who had undergone circumcision and those that had not undergone circumcision was displayed as part of continuous variable information. Cross tabulations were done to assess the impact of their circumcision status and their knowledge, skills and practice.

4.6.1 Knowledge

The respondents were asked if they knew that circumcision existed. This was meant to assess if those not circumcised had ever heard about circumcision and that it can be done in the public hospitals.

Table 9: Cross-tabulation of circumcision status and VMMC knowledge including Chi square test results.

		VMMC KNOWLEDGE		
		NO	YES	Total
Uncircumcised	Count	5	115	120
	%	4.2%	95.8%	100.0%
Circumcised	Count	5	249	254
	%	2.0%	98.0%	100.0%
Total	Count	10	364	374
	%	2.7%	97.3%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.513a	1	.219		
Continuity Correction	.786	1	.375		
Likelihood Ratio	1.414	1	.234		
Fisher's Exact Test				.302	.185
Linear-by-Linear Association	1.509	1	.219		
N of Valid Cases	374				

4.6.1.1 The cross tabulation between circumcision and knowledge using a chi square test.

The chi square test results indicate the p value of 0.302 and 0.185 of the Fisher's Exact Test are greater than 0.05, hence we can conclude that there is no difference with regards to knowledge between circumcised and uncircumcised men in the Oshana region.

4.6.1.2 Cross tabulation: Willingness to be circumcised and fear of pain

One of the reasons people would not go for VMMC is that they are scared of pain. The fear of pain in relation to individuals' willingness to be circumcised among the uncircumcised participants was assessed in table 10 below, only 9 out of the total of 129 uncircumcised answered the question. The question was poorly answered

however the result that 62.5 % of man indicated that they are not willing to be circumcised because they fear pain as opposed to 37.5% who did not fear pain. This mean that pain is a factor that can influence peoples 'decision to go for VMMC services.

Table 10: Willingness to be circumcised and fear of pain cross-tabulation

			FEAR OF PAIN		
			YES	NO	Total
WILLINGNESS TO BE CIRCUMCISED	NO	Count	5	3	8
		% within WILLINGNESS TO BE CIRCUMCISED	62.5%	37.5%	100.0%
	YES	Count	1	0	1

	% within WILLINGNESS TO BE CIRCUMCISED	100.0%	0.0%	100.0%
Total	Count	6	3	9
	% within WILLINGNESS TO BE CIRCUMCISED	66.7%	33.3%	100.0%

4.6.1.3 Cross tabulation not willing to be circumcised and risk of injuries

Table 11 below shows the uncircumcised participants' willingness to be circumcised in relation to risk for injuries, two participants out of the total of six said that they fear risk for injuries so they were not willing to be circumcised and four said they did not. This indicate that risk for injuries is not a factor that influence individuals 'decision to be circumcised.

4.6.1.4 Risk of Injuries to the Penis

Table 11: Cross-tabulation of those not willing to be circumcised and risk of injuries

	RISK OF INJURIES		
	NO	YES	Total
NOT WILLING TO BE CIRCUMCISED	4	2	6
Total	4	2	6

4.6.1.5 Cross tabulation: circumcision status and VMMC reduces the chances of getting infected

To assess the respondents' knowledge on circumcision reducing the chances of being infected with HIV. The study found that there was a very weak relationship between the fact that someone is circumcised or not and their knowledge of that VMMC reduces the chances of getting infected with HIV. This means that whether someone is circumcised or not that does not affect their knowledge of circumcision. The outcome is illustrated in the table below.

Table 12: Cross-tabulation of circumcision and VMMC reduce the chances of getting infected with HIV.

		VMMC reduce the chances of getting infected with HIV		
		No	Yes	Total
Uncircumcised	Count	37	74	111
	% within	33.3%	66.7%	100.0%
Circumcised	Count	77	177	254
	% within	30.3%	69.7%	100.0%
Total	Count	114	251	365
	% within	31.2%	68.8%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.328a	1	.567		
Continuity Correction	.202	1	.653		
Likelihood Ratio	.326	1	.568		
Fisher's Exact Test				.624	.325
Linear-by-Linear Association	.327	1	.568		
N of Valid Cases	365				

In table 13 16 of the participants who are not circumcised did not know whether voluntary medical male circumcision is an HIV prevention procedure while those who are circumcised 18 neither agree nor disagree that voluntary medical male circumcision is an HIV prevention procedure. There was no one who strongly disagreed among those who are uncircumcised and seven of the circumcised participants strongly disagreed that circumcision is an HIV prevention procedure. Of the circumcised participants 12 disagreed that voluntary medical male circumcision is an HIV prevention procedure while only four of uncircumcised male disagreed. 67 of the uncircumcised participants agreed voluntary medical male circumcision is an HIV prevention procedure and 156 of the circumcised men agreed as such, while 40 of the uncircumcised men strongly agreed and 61 of the circumcised strongly agree. With regards to chi-square test result, the p value of 0.302 and 0.185 of the Fisher's

Exact Test are greater than 0.05, hence we can conclude that there is no difference between the circumcised and uncircumcised with regards to knowledge that circumcising reduced HIV infection.

4.6.2 Attitudes

Individuals who have a positive attitude will feel the impact on their health through lack of illness and overall increased positive well-being. Many health benefits have been influenced by a positive attitude. In this light the respondents were asked questions pertaining to their attitude.

4.6.2.1 Personal Acceptance of VMMC

The respondents were asked about the acceptance of VMMC in their communities. Eight participants who are not circumcised did not know whether to accept voluntary medical male circumcision or not while five of the circumcised male neither agreed nor disagreed. No participant among the uncircumcised men strongly disagreed but one participant who was circumcised strongly disagreed. Three participants who were not circumcised disagreed to accepting voluntary medical male circumcision while 11 who are circumcised disagreed. 106 of the participants who are not circumcised agreed while 237 of circumcised male agreed.

The study was done to assess if there is a relationship between the person's circumcision status and the perception of VMMC in their community. The outcome was that there is a positive but rather weak relationship between one's circumcision status and the acceptance of VMMC in communities. This could be explained as

some people believing in circumcision, which is done in their traditional settings, which is not necessarily VMMC.

Respondents tend to see traditional circumcision different from VMMC. This is illustrated in the table below. The chi-square test results show, the p value of 0.015 for the Pearson chi-square is less than 0.05, hence there is an association between circumcision status and participant's acceptance of VMMC.

Table 13: Circumcision status and accepting VMMC - Cross tabulation

		ACCEPTING VMMC					
		Neither agree or disagree	Strongly disagree	Disagree	Agree	Strongly agree	Total
Uncircumcised	Count	8	0	1	50	58	117
	% within	6.8%	0.0%	0.9%	42.7%	49.6%	100.0%
Circumcised	Count	5	1	4	119	70	199
	% within	2.5%	0.5%	2.0%	59.8%	35.2%	100.0%

Total	Count	13	1	5	169	128	316
	% within	4.1%	0.3%	1.6%	53.5%	40.5%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	12.341a	4	.015
Likelihood Ratio	12.627	4	.013
Linear-by-Linear Association	.128	1	.721
N of Valid Cases	316		

4.6.2.2 Encouraging others to go for VMMC

Respondents were asked if they would encourage others to go for circumcision. This was to show their attitude. 11 uncircumcised men didn't know whether to encourage others to go for VMMC while five of the circumcised men neither agreed nor disagreed. One uncircumcised and one circumcised man strongly disagreed. Two uncircumcised men disagreed and three circumcised participants disagree. 113 uncircumcised males agreed that they will encourage others to go for voluntary medical male circumcision and 245 of the circumcised men said they will encourage others.

The chi-square test results show, the p value of 0.027 for the Pearson chi-square is less than 0.05, hence there is an association between circumcision status and participant's ability to encourage people to go or VMMC.

Table 14: Circumcision status and Encouraging people to go for VMMC

		Encourage people to go VMMC					
		Neither agree or disagree	Strongly disagree	Disagree	Agree	Strongly agree	Total
Uncircumcised	Count	11	1	1	62	42	117
	% within	9.4%	0.9%	0.9%	53.0%	35.9%	100.0%
Circumcised	Count	5	1	3	149	91	249
	% within	2.0%	0.4%	1.2%	59.8%	36.5%	100.0%
Total	Count	16	2	4	211	133	366
	% within	4.4%	0.5%	1.1%	57.7%	36.3%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	10.999a	4	.027
Likelihood Ratio	10.106	4	.039
Linear-by-Linear Association	5.824	1	.016
N of Valid Cases	366		

4.6.2.3 Circumcision status and VMMC is acceptable in my religion Cross tabulation

Of the participants who are not circumcised 19 of them neither agreed nor disagreed about whether circumcision was accepted in their religion while those who were circumcised 52 of them neither agreed nor disagreed. One participant strongly disagreed with the people who are not circumcised but 10 of those who are circumcised also strongly disagreed that circumcision was acceptable in their religion. Of the ten men who were circumcised disagree that circumcision is accepted in their religion and also nine of those who are circumcised indicated that circumcision is not accepted in their religion. Most participants agreed that circumcision is an acceptable act in their religion. Though according to the chi-square test there is no association between religion and being circumcised because Pearson correlation coefficient of 0.116 shows that there is no association because the p value is more than 0.05.

Table 15: Circumcision status and VMMC acceptability in my religion including Chi-square result

		VMMC is acceptable in my religion					
		Neither agree or disagree	Strongly disagree	Disagree	Agree	Strongly agree	Total
Uncircumcised	Count	19	1	7	53	38	118
	% within	16.1%	0.8%	5.9%	44.9%	32.2%	100.0%
Circumcised	Count	52	10	9	123	58	252
	% within	20.6%	4.0%	3.6%	48.8%	23.0%	100.0%
Total	Count	71	11	16	176	96	370
	% within	19.2%	3.0%	4.3%	47.6%	25.9%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	7.400a	4	.116
Likelihood Ratio	7.915	4	.095
Linear-by-Linear Association	2.889	1	.089
N of Valid Cases	370		

4.7 SUMMARY

The chapter has presented the findings of the research. The study noted that the knowledge of men regarding VMMC is quite high in Oshana as in other countries such as Botswana. The study noted that the uptake of VMMC was high in the area of the Oshana were the research was done. Many of the respondents were willing to take up VMMC and the number of males who were circumcised in the study was quite high. However, it is important to ensure that people have accurate knowledge about VMMC programs.

CHAPTER 5: DISCUSSION, CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

In this chapter, the findings of the research will be discussed in-depth. The findings will be analysed against the context of the country and will be compare to studies and findings in other countries in Africa and the world. After the discussions, conclusions will be drawn from the important findings and recommendations will be made based on the outcome of the study. The limitations of this study will also be discussed.

5.2 DISCUSSIONS

5.2.1 Demographic data:

Based on the sampling Epi Infor sampling formula the population estimated to be 176 674 and 37 878 of these are males in the age range of 15 to 49 had to have a sample size of 381. The sample was split into the constituencies. The researcher first chose three out of the five rural constituencies randomly and engaged Okaku with 66 respondents, Okatana with 52 respondents and Uushona with 42 respondents. Ongwendiva with 123 respondents and Oshakati with 90 respondents represented the four urban constituencies. The sample size for each constituency was determined by the ratios of the estimated population of each constituency and that was used to reach 381.

The respondents were taken from both rural and urban constituencies because the knowledge, practises and attitude towards circumcision were considered to differ in urban and rural settings. Hopefully this ensures the study has captured the KAP of both men with a modern lifestyle and men with a traditional lifestyle. The findings of

the study show that 57.7% of the participants live in urban areas and the remaining 42.35% live in the rural areas of the Oshana region. According to the Namibia 2011 population and housing censuses the urban population of the Oshana region is about 55% and that of the rural is about 45% hence the sample is a true representation of the population (National Planning commission, 2012).

A total number of 381 men aged from 18- 49 years participated in this study and their mean age was 29 years. According to the VMMC policy of Namibia the target age group is men aged 15 to 49 years, however for this study excluded those who are aged 15 to 17 years because these are minors who would need the consent of their parents or guardians.

The majority of men (317), in the study were single. This would mean that the decision to go for circumcision is based mainly on individual decision and with no need to consult. This means that education for circumcision would target men only unlike in communities where most of the men are married then partner involvement would be essential.

The majority (73.2%) of the participant had secondary education. According to research by Chang'ach (2013) the more educated a person is the more likely they are to have an understanding of the benefits and the more likely they are to volunteer for VMMC. The high percentage of respondents with high school education would be assumed to mean that most of them would be in favour of VMMC, as this would be an advantage for the role out of the programme as the possible participants have access to information. According to the Health Belief model education is a key tool

to creating community awareness on the benefits of health promotion actions like VMMC.

More than half of the participants were either employed, in school or self-employed. This means that the success of the VMMC programme depends on the programmes ability to fit into the busy schedule of the participants. Meaning that the programme needs to be available a time of the year when these men have time off their busy schedules to be circumcised and heal before they go back to work, school and that the recovery period must also not be too long.

5.2.2 Knowledge

The participants displayed high levels of knowledge on VMMC. The knowledge aspect was analysed in terms of their awareness, definition of VMMC, benefits, risk, provision of the services, cost of the services and the link between circumcision and HIV. Almost all the participants (97.64%) were aware of the existence of VMMC, and 76.64% could define VMMC and give its similarities and differences with traditional circumcision.

The participants were aware of the benefits of VMMC. The major benefits they cited was reduced the chances of getting infected (66.1%), and decrease in certain STDs (55.6%). These are the benefits that more than half of the participants were aware of. The other benefits also known by the greater number of respondents were awareness of VMMC improving hygiene (36%) and reducing the chances of getting cancer (35.2%). The other benefits that are least known are decrease in physical problems (2.9%), lower incidence of inflammation (0.8%), reduce urinary tract infection

(0.8%) and less erection problems (0.5%). This gives a picture that the participants are aware of the benefits of VMMC.

When it comes to the benefits of circumcision in the protection of HIV. Most of the participants (73%) knew that circumcision does not provide 100% protection against HIV. However there is need to educate some as 17% said that circumcision provides 100% protection to HIV and this is a great risk as they might expose themselves.

The participants were asked about the other methods that can be used to prevent HIV other than circumcision and the majority (89.5%) knew that the condom and Femidom are complementary methods to prevent HIV, other methods such as faithfulness and abstinence were not familiar.

In a similar study conducted in Kenya and in Botswana participants indicated that VMMC can reduce chances of contracting STIs and also of contracting HIV (Source). The respondents in the study in Botswana were aware that VMMC has the potential of reducing penile cancer. The participant that were circumcised in Botswana were more likely to disagree with the view that voluntary male circumcision has the potential to reduce sexual satisfaction (Mubekapi, 2013). The findings of the study have shown that the participants who were aware of the benefits of circumcision were more willing to take part in VMMC. As was discussed in chapter 2 according to the Health Belief model people are more likely to take health preventative and promotional actions if they can understand and believe in the benefits for themselves.

The knowledge of where the services are offered was asked and 85% of the respondents knew that the services were offered at state hospitals, however the other 15% were of the opinion that the services are from the traditional or outreach programmes. 95% of the respondents knew that the services are offered free at the state hospitals. This means that cost is not a factor in the uptake of the circumcision.

The service is also offered throughout the year as 70.53% of the participants are aware. This means that if the season is a factor with anyone they can then choose to go in another season of their choice. When asked of the seasons of their choice, 48.15% were not concerned with the season, and 33, 33% preferred winter. These men are free to choose the season or time they want to go for the procedure. However the service provider might expect an influx during winter.

Most of the participants (85.8%) were aware that it takes up to six weeks for circumcision to heal and for the person to start to have sex again. This means that the people are well informed about VMMC. This means the participants had clear information about VMMC and were knowledgeable about the process, the costs involved, and the possible risks involved. It is clear from these findings that the participants were aware of most of the barriers (HBM) to taking up VMMC services and that MOHSS had removed as many barriers as possible making it as convenient and barrier-free to take up the services.

All in all, the results indicate that, in the Oshana region, men are knowledgeable with regard to VMMC as shown by their high level of knowledge on what VMMC is, the

benefits of VMMC, the risks involved in undergoing the procedure and pain control during and after the procedure.

The results also show that there is a high level of knowledge with regard to the relationship between HIV and Circumcision. This means that knowledge is a positive factor for VMMC services uptake in the Oshana region, there are high chances of men taking the action of going for circumcision because their level of knowledge influences their perception and beliefs on VMMC for HIV prevention as indicated by the HBM.

Knowledge is one of the modifying factors according to the HBM and knowledge is acquired from various sources such as education from health educational programme or other institutions, past experiences of disease or seeing the effects of the disease on someone. The results show that people acquired information through health education by health providers and on the radio, which means that there has been an aggressive community-based awareness creation programme and on local radio. However this might be a serious challenge in sustaining such programmes because of the cost involved.

The HBM indicates that individuals' decisions to take health action are influenced by their perception on the benefits and the barriers, whereby benefits need to outweigh the barriers. In the Oshana region, people are very much informed about the benefits and barriers involved in undergoing VMMC. This means that their decision to either be circumcised or not is based on an informed stand-point, which is positive for the VMMC programme in Oshana.

What men know determines the decisions they take. A study in South Africa found that men were eight times more likely to prefer circumcision if they believed that circumcised men enjoyed sex more, and six times more likely to prefer circumcision if they believed that women enjoy sex more with circumcised men (Pappas-Deluca, et al, 2009).

The major difference between circumcised and uncircumcised men in Oshana was that when it came to knowledge, circumcised men were more informed about the process, services and pain management unlike those who were not circumcised. There is a strong relationship between someone's circumcision status and their knowledge.

Unlike in Zimbabwe where the findings in research by Chikutsa and Maharaj (2015) noted that just as in Oshana knowledge and acceptability of VMMC was very high, however, the knowledge was not matched with a willingness to undergo circumcision. The study in Zimbabwe concluded that there is a gap between the knowledge that men have and their willingness to undergo circumcision. In Oshana the greater the knowledge the more willing the person is to be circumcised.

5.2.3 Attitude

Generally the participants had a positive attitude towards VMMC. Their attitude was said to be acceptable with most (71%) of the people's religion. Once a practice is accepted by religion it means that the members of that religion would participate without fear of being condemned.

They also did not have problems in their culture as 71% of the participants also said that the cultures did support of the practice. This means that the people were free to practice circumcision without fear of being condemned or judged. Chinkhumba, et al (2015) also indicated, in studies that were conducted in the rural areas of Malawi, that there was reduced-risk sexual behaviour among men, but did not increase uptake of circumcision. In Malawi as in other African countries, male circumcision is rooted in culture and is done traditionally, however, with the introduction of medical circumcision, there was surprisingly low service uptake.

Most of the participants (78%) were of the idea that the procedure is safe. Safety is one of the factors that one considered when deciding on health issues. Safety is considered in terms of how safe is the procedure, how safe is the theatre, how competent is the person conducting the procedure. The participants demonstrated a satisfactory level of satisfaction with safety in the process. It is clear from the findings that the participants understand the risks involved if they undergoing this procedure are minimal and as indicated in the HBM this plays a big role in men decision to take up the services.

In questioning the difference between circumcision done in the hospital and one done traditionally, the respondents were asked about their perception of the two. The question was phrased as people should be medically circumcised to prevent HIV/AIDS. 80% of the respondents were in agreement with this. This means that in this area there is very little if any practice of traditional circumcision.

Personal perceptions of VMMC were questioned and 75% of the participants were in favour of circumcision and 80% would be willing to give the message to other people and encourage them to go for the procedure and 80% would also even encourage their own family members to do so. This shows that the men are motivated enough to engage in the practice and willing to encourage other to engage too.

The study shows that there is positive attitude towards circumcision practice in the Oshana region as evidenced by peoples' willingness to be circumcised, approving their family such as boys to undergo circumcision and their willingness to motivate or encourage other people to go circumcision. This means that attitude might not be a barrier for the uptake of circumcision services in the Oshana region.

In terms of the HBM the although the decision to use health services is stated to be an individual choice, however the perceptions that influence the choices are mostly framed in the social context through knowledge, attitude and practice that one acquires by social interactions and the training they receive in life. A person's attitude is greatly determined by their perception of the whole issue. The perceived severity, and perceived benefits are determined whether positively or negatively by a person's knowledge. Hence a positive attitude is influenced by knowledge in the Oshana region.

The study in Kenya showed that there was no major difference the perception between the number of people who were circumcised traditionally and those that received the procedures from medical centres. Their perception did not encourage

people to specifically go for VMMC but just to be circumcised (Buglar, White and Robinson, 2010).

In Oshana, men who were circumcised displayed a more positive attitude towards circumcision compared to those who are not. There was a strong relationship between someone's circumcision status and their attitude towards it, with those who are circumcised being more positive. There was no resistance from religion as both who are circumcised and those who are not indicated that their religion was not against circumcision.

5.2.3 Practice

The best way to assess if the people are practising circumcision is to find out if they are circumcised. The participants were asked if they are circumcised. The participants who were circumcised were 66.1% and those who were not were 33.9%. This is quite a big number and this could suggest that the previous campaigns have yielded positive results. The results were further analysed in terms of the urban and rural settings. In the rural settings 64% were circumcised and in the urban settings 70% were circumcised. This suggests that more people in urban settlements are circumcised than those from the rural settings. The difference is however not so significant. This means that people in rural settings are doing very well in terms of being circumcised given that in their setting they have to travel longer distances to get the services, which are offered in government hospitals in urban settlements.

People from the rural areas are also disadvantaged because in the rural areas the dissemination of the information is not as organised as it is in the urban settlements.

The level of participation in the rural areas can only be attributed to good awareness campaigns in the rural areas and most of the participants were circumcised in hospitals. Unlike in Kenya where a study showed that there was no major difference between the number of people who were circumcised traditionally and those that received the procedures from medical centres. This means that the people in Kenya perceived the traditional circumcision to be the same as VMMC and they are not concerned with the risks of lack of knowledge of traditional circumcisers (Buglar, White and Robinson, 2010).

In Namibia among the Ovaherero tribe, tradition advocates that every young man should be circumcised to prevent infection of the male genitalia associated with the foreskin. The process is done during the early infancy of the child's life, as early as one month after birth, mostly before the age of three years. Nowadays, a knife or razor is used and traditional circumcisers know certain trees with properties that assist the healing process after a circumcision (Lumpkin, 2010). It is said that when the wound starts healing, it needs to be wiped with warm water and ekara romugondo in Otjihereo; a paste made from the leaves of certain trees is to be applied.

The action taken by the participants show that the amount of influence of their knowledge and attitudes as based on the HBM. Their cues to action are based on what they know and their attitude to what they know. The action taken can be an individual decision taken independently or an individual decision taken under pressure to be accepted. In the study in Botswana the findings show that the participants who were aware of the benefits of circumcision were more willing to take part in VMMC. The same findings were true in this study in which many

respondents were willing to take part in VMMC due to the knowledge or information that they had.

In Namibia the responsibility for VMMC is taken by the government through the Ministry of Health and Social Services and in this way the risk of infection is severely reduced. However in situations where people use traditional circumcision in which a single knife is used on a number of boys still poses risks for men who want to take up male circumcision. However in Namibia this number is limited due to common provision of VMMC in state hospitals or through outreach programmes in schools and communities.

The number of people who have been circumcised by age showed that there are more, younger people who are circumcised as compared to older people. This could be attributed to the time the awareness campaigns for circumcision started. The participants were further asked if their circumcision was done medically or traditionally. This was meant to assess if the awareness campaigns have been effective or if the people were being circumcised because their tradition required that. 80.71% of the respondents were circumcised medically and this leaves only 19.29% that have been circumcised traditionally. This means that VMMC programme has been effective.

Participants were asked for the reasons why they were circumcised and the main reason given by most of them is HIV prevention. This shows that HIV prevention is the main reason why most male respondents in Oshana go for circumcision. All those who were not circumcised were asked if they wanted to be circumcised and they all

said they were willing to be circumcised this shows a positive attitude towards circumcision in the area. The reasons why they were still not circumcised were that most of them were afraid of the pain and hence would keep postponing but after they met those who were circumcised they changed their mind about the whole process.

5.3 FULFILLING RESEARCH OBJECTIVES

The research began with the following research objectives to assess and describe the knowledge and attitudes and practices of men aged 18-49 in the Oshana region with regards to Voluntary Medical Male Circumcision for HIV prevention; to explore and describe the reasons for men are not taking up Voluntary Medical Male Circumcision for HIV prevention services in Oshana region; and analyze the differences between circumcised and uncircumcised men with regards to knowledge and attitudes on VMMC.

The second objective of exploring reasons that made men fail to take up VMMC was also answered through the use of the research questionnaire. And the finding indicated that the fear of pain was the most important reason why men did not take up VMMC.

The last objective, which was to analyse difference in terms of knowledge between circumcised men and men that were not circumcised was tested using a chi-square

and correlation coefficient test. The chi-square test and the t-test showed that knowledge of circumcision was important for a person to take up circumcision.

5.4 LIMITATIONS

The study was conducted over a very short period of time as the participants were only met once during the study and this might affect the results as the participants would respond depending on their mood, feelings or other stimulants and would not give the same responses if they were to be asked on a different day. Even when they got the questionnaires they had to write while the researcher was waiting and that could have created pressure on their part and hence affect their responses.

There was also language barrier as the respondents were not familiar with English and the researcher also not being familiar with Oshiwambo, which is the language used in the area. A translator had to be used. The translator was a community-based health promoter and to some extent competent but since they were not part of the research process might not have been fully aware of the study's intended outcomes and that might have had an impact on the quality of their translations.

The study adopted a quantitative approach of research. By their nature quantitative approaches do not allow the participants to express their ideas, thoughts and feelings beyond the questionnaire. The participants were only ticking the questionnaires and not saying anything more even if they wanted to there was no room.

5.5 CONCLUSIONS

The conclusions that are drawn from this study reflect that the main way in which people are able to access information regarding VMMC programmes is through the

work of health workers, the use of radios and through the use of social communication channels, which include friends and relatives.

The study also reflected that the level of awareness among the respondents regarding VMMC was quite high and the same level of awareness is assumed to be prevalent throughout the country among males. The level of awareness regarding the meaning of VMMC is high in the Oshana region although there is still significant number of men who have no awareness of the VMMC.

The primary data showed that many men are using the services offered at medical centres and also at the school outreach programmes organised by the government. However, there is evidence of a small number of people who still utilise traditional services for circumcision.

Many of the respondents were aware that the VMMC process involves the use of anaesthesia, but a significant number did not have knowledge on how pain was managed during the VMMC process. The respondents were also asked to indicate if they were aware of the benefits of VMMC.

The primary data gathered revealed a continuum of awareness that the respondents have regarding VMMC. The highest factors that was mentioned by respondents was that VMMC reduces the chances of getting infection from HIV and other points that were raised by respondents according to the order of importance given by respondents were for hygiene, decreases the chance of getting infected from STIs, reduces the chance of contracting cancer among many other factors. The range of respondents reflects that in the Oshana region knowledge about the benefits of

VMMC are well known by many people, although there are a few male who may still require training on the issue. Many of the respondents indicated that they would prefer to have circumcision in winter. The second category of respondents preferred to have the circumcision throughout the year.

The research concludes that there is a relationship between male circumcision and the knowledge that people have about circumcision according to the chi-square test and correlation coefficient test in the Oshana region.

5.6 RECOMMENDATIONS

On the basis of the conclusions drawn from this research the following recommendations are made:

i) The Ministry of Health and Social Services (MOHSS) must strengthen outreaches on VMMC programmes through the radio, health workers and also through the use of social communication networks that include families and friends.

ii) Since there is good awareness on VMMC, it will be good for the MoHSS to incorporate the behaviour change programmes in the existing community awareness campaign.

iii) The MoHSS must sustain the outreach to males in the country that have no idea about male circumcision and its benefits.

iv) The MoHSS must continue to disseminate information regarding the way VMMC is done, in order to educate people about the process of VMMC

and also to allay their fears and address misconceptions about VMMC such as: “that VMMC provides full protection against HIV infection”.

v) The traditional service providers of circumcision need to be trained to offer safe circumcision services that do not put people at risk.

vi) It is important to intensify the outreach programme to schools and communities in winter and then sustain the programme throughout the year at a small scale.

5.7 SUMMARY

In this chapter, the research presented the findings of the research, the summary, and recommendations. In this study, it was noted that many people have knowledge of VMMC in the area where the study was done. Many of the participants were willing to take up VMMC services. Many males in the study were circumcised, while those that are not circumcised, were willing to undergo the procedure.

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APPENDIXES

Appendix A: Consent form

CONSENT FORM

KNOWLEDGE, ATTITUDE, AND PRACTICES ON VOLUNTARY MEDICAL MALE CIRCUMCISION FOR HIV PREVENTION IN OSHANA REGION

This Informed Consent Form is for men aged 18-49 years old in Oshana region, and I am inviting them to participate in research on voluntary medical male circumcision. The title of the research project is "KNOWLEDGE, ATTITUDE, and PRACTICES ON VOLUNTARY MEDICAL MALE CIRCUMCISION FOR HIV PREVENTION IN OSHANA REGION"

Name of Principal Investigator: Kaauma Clerens Vejorerako

Name of Organization: University of Namibia

Supervisors: Main Supervisor: Wilma Wilkinson

Co-supervisor: Epafras Anyolo

This Informed Consent Form has two parts:

- Information Sheet (to share information about the research with you)
- Certificate of Consent (for signatures if you agree to take part)

You will be given a copy of the full Informed Consent Form

PART I: INFORMATION SHEET

Introduction

I am Kaauma Clerens Vejorerako, I am a student at the University of Namibia studying for a Master's degree in Public health. I am doing research as part of my studies to obtain my degree. This research process forms part of my Masters Research Project entitled: KNOWLEDGE, ATTITUDE, and PRACTICES ON VOLUNTARY MEDICAL MALE CIRCUMCISION FOR HIV PREVENTION IN OSHANA REGION. I am going to give you information and invite you to be part of this research. You do not have to decide today whether or not you will participate in the research. Before you decide, you can talk to anyone you feel comfortable with about the research. There may be some words that you do not understand. Please ask me to stop as we go through the information and I will take the time to explain. If you have questions later, you can ask me.

Purpose of the research

Namibian Government adopted circumcision as an additional HIV prevention methods and it decided to provide circumcision services for HIV prevention in selected regions. Oshana region is selected to provide Circumcision because it has high cases of HIV infections and low Male Circumcision rate.Since the circumcision services have started in Oshana region men have been reluctant to go for circumcision, The purpose of the research is to assess and the knowledge, attitudes, and practices on Voluntary Medical Male Circumcision for HIV prevention among men and how they are related to services uptake.

Type of Research Intervention

Your participation in this research study will be through answering a questionnaire. These will be arranged to bring the most minimal disruption in your daily schedule. The estimated time is 30 to 45 minutes. The questionnaire is in English; however translation in vernacular will be done by the researcher or by a trained research assistant with your consent.

Participant selection

All men aged 18-49 years of age has equal chances of being selected to participate in the study, therefore you are selected.

Voluntary Participation

Your participation in this research is entirely voluntary. It is your choice whether to participate or not. Please be advised that you may choose not to participate in this research and should you wish to withdraw at a later stage, you have full right to do so and your action will not disadvantage you in any way.

Benefits:

There may not be any benefit for you but your participation is likely to help us find the answer to the research question. There may not be any benefit to the society at this stage of the research, but future generations are likely to benefit.

Risks:

The different topics that will be covered in this research are of a very personal and private nature and that might which might cause anxiety.While the possibility of this happening is very low, you should still be aware of the possibility. We will try to decrease the chances of this event occurring, but if something unexpected happens, we will provide you with counseling services or refer you to the social worker in your district.

Reimbursements:

There is no material or financial benefits attached to participating in this research study and this is done on a volunteer basis.

Confidentiality

The information that we collect from this research project will be kept confidential. Information about you that will be collected during the research will be put away and no-one but the researchers will be able to see it. 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 the research team.

Sharing the Results: The knowledge that we get from doing this research will be shared with you through community meetings before it is made widely available to the public. Confidential information will not be shared. There will be small meetings in the community and these will be announced. After these meetings, we will publish the results in order that other interested people may learn from our research.

Who to Contact

If you wish to ask questions later, you may contact me on the following: Kaauma Clerens Vejorerako, cell phone No 0818652993, e-mail] address:cvejorerako@gmail.com. This proposal has been reviewed and approved by Ministry of Health and Social service (MOHSS), which is a committee whose task it is to make sure that research participants are protected from harm. If you wish to find about more about the MOHSS, contact Research Department, MOHSS Head Quarter, telephone number 061203911. It has also been reviewed by University of Namibia Post Graduate School

You can ask me any more questions about any part of the research study if you wish to. Do you have any questions?

PART II: CERTIFICATE OF CONSENT

Participant

I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction. I consent voluntarily to participate as a participant in this research.

Print Name of Participant_____

Signature of Participant _____

Date _____

Day/month/year

If illiterate

A literate witness must sign (if possible, this person should be selected by the participant and should have no connection to the research team). Participants who are illiterate should include their thumbprint as well.

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness_____ AND Thumb print of participant

Signature of witness _____

Date _____Day/month/year

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands that the following will be done:

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.

Print Name of Researcher/person taking the consent_____

Signature of Researcher /person taking the consent_____

Date _____Day/month/year

Appendix B: Questionnaire

Knowledge, Attitude, and Practices on Voluntary Medical Male Circumcision for HIV prevention in Oshana region Questionnaire

UNIQUE ID NO ……

Instructions:

This questionnaire is confidential, and information will only be used for purposes of understanding issues of Voluntary Medical Male Circumcision (VMMC). No names will be attributed to the respondents.

PLEASE ENTER YOUR DATE OF BIRTH.

Here is an example of how to enter in a date: if you were born on December 23, 1975, you would enter the number 12 for a month, 23 for the day, and 1975 for the year.

MM	DD	YYYY	AGE

TERMINATE IF NOT 18-49years old

CONSTITUENCIES

RURAL

- Okaku
- Okatana
- Uukwiyu Uushona

URBAN

- Oshakati East
- Ongwendiva

A. DEMOGRAPHIC INFORMATION

Marital status

- Married
- Single
- Divorced
- Widowed
- Separate

Employment status

Are you currently?

- Employed for wages
- Unemployed
- Self-employed
- A student

Education completed

What is the highest grade or year of school you completed?

- Never attended school
- Primary education (grade 1-7)
- Secondary Education (grade 8-12)
- Tertiary Education (graduate University or college students)

B. KNOWLEDGE QUESTIONS

1. Have you ever heard about Voluntary Medical Male Circumcision?

   Yes No

   If No skip question 2

2. Where have you heard about Voluntary Medical Male Circumcision?

   - Radio
   - TV
   - Health providers
   - Schools
   - Friend/Relative
   - Pamphlet

3. What is Voluntary Medical Male Circumcision?
   - Surgical removal of the foreskin from the head of the penis
   - Cutting off the foreskin from the penis
   - I have no idea
4. How is pain controlled when one is undergoing Medical circumcision
   - Injection is given on area of the operation so that one does not feel the pain
   - Procedure is done without any painkillers, therefore it very painful
   - No Idea
5. What are the benefits of Voluntary Medical Male Circumcision?

   - Decrease in physical problems involving a tight foreskin
   - Lower incidence of inflammation of the head of the penis
   - Reduce urinary tract infections.
   - Fewer problems with erections, especially at puberty.
   - Reduce the chances of getting infected with HIV in men.
   - Decrease in certain sexually transmitted diseases (STDs) such.
   - Reduce the chance of getting cancer of the penis.
   - Improves Hygiene

6. Does circumcision provide full protection against HIV infection

   Yes No

7. Besides Voluntary Medical Male Circumcision, what other HIV prevention methods are there?

□ Abstain □ Condoms/Femidom

□ Faithfulness

8. Where is voluntary medical male circumcision services provided
   …….
9. How much does it cost to get circumcised
   - □ Free □ 101-500
   - □ 0-100 □ 501+
10. What are the risk involved with voluntary medical male circumcision procedure
    - □Reaction to anesthesia □Too much removal of Foreskin
    - □Pain □Bleeding
    - □Injuries to the Penis and urethra □Infection of circumcision wound
11. Which period of the year is voluntary medical male circumcision services provided?
    - □ Summer □ Throughout the year
    - □ Winter □ I have no idea
12. When do you prefer to go for Voluntary Medical Male Circumcision?
    - □ Summer □ Throughout the year
    - □ Winter □ I have no idea
13. How long does it take for circumcision wound to heal before one can start having sex?
    - □ 6 weeks □ 1 year
    - □ 6 month □ I have no idea
14. Relationship of Voluntary Medical Male Circumcision and HIV

For the question below, circle one response that bests suits how you feel about the statement.

	Strongly disagree	Disagree	Neither agrees on Nor Disagree	Agree	Strongly Agree
1. The foreskin can easily tear during sexual intercourse which increases the risk of HIV infection	1	2	3	4	5
2. When one has foreskin, there is increased risk get sexually transmitted disease(STDs that cause ulcer/sores which increase the risk of HIV infection	1	2	3	4	5
3. When one is circumcised the remaining skin becomes hard and is difficult to tear or contract STDs which reduce the risk of HIV infection in men.	1	2	3	4	5

C. ATTITUDES

For the question below, circle one response that bests suits how you feel about the statement.

	Strongly disagree	Disagree	Neither agrees on Nor Disagree	Agree	Strongly Agree
1. Voluntary Medical Male Circumcision is acceptable in my religion	1	2	3	4	5
2. Voluntary Medical Male Circumcision is acceptable in my culture/Tradition	1	2	3	4	5
3. It is safe to undergo Voluntary Medical Male Circumcision	1	2	3	4	5
4. I think Voluntary Medical Male Circumcision as an HIV prevention procedure would work for me personally	1	2	3	4	5
5. People should people be medically circumcised to prevent HIV/AIDS	1	2	3	4	5
6. I personally accept and willing go for voluntary medical male circumcision	1	2	3	4	5
7. Will tell and encourage people to go for Voluntary Medical Male Circumcision	1	2	3	4	5
8. I will approve if my son, friend or brother go for Voluntary Medical Male Circumcision.	1	2	3	4	5

D. PRACTICES

1. Have you undergone circumcision?
   - □ Yes
   - □ No

If yes

- □ Medically or,
- □ Traditionally

2. What are the reasons you got circumcised?
   - □ Cultural practice
   - □ Religious
   - □ Social Pressure(Partner wanted me to be circumcised or peer

- Other specify…….
- HIV prevention
- Problem with foreskins

If you are not circumcised are you willing to be circumcised?

- Yes
- No

If no, what are the reasons for not wanting to be circumcised?

- I Don't see the need to be Circumcised
- Use other HIV Prevention methods
- Fear of pain
- Risk for Injuries
- It is against my culture
- It is against my Religion
- Partner does not approve circumcision

Other specify…….

THANKS!!!!!!!!!!!!

APPENDIX C: Ethical Clearance, UNAM

UNAM
UNIVERSITY OF NAMIBIA

ETHICAL CLEARANCE CERTIFICATE

Ethical Clearance Reference Number: SONPH/123/2016 **Date: 9 September, 2016**

This Ethical Clearance Certificate is issued by the University of Namibia Research Ethics Committee (UREC) in accordance with the University of Namibia's Research Ethics Policy and Guidelines. Ethical approval is given in respect of undertakings contained in the Research Project outlined below. This Certificate is issued on the recommendations of the ethical evaluation done by the Faculty/Centre/Campus Research & Publications Committee sitting with the Postgraduate Studies Committee.

Title of Project: Knowledge, Attitudes And Practices On Voluntary Medical Male Circumcision For HIV Prevention in Oshana Region

Nature/Level of Project: Masters

Researcher: K. Clerens Vejorerako

Student Number: 200245716

Faculty: School of Nursing and Public Health

Supervisor: Dr. W. Wilkinson (Main); Mr. E. Anyolo (Co)

Take note of the following:

(a) Any significant changes in the conditions or undertakings outlined in the approved Proposal must be communicated to the UREC. An application to make amendments may be necessary.
(b) Any breaches of ethical undertakings or practices that have an impact on ethical conduct of the research must be reported to the UREC.
(c) The Principal Researcher must report issues of ethical compliance to the UREC (through the Chairperson of the Faculty/Centre/Campus Research & Publications Committee) at the end of the Project or as may be requested by UREC.
(d) The UREC retains the right to:
(i). withdraw or amend this Ethical Clearance if any unethical practices (as outlined in the Research Ethics Policy) have been detected or suspected, request for an ethical compliance report at any point during the course of the research.

UREC wishes you the best in your research.

Dr. H. Kapenda
Director –Centre for Research and Publications
ON BEHALF OF UREC

CENTRE FOR POSTGRADUATE STUDIES

University of Namibia, Private Bag 13301, Windhoek, Namibia
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UNAM
UNIVERSITY OF NAMIBIA

RESEARCH PERMISSION LETTER

Date: 20/09/2016

Student Name: Clerens Kaauma Vejorerako

Student number: 200245716

Programme: Master in Public Health

Approved research title: Knowledge, Attitudes and Practices on Voluntary Medical Male Circumcision for HIV Prevention in Oshana Region, Namibia

TO WHOM IT MAY CONCERN

I hereby confirm that the above mentioned student is registered at the University of Namibia for the programme indicated. The proposed study met all the requirements as stipulated in the University guidelines and has been approved by the relevant committees.

The proposal adheres to ethical principles as per attached Ethical Clearance Certificate. Permission is hereby granted to carry out the research as described in the approved proposal.

Best Regards

Name: Dr Marius Hedimbi
Director: Centre for Postgraduate Studies
Tel: +264 61 2063275
E-mail: directorpgs@unam.na

Appendix D: Permission letter from the Ministry of Health and Social Services

REPUBLIC OF NAMIBIA

Ministry of Health and Social Services

Private Bag 13198
Windhoek
Namibia

Ministerial Building
Harvey Street
Windhoek

Tel: 061 – 203 2562
Fax: 061 – 222558
E-mail: hnangombe@mhss.gov.na

OFFICE OF THE PERMANENT SECRETARY

Ref: 17/3/3
Enquiries: Ms. H. Nangombe

Date: 08 September 2016

Mr Kaauma C. Vejorerako
School of Public Health
University of Namibia
P.O. Box 61822
Katutura
Windhoek

Dear Mr Vejorerako

Re: Knowledge, attitudes and practices on voluntary medical male circumcision for HIV prevention in Oshana region

1. Reference is made to your application to conduct the above-mentioned study.

2. The proposal has been evaluated and found to have merit.

3. **Kindly be informed that permission to conduct the study has been granted under the following conditions:**

3.1 The data to be collected must only be used for academic purpose;

3.2 No other data should be collected other than the data stated in the proposal;

3.3 Stipulated ethical considerations in the protocol related to the protection of Human Subjects should be observed and adhered to, any violation thereof will lead to termination of the study at any stage;

3.4 A quarterly report to be submitted to the Ministry's Research Unit;

3.5 Preliminary findings to be submitted upon completion of the study;

3.6 Final report to be submitted upon completion of the study;

3.7 Separate permission should be sought from the Ministry for the publication of the findings.

Yours sincerely,

Andreas Mwoombola (Dr)
Permanent Secretary

"Health for All"