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## Part 0: Preamble



**THESIS TITLE**

**Men's knowledge, understanding and factors influencing their beliefs about male circumcision in rural communities in Northern KwaZulu-Natal, South Africa**

University of Cape Town

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**THESIS SUBMITTED IN FULFILMENT OF A  
MASTERS DEGREE IN PUBLIC HEALTH  
AT THE SCHOOL OF PUBLIC HEALTH  
AT THE UNIVERSITY OF CAPE TOWN**

**14 SEPTEMBER 2011**

## DECLARATION

I, Sicelo F. Sengwayo, hereby declare that this is my original work and has not been presented before for the award of a Masters' Degree in Public Health.

Signature.....

Date...../...../.....

University of Cape Town

## DEDICATION

This piece of work is dedicated to my family who have been supporting me throughout my academic life. I also like to dedicate this work to the following individuals who did not doubt my ability and potential to progress academically and influence the world positively. They are: Mr Mavuso and his wife Mrs Nkosi, Dr Cornel du Preez, Ms Manana, Mrs T.V Khumalo, Ms Z Khumalo, Mr Ashmnon Mntungwa, and Mr Percy Ndlangamandla.

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## THESIS ABSTRACT

Numerous studies have reported compelling evidence that medical male circumcision (MMC) reduces HIV acquisition in men. MMC is now recommended by the World Health Organization (WHO) and UNAIDS as part of HIV prevention strategies in countries with heterosexually-driven HIV epidemics. This research project assesses men's knowledge, understanding and factors influencing their beliefs about male circumcision in rural communities in Northern KwaZulu-Natal, South Africa. The study was conducted a year after the launch of a medical male circumcision programme by the KwaZulu Natal Department of Health. We conducted six focus group discussions and 27 in-depth interviews with circumcised and uncircumcised men, and, one focus group discussion with health providers. Knowledge about MMC in relation to HIV prevention was high. Uncircumcised participants expressed willingness to be circumcised in health facility settings because of the perceived health benefits and safety. The barriers to MMC uptake included the need for HIV testing before MMC and the abstinence period afterwards. The primary facilitators of male circumcision uptake were its ability to prevent HIV and STIs and the perception that MMC enhanced sexual pleasure. The positive attitudes and beliefs about MMC noted in this study can be improved by increasing women's participation during implementation and by investing in more human resource capacity for MMC programmes.

**Key words:** Male circumcision, medical male circumcision, traditional male circumcision, HIV prevention, masculinity, ukuqhatha.

## **ACKNOWLEDGEMENTS**

I wish to convey my warm thanks to my thesis supervisor, Christopher Colvin, and also acknowledge the contribution made by Marie-Lousie Newell, John Imrie, Nora Rosenberg, Thembelihle Zuma and Rhandzu Shiringani for providing technical supports to the study. Again, I would also like to appreciate the contribution made by the following funders: Medical Research Council (MRC), Africa Centre for Health and Population studies, Umthombo Youth Development Foundation, and the KwaZulu-Natal Department of Health. Finally, I would like to thank the local authorities, communities, participants and research assistants who made this study possible through their cooperation and participation.

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## **Part A: Protocol**

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## STUDY PROTOCOL

### **Project Title:**

**Men's knowledge, understanding and factors influencing their beliefs about male circumcision in rural communities in Northern KwaZulu-Natal, South Africa**

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## 1.0 INTRODUCTION

### 1.1 BACKGROUND

Approximately 33.4 million people living with HIV worldwide were infected through sexual intercourse (UNAIDS, 2011). In adult men, an estimated 70% of HIV infections are acquired through vaginal intercourse, and in sub-Saharan Africa this figure is over 90% (Bailey et al., 2001). The UNAIDS 2009 statistics estimated that 5.7 million people were living with HIV in South Africa (UNAIDS, 2011). HIV is predominantly spread through unprotected heterosexual intercourse (Department of Health, 2008). Factors that may reduce men's HIV susceptibility are very important, and this has led to growing focus to the prepuce as a possible way of HIV acquisition in men. The removal of the foreskin and its reducing the susceptibility of men to sexually transmitted infections (STIs) was first proposed by Hutchinson in the mid-19<sup>th</sup> century (Bailey et al., 2001). Early in the HIV pandemic, Fink posited that the risk of HIV infection could be reduced through male circumcision (Fink, 1986). Since then, the results of three RCTs have all demonstrated a significant protective effect of MC for heterosexual HIV transmission among HIV negative men (Auvert et al., 2005; Bailey et al & Gray et el., 2007) .To date, evidence suggests that promotion of male circumcision may be a potential intervention measure to reduce risk of acquisition of HIV in men (Scott et al., 2005). Therefore, filling the gap in our knowledge by exploring men's knowledge, and understanding in the Zululand region where male circumcision was abandoned back in the 19<sup>th</sup> century is of utmost important to HIV prevention.

## 1.2 MALE CIRCUMCISION

Male circumcision is the process of foreskin removal. The foreskin is the fold of skin that covers the head of the penis. It often depends on cultural and religious beliefs when male circumcision is performed with some ethnic groups performing male circumcision within two weeks of birth while others perform it at adolescence. However, circumcision may also be performed for medical reasons and hygiene where there are problems involving the foreskin (UNAIDS, 2011).

The idea that male circumcision might reduce risk of HIV acquisition was first proposed in 1986 (Bailey et al., 2007). This was an open window for epidemiological studies to include male circumcision as a potential risk factor in studies of HIV infection. More than thirty (30) cross-sectional studies have found the prevalence of HIV to be significantly higher in uncircumcised men than in those who are circumcised (Lagarde et al., 2003). In a cohort study conducted in Uganda discordant couples in which the female was HIV infected and the male partners was initially HIV seronegative, 37 of 134 uncircumcised male partners versus none of 50 circumcised men became seropositive after about 2 years of follow-up (Bailey et al., 2007). The potential efficacy of circumcision for HIV prevention could be determined only by randomized trials. One randomized control trial (RCT) conducted in South Africa was ended early after an interim analysis showed that circumcision reduced HIV incidence by 60% (Gray et al., 2007; Auvert et al., 2005). Similar trials were also carried out in Kenya and Uganda where the trials were stopped in 2006, because it was unethical to continue withholding MMC intervention to the control group when efficacy had been demonstrated (Bailey et al., 2007).

According to UNAIDS (2011) male circumcision provides additional protection from HIV because it reduces the probability of tear and injury to the penis during sex and removes cells that are vulnerable to HIV infection. Noticeable developments suggest that a circumcised penis also dries more quickly after sex, and this may reduce the life-span of HIV present after sex (Gray et al., 2000). Male circumcision also reduces the risk of ulcerative sexually transmitted infections, such as syphilis, and reduces the risk of penile cancer. It has also been evident in reducing the risk of cervical cancer in women (UNAIDS, 2009). This is supported by the findings of a study conducted in Uganda which looked at male circumcision and HIV acquisition and transmission. The study demonstrated that MC is also associated with reduced risk of urinary tract infections, genital ulcer diseases and possible reduction in transmission of human papillomavirus (HPV) exist. The findings of the study further revealed that prepubertal circumcision may reduce male HIV acquisition in a general population, but protective effects are confounded by cultural and behavioural factors (Gray et al., 2007).

Male circumcision opens to a window of opportunity to re-engage with religious and ethnic groups in HIV prevention. Circumcision carries major religious, and cultural meaning for many ethnic groups. Some of these groups have not been easy with HIV prevention approach. However, male circumcision as an HIV prevention strategy could provide new avenues for dialogue (Sawires et al., 2007). In mapping the context of existing practices and strategies for potential interventions, local religious institutions and leaders should be consulted and should occupy central roles in advocating for HIV prevention (Sawires et al., 2007). A smooth collaboration between ethnic groups and the health sectors has recently

been proven possible where the KwaZulu-Natal department of Health re-launched MC in partnership with the Zulu King at Nongoma.

A major concern about promoting circumcision as an HIV prevention measure is the risk compensation among those who choose to be circumcised. Although circumcision may be promoted, the message should be clear that it only reduces the risk and does not fully protect a man from HIV acquisition. The danger is that men might undergo the procedure and feel protected about engaging in risky sexual behavior (Bailey et al., 1999; Lagarde et al., 2003). In a study conducted in Uganda looking at sexual behaviours and other HIV risk factors in circumcised and uncircumcised men, the results have shown that among non-Muslims, circumcised men had a higher risk profile than uncircumcised men in that they were more likely to drink alcohol in conjunction with sex (Bailey, 1999). Such risk compensation could result in increases rather than reductions in HIV incidence and putting their female partners at risk. There is evidence that some circumcised men engage in higher risk behaviours than uncircumcised men (Bailey et al., 2001) although the circumcised men still are found to have lower prevalence of HIV infection. It is then important to promote education and condom use as a priority in the research cycle.

Nevertheless, there are various reasons for performing male circumcision other than reducing the risk of heterosexual HIV transmission. The practice of male circumcision in the South African communities is known to be culturally and religiously associated. Amongst predominantly Xhosa speaking men in the Eastern and Western Cape, male circumcision is highly practiced as a ritual of passage that marks their traditions from 'boyhood' to 'manhood' (UNAIDS, 2011; Sawires et al., 2007). Male circumcision is often performed in

early teens and during adolescent stage among the Xhosa speaking population. Uncircumcised men in these communities are prohibited to partake in traditional ceremonies or community gathering as they are viewed as not having completed the passage from 'boyhood' to 'manhood'. In contrast, male circumcision is often performed in the Muslim community for religious drive and is not mandated, but serves to introduce males into the Islamic faith, and works as a sign of belonging to the wider Islamic community. Muslim community performs circumcision within two weeks of birth (Bongaarts et al., 1989). Male circumcision is also compulsory for Jews due to the role of religion. When circumcision is performed for religious reasons, it usually symbolizes faith in God but it may also be done to promote health and hygiene (Bongaarts et al., 1989).

Little is known about MC within the Zulu population in KwaZulu-Natal province since traditional circumcision was carried out until the mid-nineteenth century when the practice was abandoned by order of Zulu King (Scott et al., 2005). The recent implementation of MMC in KwaZulu Natal province as part of HIV prevention strategy is important.

### **1.3 STUDY RATIONALE**

The HIV/AIDS prevalence rate remains high with an estimated of 15.8 percent within the Zululand district, especially among the female population (Department of Health, 2008). HIV has proved to be a significant public health problem in the Zululand region; this is due to increased HIV related deaths. Given the fact that MC has not been traditionally practiced for a long time in this population, then studying perceptions, attitudes and beliefs of men about male circumcision will assist in strengthening the recent launch of MMC programme.

This study will support the consistence of research findings on male circumcision as a major risk reduction strategy for HIV transmission from women to men. As mentioned earlier, numerous studies investigating efficacy of male circumcision with respect to HIV transmission had been done mostly in Eastern Cape Province. Studies that seek to explore men's perceptions about MMC as part of HIV preventative measure remains pivotal in KwaZulu-Natal because MMC has been launched in the province. The study findings will be useful for strategic planning and guiding future research in the MMC area.

#### **1.4 STUDY PURPOSE**

The purpose of this research is to investigate men's knowledge, understanding and factors influencing their beliefs about male circumcision in rural communities in KwaZulu-Natal.

#### **1.5 RESEARCH QUESTIONS**

What are the men's knowledge and beliefs about male circumcision in reducing heterosexual HIV transmission?

##### **Sub-questions include:**

- How is the men's knowledge of male circumcision?
- What are the factors influencing men's beliefs about male circumcision?
- How is the level of men's understanding about the relationship between HIV/AIDS and male circumcision?
- What are the factors that facilitate male circumcision uptake?
- What are the factors inhibiting male circumcision uptake?

## **2.0 POPULATION AND SAMPLING**

### **2.1 POPULATION**

The study will be conducted in three rural communities in Northern KwaZulu Natal that represent different geographic population (Nongoma, Vryheid and Hlabisa). Nongoma is a deep remote rural community where the Zulu King lives, Vryheid a peri-urban township, and Hlabisa an isolated rural community. The reason to study these communities is because Medical male circumcision (MMC) was firstly launched in these communities and there is wide practice of Zulu culture in these areas.

### **2.2 TARGET POPULATION**

The target population of this study is defined as all Zulu men (circumcised and non-circumcised) aged 18 years and above, and resident in Nongoma, Vryheid and Hlabisa communities for at least five years prior to study. Health providers will also be included in the study to gain their perspective with regards to MMC provision. The reason to target younger men from aged 18 years is because there is high prevalence of HIV in this age range. Department of Health MMC program targets this age group (accessible sample)

### **2.3 SAMPLING**

#### *2.3.1 PURPOSIVE SAMPLING*

Purposive sampling will be used in this study because is relevant in exploring the understanding of the audience. This means, we will be using the common sense and the best judgement in choosing the right participants from these three communities, and meeting the right number of right people for the purpose of this study. As mentioned earlier, the researcher already knows more about this population with regards to male circumcision and deliberately will select Zulu speaking men

(circumcised and non-circumcised). These men will be selected because are likely to produce the most valuable data.

### **3.0 RECRUITMENT, INCLUSION AND EXCLUSION**

#### **3.1 SITE SELECTION AND EVENTS**

In the preliminary visit to these communities, it became evident that most men gathered at soccer grounds and at local shops. In respect to site selection, the door to door strategy will be carried out to recruit those individual who are not watching soccer games. Although the weekends might be good days for men to watch soccer in the community soccer fields, other men from the same communities prefer to be at home.

#### **3.2 RECRUITMENT**

Study participants will be recruited at community soccer grounds. The arriving time in these sites will be two hours before games start to have enough time of recruiting participants (spectators). This recruitment strategy is convenient because soccer in these communities is highly supported by men. Contact details of men with interest in participating in the study will be collected to set actual interviews. Since some men maybe working at home, our recruiting team will also visit households to recruit those not present at soccer pitches and explain the purpose of the study.

#### **3.3 INCLUSION OF PARTICIPANTS**

The Zulu-speaking men aged 18 years and above will be included in this study and interviewed following their consent. Inclusion of participants in this study will refer to younger men aged (18-30) years and older men (30-89) of aged. Participants must have been living in Nongoma, Vryheid and Hlabisa communities for at least 5 years prior to study. Male health providers from these three communities will also be recruited in the study through their consent.

### **3.4 EXCLUSION OF PARTICIPANTS**

Chronic mentally ill men will be excluded from the study because they will not be mentally fit to participate in the interviewing process. The duration of the interviews (1 hour 30 minutes) would also cause some difficulties for mentally ill men during the course of the interviewing process. Men under the age of 18 will not be recruited in the study because they rely on their guardians to sign consent forms which could delay the study if parent are not at home to sign.

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## **4.0 DATA COLLECTION**

### **4.1 TOOLS**

This study will utilize in-depth interviews and Focus group discussion (FGD). The use of both FGD and IDI to collect information from study participants will assist in gaining different knowledge and perspectives about our topic of interest among older and younger men.

#### **4.1.1 STUDY DURATION**

The project is expected to approximately 12 months from the onset of recruitment process, data analysis, write up and dissemination.

#### **4.1.2 FOCUS GROUP DISCUSSIONS (FGD)**

Seven FGDs will be carried out with men and one of these FGDs will be conducted with health providers. MC is a sensitive issue therefore young men between 18 to 30 years of age will have 3 separate FGDs. This will assist young men to share their knowledge and understanding in respect to their culture and religious believes without fear of the elder men. Focus group discussion will help to see how participants build on one another's response and come up with ideas they might not have thought of in 1-on-1 interview. Therefore men above 30-89 of age will have 3 separate FGDs as well. Socio-demographic data would be collected prior to the interview, and included, religious affiliation, training and qualifications. All focus group discussions are set to be in a convenient place to the study participants, and each discussion likely to last for about an hour to an hour and half depending on the discussion. Refreshments will be served during the discussions.

### 4.1.3 IN-DEPTH INTERVIEWS

- **Older men and Young men (All men)**
- **Health providers**

Before conducting in-depth interviews, participants will be requested to consent and sign consent forms provided. A researcher who speaks Zulu fluently will conduct the interviews for all age groups. The use of IDI is ideal for investigating personal, sensitive, or confidential point of view regarding the topic which is unsuitable to cover in a group format. IDI is also valuable in this study because some men are busy who would be unlikely to attend a focus group.

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## 5.0 DATA MANAGEMENT

### 5.1. TRAINING OF INTERVIEWERS

The study will recruit four postgraduate students in the area of public health to be field workers. These will be trained for one week in conducting focus groups and in-depth interviews.

In all the interviews and focus groups, notes shall be taken and responses recorded on tape with respondents' consent. For purposes of security, data from this research will be managed by the principal researcher to ensure that all physical data (field notes, tape recordings of all interviews, transcripts etc) will be kept in researcher's office for confidentiality and anonymity. The principal researcher will analyze the interim data as soon as possible after each data collection event.

Prior to data collection the researchers will create packets of all necessary forms for each kind of data collection event using large envelopes. Each of these envelopes will contain materials needed for each data collection including interview guides, note-taker form, informed consent forms and any other materials necessary. For easy tracking, each data collection event will be assigned an archival number (unique identifier) to be recorded on the archival. This archival number can also be used as the computer file name for a particular interview transcript. A car will be hired to transport data from the study site to the research interim office. The researcher will then store all documents at a secure location in one large archival envelope per event with an archival information sheet. The contents of the envelope will include typed transcripts, expanded field notes, handwritten versions of the notes and possibly cassette tapes.

## 6.0 METHODS AND ANALYSIS

The data will be analyzed through thematic analysis. Through the process of analysis, the first step would be to prepare data and transcript. Care will be taken to ensure transcription of the data is as accurate as possible. A master copy will be preserved separately so that it is not worked on or altered from normal margins, format, etc. The study will keep this master copy of the data until we destroy all data at the end of three years. Working data copies would be kept safe until the dissertation is approved, in case revisions or questions are suggested. All transcript should be re-read at least once or more, until confident of overall meaning of the text. The second step would be Identify Meaning Unit (prepare the transcript) by dividing the original text into meaning unit and single thought units, using a simple method. A meaning unit is a string of text that expresses a single coherent thought, up to the point at which the coherent thought changes. The review of each and every meaning unit will be identified to ensure it is a change of subject from the previous meaning unit.

Group patterned meaning unit will be introduced in identifying recurring meaning units. These units will be put together with clear meaning of emerging themes. There will be a revision to of these themes to understand the transcripts. There will be a step to review the data meaning units and revise it if needed. Since generating theme statements is part of thematic analysis, thus each group meaning units of the data will be identifies or (generates a word or brief phrase). This means will help to understand themes and meaning highlight the meaning shared in all instances of the meaning units. These words/phrases are basic themes. The thematic analysis at this stage encourage re-read master transcript with themes in mind to ensure accuracy. Revise any theme word or phrase to fit the overall

meaning of the original meaning units. The main aim of thematic analysis is to write out a summary of themes accurately. To write a brief narrative summarizing the main issues being investigated. Write an introductory sentence or brief paragraph to provide context to the statements. That will mean writing one or two declarative sentences to describe each theme.

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## 7.0 WRITE UP AND DISSEMINATION

The findings of this research will be presented to management of Medical Research Council, Africa Centre for Health and Population studies, Umthombo Youth Development, the KZN department of Health and made available to the University of Cape Town, School of Public Health head of the department. The aim of presenting study findings would be to provide management and policymakers within the MMC circle incites to improving the roll-out of MMC services in KwaZulu-Natal by considering the perceptions and beliefs of men about MMC, as part of HIV prevention programmes. Study findings will also be presented to communities where the research was carried by providing workshops. Findings will also be written-up as an article in an academic journal to benefit not only the participants but the community at large as well as other researchers in this field.

The findings of the study will be used to find ways to incorporate circumcision with other prevention measures to address HIV transmission. This would improve the knowledge from which policymakers and managers can draw to improve the health status of the study population. The research report will be made available to stakeholders who may use the findings in their strategic planning especially but not limited to the communities involved in the research process.

## 8.0 ETHICS AND POTENTIAL RISKS

Ethics approval to conduct the study will be obtained from University of Cape Town's Ethics Committee and the KwaZulu Natal department of Health Ethics Committee since the study will take place in KZN province.

Before the study begins, participants will be informed about the purpose of the study, and will be told that participation is voluntary. The study will begin by obtaining informed consent from participants using a consent form which will be written in the research participants' own language and a researcher will be available for clarity. This will be done in Zulu to ensure that participants fully understand the study objectives.

One of the ethical issues in this study is confidentiality since male circumcision remains a sensitive matter and personal issue particularly to this community that holds strong cultural and religious beliefs. Interviews will be conducted in a convenient venue for participants, and confidentiality will be maintained, as the information collected from participants will be stored and written up in such a way that it won't be possible to know which specific individual gave which response.

The study will take place in the community with low education, such as Nongoma and Kwa-Hlabisa and this might cause ethical issues if participants cannot read and write, especially when participants have to sign the consent form. As a result of this, the written information about the study will be read in Zulu language by the researcher and those who cannot afford to sign the consent as a result of lower education or any other reason will be

requested to make a mark on the form. Or the interviewee may be asked to have a witness present when the interviewer reads.

Since some of the participants would be above 60 years, enough time needs to be taken into account when explaining the purpose of the study. The speed and repetition of questions will have to be considered. The time allocation for focus group discussions is 1 hour to 1 and half hours and this may cause some strains to older participants therefore a 5 minutes break will be allowed during the course of the focus group discussions.

This study may raise ethical concern with regards to its cultural sensitivity. In the Zululand region, older men will be interviewed by a male Zulu speaking field worker. Some of the study participants are rural based men and might feel uncomfortable to talk about male circumcision with a female field worker.

Study participants might experience anxiety when asked to recall their experiences regarding male circumcision. This may provoke anxiety to participants as they may be reminded of painful or unpleasant experiences. Participants will be told that they are at liberty not to answer questions that they feel infringe on their rights and that they are also free to withdraw from the study at any time.

Participants' private information will be kept confidential and anonymity will be ensured during data collection, analysis and write up. Subject codes will be used for identification instead of names. Any identifying information will be removed from the records and will only be accessed by the research team. Permission to record the interviews and the panel

discussion will be obtained from the participants before commencing the interviews/ panel discussion.

Participants will receive airtime vouchers of and refreshments will be provided during the interviews. Study participants who may require clinical male circumcision or information regarding male circumcision will be referred to the nearest hospital that offers such service. It is noted that too much referrals might place a burden on local facilities and therefore approval will be sought from the local health services management.

All the information above will be included in a consent form (see Appendix 4) which participants will be required to sign before participating in the study. All participants will be given contact details, where they can direct their questions either relating to the study or their rights as study participants.

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Scott, B.E., Weiss, H.A., Viljoen, J.I. 2005. The acceptability of Male circumcision as an HIV intervention among a rural Zulu population, KwaZulu-Natal, South Africa. *AIDS Care*. 17(3): 304-313

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United Nation AIDS. 2009. AIDS epidemic updates. Geneva

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## **Part B: Structured Literature Review**

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## **OBJECTIVES OF LITERATURE REVIEW**

The primary aim of this literature review is to evaluate male circumcision studies predominantly carried out in eastern and southern Africa and survey current knowledge about the perceptions, knowledge and beliefs of men about male circumcision.

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## LITERATURE SEARCH STRATEGY

An initial search included MEDLINE, Emerald, Science Direct, EBSCO, JSTOR, and Google Scholar using the terms '*traditional male circumcision and medical male circumcision*', '*HIV and male circumcision*', '*male circumcision and anthropology*', '*male circumcision and adverse experience*'. The search was limited to the period from January 1979 to March 2011. Additional reports were accessed from the Joint United Nations Programme on HIV/AIDS Working Group on Male Circumcision in Southern Africa ([http://data.unaids.org/pub/report/2007/mc\\_recommendations\\_en.pdf](http://data.unaids.org/pub/report/2007/mc_recommendations_en.pdf). Accessed 2010. Dec 1). All the references listed in the articles were searched and identified during the initial search.

For the source to be included in the review, articles had to be conducted in eastern and southern Africa and report on the acceptability and perceptions of male circumcision among uncircumcised and circumcised men. Studies reporting on female circumcision and male circumcision but conducted outside the African continent were excluded.

## **OVERVIEW OF LITERATURE REVIEW**

Approximately 5.6 million people were living with HIV in South Africa in 2009, more than in any country (UNAIDS, 2009). The HIV prevalence among antenatal clinic attendees varies by provinces, with KwaZulu-Natal experiencing a prevalence of 39.5% in 2009, one of the highest in the country (UNAIDS, 2009). HIV incidence also remains high. HIV in the region is primarily heterosexually-driven. Prevention strategies to curb the spread of HIV in this area are urgently needed. Behavioral strategies on their own have proven unsuccessful. There is a need for widespread scale-up of effective prevention.

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## HIV PREVENTION AND THE PROMISE OF MALE CIRCUMCISION

The wide range of HIV prevention measures existing in South Africa, such as its 'ABC' campaign—*abstain, be faithful, and Condomise*—have produced fewer results than anticipated. The central challenge has been the complexity of the HIV pandemic as a societal matter and not only a medical problem. The failure of condom use among all age groups has proved to be a key design flaw in HIV prevention interventions because unprotected sex is influenced by numerous factors that perpetuate the spread of HIV (Moodley, 2010). These factors include alcohol, culture, gender and socio-economic status and inequality. Many studies have shown that alcohol abuse continue to facilitate unprotected sex for HIV infection (Moodley, 2010). Moreover, in an unequal society, women remain powerless to negotiate safe sex because of their culture and economic dependence on their partners (Lagarde et al., 2003). There is a lesson to learn that before employing HIV prevention measures which have been used successfully in other countries, one need to assess the feasibility of these preventative programmes in our own context.

Recently, interest has grown in male circumcision (MC), the removal of the foreskin, to reduce the susceptibility of men to sexually transmitted infections (STIs) and HIV. During the three decades of the AIDS epidemic, successes in HIV prevention technologies have been few (UNAIDS, 2011). The discovery in the 1980s that condoms were central in preventing HIV transmission was followed by the realization that antiretroviral drugs could prevent transmission from mother to their babies. Vaccines and microbicides are still receiving considerable attention in numerous studies but no new powerful biomedical interventions have emerged recently (The Center for HIV Identification, Prevention, and Treatment Services, 2008).

## COMPELLING EVIDENCE FOR MALE CIRCUMCISION

In 2007, however, researchers announced that MC protects men against HIV infection and reduces the risk of sexually transmitted infections (STIs) (Sawires et al., 2007; Herman-Roloff et al., 2011). MC may be one strategy to reduce HIV acquisition in men, and thereby lead to lower HIV incidence rates overall. There is a significant association between high HIV prevalence rate and non-circumcising communities. The highest HIV prevalence was 39.5 % in KwaZulu-Natal compared to the Western Cape Province recorded the lowest prevalence at 16.2% (UNAIDS, 2010). For example, one difference between these provinces is that in KwaZulu-Natal, MC is not traditionally practiced whereas in the Western Cape it is practiced among Xhosa speakers. Traditional male circumcision among the Zulu (TMC) was abandoned in 19<sup>th</sup> century (Scott et al., 2005) by order of the great Zulu King Shaka during the Zulu wars; he ordered initiation to cease during a time of continuous warfare. This step was supposed to assist in training adequate Zulu warriors (Marck, 1997).

This correlation between low circumcision rates and high HIV prevalence was supported by one ecological studies (Bongaarts et al., 1989) exploring geographical distribution of MC practice in sub-Saharan Africa and regional HIV prevalence. These ecological studies observed an association between high HIV rates and non-circumcising areas (Bongaart et al., 1989 and Moses, 1990). According to Moses et al. (1998), approximately 30% of sub-Saharan African regions are traditional non-circumcising groups, and HIV prevalence rate remain high in these areas such as eastern and southern Africa. In a subsequent systematic review and meta-analysis of 27 studies that included circumcision as a risk factor for HIV infection in eight sub-Saharan African countries, Weiss and colleagues in 2000 found that circumcised

men were at half the risk of getting HIV compared with uncircumcised men (Bailey et al., 2001).

Several randomized controlled trials (RCTs) confirmed that MC reduces HIV acquisition in men by 50-60% and this is the most practical HIV preventative measure for men we have (Bailey et al., 2001 & Gray et al., 2008). MC provides an additional protection from acquiring HIV because it reduces the probability of tear and injury to the penis during sex and removes cells that are vulnerable to HIV infection (UNAIDS, 2011). A wealth of evidence suggest that a circumcised penis dries more quickly after sex, and this may reduce the life-span of HIV present after sex (Gray et al., 2000). Male circumcision also reduces the risk of ulcerative sexually transmitted infections, such as syphilis, and reduces the risk of penile cancer. It has also been shown to reduce the risk of cervical cancer in women (UNAIDS, 2009).

A study conducted in Uganda which assessed the impact of MC on HIV acquisition and transmission produced similar findings (Gray et al., 2000). The study further demonstrated that MC is also associated with reduced risk of urinary tract infections, genital ulcer diseases and a possible reduction in transmission of human papillomavirus (HPV). Study findings further revealed that prepubertal circumcision may reduce male HIV acquisition in the general population, but protective effects are confounded by cultural and behavioral factors (Gray et al., 2000).

In 2007, the World Health Organization (WHO) and the joint United Nations Programme on HIV/AIDS (UNAIDS) supported male circumcision as an integral part of HIV prevention strategy in countries where heterosexual HIV transmitted is high such as South Africa,

Swaziland, Uganda, and Ghana. UNAIDS recommended that MC be provided by trained health providers, be implemented as a one component of a comprehensive HIV prevention strategy in countries where MC is low and high HIV prevalence, and where heterosexual sex is the mode of transmission (WHO, 2007).

In South Africa, the roll-out of MMC started in 2010 in KwaZulu-Natal where trained health care providers are implementing the MMC programme. South Africa is one of the few sub-Saharan African countries that explicitly included MMC in its HIV and AIDS National Strategic Plan although an official policy on MMC has not been finalized. However, there is growing support for MMC and gender proponents are supporting a coherent MMC policy that includes gender consideration. This gender advocacy serves to appeal to policy makers to design MMC policy that will reduce gender consequences. Towards the end of 2010, male circumcision received support from two important (and vastly different) sources: the Zulu king, King Goodwill Zwelethini, who has honoured circumcised men, creating an increased demand for MMC in KwaZulu-Natal, and the Global Fund which made \$33 million available for MMC for the period 2011-2012 (Sonke Gender Justice Network, 2011). The King has been concerned about the HIV/AIDS toll on his nation, and it is estimated 5.5 million HIV-positive South Africans live in KwaZulu-Natal, the province with the highest HIV prevalence (UNAIDS, 2011). The King had preferred the procedure to be conducted at health facilities by trained doctors to avoid the regular fatalities resulting from botched circumcisions conducted at illegal initiation schools.

## CONCERNS ABOUT THE ROLL-OUT OF MALE CIRCUMCISION

Nevertheless, the MC solution has numerous possible pitfalls that threaten its potential in HIV prevention (Van Howe & Storms, 2011). Van Howe and Storms argue that promoting MC to prevent heterosexual HIV transmission is more likely to divert limited resources away from effective measures; especially pre-existing tools for example condom use and risky behaviour reduction education. Their argument is based on an extensive analysis on an RCT of MMC conducted in Orange Farm, South Africa. They reached the conclusion that the circumcision solution is a wasteful distraction that shifts resources, from less expensive alternative to prevent HIV such as condom promotion (Van Howe & Storms, 2011).

Another potential concern is that circumcision would induce risk compensation when people have been offered additional protection to engage in higher risk behaviour. In one study undertaken in South Africa, assessing determinants of demand for circumcision, the study found that some men believe MC serves as a *natural condom* (Van Howe & Storms, 2011). Apart from this, gender groups had also raised concerns about the male circumcision programme. Hankins (2007) warned that the risk that unprotected sex may increase violence against women should not be underestimated. Women as sexual partners should continue to negotiate condom use with circumcised men. Moreover, fear had been expressed that MC could lead to increased HIV transmission (Hankins, 2007). This argument reveal similar findings from a Ugandan trial of MC in HIV-positive men that did not demonstrate significant increased risk of HIV transmission to their female partners (Wawer et al., 2009). However, the trial was stopped because it was futile. The argument in this case is that we cannot circumcise HIV positive men to protect women from infection.

## ATTITUDES TOWARDS MC, HIV PREVENTION AND SEXUAL PLEASURE

Male circumcision has been widely accepted in sub-Saharan countries as a tool for preventing HIV infection in highly infected communities. A recent review of 13 acceptability studies in South Africa, Botswana, Kenya, Malawi, Swaziland, Tanzania, Zambia and Zimbabwe revealed that acceptability of MC is already high (Westercamp & Bailey, 2007). A study conducted in KwaZulu-Natal province, South Africa examined the acceptability of MC as an HIV intervention among the rural Zulu population (Scott et al., 2005). Acceptability was found to be high. However participants accepted it *only if* MC was performed safely with little pain (Scott et al., 2005). It is important to consider that acceptability of MC is facilitated by the protective effect it provides in protecting against STIs and HIV. In one study conducted in South Africa, the study concluded that participants were willing to be circumcised because MC protects one from STIs and HIV (Scott et al., 2005). Women in general have been noted in many studies saying they would prefer circumcised men. These findings were noted in another acceptability study of MC conducted in Kenya where women concluded that circumcised men provide more sexual pleasure and were less susceptible in acquiring STIs and HIV (Hankins, 2007).

It remains essential to assess the attitudes towards MC. The fear that male circumcision may provide a false sense of protection should not be taken lightly and that circumcised men will engage in higher risk behaviour (Van Howe & Storms, 2011). In a South African (Auvert et al., 2005) and Kenyan (Bailey et al., 2007) trials, it was observed that the men in the intervention arm had higher risk behaviours during follow-up than those in the control arms, suggesting possible disinhibition. Nevertheless, no risk compensation was reported in

the Ugandan trial (Gray et al., 2008) and an observational study conducted in Kenya demonstrated no increase in risk behaviours following circumcision (Gray et al., 2007). On the other hand, improved sexual performance and satisfaction among circumcised men has been noted in numerous studies; Herman-Roloff et al., (2011) conducted a study in Kenya assessing the level of male acceptability of MMC among uncircumcised men. This study found that primary facilitators of MC uptake were sexual performance, pleasure and satisfaction (Herman-Roloff et al., 2011). These findings were also similar to findings from another study conducted by Scott et al., (2005) assessing acceptability of MC in KwaZulu-Natal, South Africa. The study concluded that uncircumcised men were more willing to circumcise if they thought circumcision will advance their sexual pleasure and performance (Scott et al., 2005). This findings form part of the attitudes about MC particularly in many communities.

## **CULTURAL DIMENSIONS OF MALE CIRCUMCISION IN SOUTH AFRICA**

Cultural and socialization are essential in the planning of MMC roll-out especially in communities where traditional circumcising is predominant. In South African, male circumcision is strongly embedded on social and cultural practice with both traditional and medical antecedents (Peters & Marcs, 2011). In many part of the country, traditional male circumcision is practiced largely for cultural reasons as an initiation ritual and a rite of moving into manhood (Masondo, 2004). The practice of traditional male circumcision in South Africa is less common than in countries such as Kenya and Uganda, the prevalence rate is estimated at 35% (UNAIDS, 2008). Against this background, the practice of traditional male circumcision in South Africa varies according to ethnic groups. Male circumcision is commonly practiced among Xhosa, Venda and Sepedi speakers, however, less common among Sotho, Ndebele, Shangaan and Zulu speakers (Peters & Marcs, 2011). These ethnic groups vary in the way they practice this ritual, notably socialization and culture seem to be a primary facilitator. For example, the Xhosa community in Eastern Cape Province and Western Cape Province predominantly practice traditional male circumcision to be socially acceptable and respected in their communities. The study conducted by Louise Vincent in understanding traditional Xhosa male circumcision in relation to HIV in South Africa noted that male circumcision among Xhosa speaking population is a central public endorsement of a culture's accepted norms of heterosexual manhood and within this ritual, male circumcision is the most secretive and holy (Vincent, 2008). The traditional MC procedure in this context is usually performed in a non-clinical setting by local traditional circumcisers. In these traditional circumcising communities, a boy who undergoes medical circumcision is

disrespected and not considered as having undergone the transition from boyhood (inkwenkwe) to manhood (ubudoda) (WHO, 2009).

These cultural beliefs or practices are important to consider and address since such factors may affect the role out of MMC with serious implications especially in areas with high traditional male circumcision (WHO, 2009). The need to address extreme social pressure among traditional circumcising communities remains fundamentally important. In South Africa, Xhosa boys face intensive social pressure and this pressure puts uncircumcised boys at a risk of ostracism (Tenge, 2009). In a study conducted in Eastern Cape, South Africa among Xhosa speakers population found that a self-respected Xhosa girl would never marry a Xhosa male unless he had submitted to the circumcision ritual (Crowley et al., 1990). These cultural factors may serve as barriers in accepting MMC across communities where MC is traditionally practiced. Among the Yao in Malawi, medically uncircumcised boys have to succumb to bullying and beating (Tenge, 2009) and the stigmatization of those circumcised in hospitals limits the response to HIV prevention vis-à-vis the decision to get circumcised and by whom (WHO, 2009). In KwaZulu-Natal, the practice has been out of favour among Zulus since the 19<sup>th</sup> century, where King Shaka banned it because he believed it robbed his army of warrior –age men for months at a time (Scott et al., 2005)

## **ADVERSE EVENT ASSOCIATED WITH MALE CIRCUMCISION**

Traditional male circumcision is usually performed in a non-medical setting by traditional authorities with no formal medical training (Wilcken et al., 2010). Numerous death cases have been reported in many regions where traditional circumcision is practiced. For example, Bailey and others (2007) in their study of complications in clinical and traditional settings in Kenya reported 35% rate of complication as a result of traditional male circumcision and 48% in South Africa (Lagarde et al., 2003). In 2009, Eastern Cape reported that male circumcision death toll was 44 in 2009 as a result of traditional circumcision while eight boys were reported to be in a critical condition in hospital (Mail & Guardian, 2009). In 2010, the death toll in the Eastern Cape's winter circumcision season rose from 44 to 50 (News24, 2010), and this figures were appalling. These reports have important consequences for the broader domain of Xhosa initiates because they have attracted more media attention and government regulation being considered at traditional or 'bush' circumcision. In South Africa the increased death rate during traditional circumcision is due to illegal initiation schools and young inexperienced traditional circumcision surgeons who lack skills and compassion needed in ushering young boys into manhood. Hence, TMC has been associated with a number of challenges and common complication; the most common complications were infection, incomplete circumcision requiring re-circumcision and delayed wound healing (Wilcken et al., 2010).

A systematically review of prevalence of TMC and complication was conducted in eastern and southern Africa; the findings for this review highlighted that most common complications were delayed wound healing and infection. Another cohort study conducted

in South African noted excessive bleeding as a major complication after male circumcision (Bailey et al., 2008). Another study conducted by Lagarde et al. (2003), about acceptability of MC reported traditional circumcision as painful and associated with excessive bleeding (Lagarde et al., 2003), while in South Africa, excessive bleeding and death were reported as a major complication after traditional circumcision (Peltzer et al., 2008). According to hospital admissions in Nigeria, South Africa and Kenya, four of the 45 admitted patients had lost the entire penis (Wilcken et al., 2010),

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## **GAPS OR NEEDS FOR FURTHER RESEARCH**

Although MMC is now supported as part of comprehensive HIV prevention strategy there is still more gaps in our knowledge as to how male circumcision can be performed in culturally acceptable ways without adverse events. Due to increased access to MMC, there is a need for qualitative studies to gain the perceptions and attitudes of health care providers about the workload of medical male circumcision. Taking into consideration that the roll-out of MMC for prevention has started, more qualitative studies looking into accurate knowledge about health benefits of MC in non-traditionally circumcising areas would be essential.

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## Part C: Journal “Ready” Manuscript

### **Men’s knowledge, understanding and factors influencing their beliefs about male circumcision in rural communities in Northern KwaZulu-Natal, South Africa**

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(for submission to the African Journal of AIDS Research—see Appendix 4 for submission guidelines)

### **Men’s knowledge, understanding and factors influencing their beliefs about male circumcision in rural communities in Northern KwaZulu-Natal, South Africa**

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## Abstract

Numerous studies have reported compelling evidence that medical male circumcision (MMC) reduces HIV acquisition in men. MMC is now recommended by the World Health Organization (WHO) and UNAIDS as part of HIV prevention strategies in countries with heterosexually-driven HIV epidemics. This research project assesses men's knowledge, understanding and factors influencing their beliefs about male circumcision in rural communities in Northern KwaZulu-Natal, South Africa. The study was conducted a year after the launch of a medical male circumcision programme by the KwaZulu Natal Department of Health. We conducted six focus group discussions and 27 in-depth interviews with circumcised and uncircumcised men, and, one focus group discussion with health providers. Knowledge about MMC in relation to HIV prevention was high. Uncircumcised participants expressed willingness to be circumcised in health facility settings because of the perceived health benefits and safety. The barriers to MMC uptake included the need for HIV testing before MMC and the abstinence period afterwards. The primary facilitators of male circumcision uptake were its ability to prevent HIV and STIs and the perception that MMC enhanced sexual pleasure. The positive attitudes and beliefs about MMC noted in this study can be improved by increasing women's participation during implementation and by investing in more human resource capacity for MMC programmes.

**Key words:** Male circumcision, medical male circumcision, traditional male circumcision, HIV prevention, masculinity, ukuqhatha.

## Introduction

Approximately 5.6 million people were living with HIV in South Africa in 2009, more than in any other country (UNAIDS, 2009). The HIV prevalence based on population varies by provinces, with KwaZulu Natal experiencing a highest prevalence of 15.8%. The two provinces with the lowest HIV prevalence are Western Cape (3.8%) and the Northern Cape (5.9%) (Shisana et al., 2009). HIV in South Africa is primarily heterosexually-driven. Prevention strategies to curb the spread of HIV in this country are urgently needed. Behavioural strategies on their own have proven unsuccessful

(Moodley, 2007). Medical male circumcision (MMC) is one strategy that may help reduce HIV acquisition in men, and thereby lead to lower HIV incidence rates overall.

More than 40 observational studies have provided compelling evidence that MMC could reduce the risk of HIV infection (Herman-Roloff et al., 2011; Weiss et al., 2008; Bailey et al., 2007). The findings from three randomized controlled trials (RCT) conducted in South Africa, Uganda and Kenya demonstrated that MC indeed does reduce the risk of HIV acquisition in men by about 60 percent (Sawires et al., 2007). An important RCT of MC in Orange Farm, in South Africa was stopped before its conclusion because MMC showed a significant protective effect of 60% in intention to treat analysis and 76% in a per protocol analysis (Auvert et al., 2005). To date, there is a growing body of evidence that MC is associated with a reduced risk of STI acquisition such as chancroids and syphilis (Western & Bailey, 2007; Gray et al., 2008).

In 2007, the World Health Organization (WHO) and the joint United Nations Programme on HIV/AIDS (UNAIDS) supported male circumcision as an integral part of an HIV prevention strategy in countries where heterosexually-transmitted HIV is high (UNAIDS, 2008). Although male circumcision is now supported as part of a comprehensive HIV prevention strategy, there are gaps in our knowledge about how males in rural areas perceive MMC, and what are the barriers to its uptake. There are several studies assessing male acceptability in traditionally circumcising areas and also in non-circumcising communities, (Westercamp & Bailey, 2007). These studies show a high level of MMC acceptability in these communities despite notable fear of pain and death. These studies suggested that interventions such as MMC should carefully address the false sense of security that it may provide (Lagarde et al., 2003).

It is vital that attitudes towards promoting MMC among non-circumcised adults men are understood because men are the main target of the MMC programme. Taljaard & colleagues (2000) reported

that in South Africa, among non-circumcised adults who participated in their study, more than 70% said that they would like to be circumcised if circumcision reduced their chance of getting HIV and STIs (Lagarde et al., 2003). The proportion was much higher among Xhosa men (72%), which is the ethnic group with the highest number of circumcised men. This common attitude was also noted among Tswana men, of whom only 15% are circumcised, with 52% indicating that they would get circumcised if MC minimized the chance of HIV and STIs transmission (Taljaard et al., 2000).

There is a wide range of beliefs about MC as it is predominantly practiced for cultural and religious reasons. In South Africa, MC is embedded in cultural practice as well as in one religious group known as the Nazareth Baptist Church. This church is a mixture of traditional Zulu practices and Christianity. The Nazareth Church promotes the practice of TMC as part of their religious practice. Male circumcision in the Nazareth Church marks the official point when a boy transitions from childhood to manhood (Masondo, 2004). Moreover, male circumcision is often performed in the Muslim community for religious drive and is not mandated, but serves to introduce males into the Islamic faith, and works as a sign of belonging to the wider Islamic community. Muslim community performs circumcision within two weeks of birth (Bongaarts et al., 1989).

Male circumcision is also compulsory for Jews due to the role of religion. When circumcision is performed for religious reasons, it usually symbolizes faith in God but it may also be done to promote health and hygiene (Bongaarts et al., 1989).

The practice of traditional male circumcision in South Africa varies according to ethnic groups. Male circumcision is commonly practiced among Xhosa, Venda and Sepedi speakers but is less common among Sotho, Ndebele, Shangaan and Zulu speakers (Peter & Marcs, 2011). These ethnic groups vary in the way they practice this ritual. For example, the Xhosa community in Eastern Cape Province and Western Cape Province see traditional male circumcision to be socially acceptable and

respected in their communities. Vincent (2008) conducted a study to understand traditional Xhosa male circumcision in relation to HIV in South Africa. The study findings noted that male circumcision among Xhosa-speaking population is a central public endorsement of a culture's accepted norms of heterosexual manhood and within this ritual, male circumcision is the most secretive and holy (Vincent, 2008). The traditional MC procedure in this context is usually performed in a non-clinical setting by local traditional leaders. Men in these traditional circumcising communities are not respected if they are medically circumcised and are not considered to have undergone the transition from boyhood (inkwenkwe) to manhood (ubudoda) (WHO, 2009).

In a study conducted by Taljaard and colleagues (2000), it was found that some of these beliefs were health related such that the uncircumcised penis collected dirt which promotes disease and MC was reported to reduce the risk of contracting STIs and HIV (Taljaard et al., 2000). In addition to male circumcision beliefs, there are also beliefs that MC enhances sexual pleasure and performance. Harman-Roloff et al. (2011) reported that participants believed that male circumcision enhances sexual pleasure and make sex more appealing to women (Bailey, 2001; Westercamp & Bailey, 2007; Gray et al., 2008).

Men's knowledge of MMC, particularly in non-circumcising areas, remains a gap. Most men in non-circumcising areas don't know that circumcision reduces the chance of getting HIV and STIs and there is limited understanding on how the perception of the risk varies among age groups. In a study conducted in Kenya among uncircumcised men about the acceptability of MMC, it was found that participants had heard that MC decreases the chance of getting HIV (Harman-Roloff et al., 2011). The findings revealed that participants were confused or uncertain about how MC protects against HIV acquisition, while half of the participants perceived the relationship between MMC and HIV as a myth (Harman-Roloff et al., 2011). The majority of men know that traditional circumcision is associated with adverse events and favour MMC because trained health providers are delivering the

circumcision services. This assumption was tested by Scott and colleague in KwaZulu-Natal where they found that uncircumcised men knew that traditional circumcision was not as safe as MMC (Scott, Weiss & Viljoen, 2005).

These cultural beliefs or practices are important to consider and address since such factors may affect the roll-out of MMC with serious implications in areas with high traditional male circumcision (WHO, 2009). The need to address extreme social pressure among traditional circumcising communities remains important. In South Africa, Xhosa boys face intensive social pressure and this pressure puts uncircumcised boys at a risk of ostracism (Tenge, 2009). In a study conducted in Eastern Cape, South Africa the findings revealed that among Xhosa speakers population some Xhosa girl would be reluctant to marry a Xhosa male unless he had submitted to the circumcision ritual (Crowley et al., 1990). These cultural factors may serve as a barrier in accepting MMC across communities where MC is traditionally practiced. Among the Yao in Malawi medically uncircumcised boys had to succumb to bullying and beating (Tenge, 2009) and this stigmatization of those circumcised in hospitals limits the response to HIV prevention with regards to whether to be circumcised or not, and by whom (WHO, 2009). Cultural consideration in the roll-out of MMC programme is important to provide a platform to traditional leaders, authorities, religious leaders and the department of Health to work together in a fight against HIV epidemic.

Whether men have accurate and sufficient knowledge about health benefits of MMC in communities where male circumcision is not traditionally practiced still has to be established. In the present study, we examined perceptions, attitudes and beliefs about MMC among Zulu men from three rural communities in Northern KwaZulu-Natal, South Africa.

## **Methods**

### **Study design**

Six focus group discussions (FGDs) and 27 in-depth interviews (IDIs) were carried out with men in Hlabisa, Nongoma and Vryheid sub-districts in KwaZulu-Natal. One FD was also undertaken with HCPs. These sub-districts were chosen because the Provincial Department of Health first rolled-out MMC programme in these districts late in 2010.

The reason for conducting IDIs was to provide a platform for each participant to share his personal views and perceptions of MMC without the influence of others. FGDs were conducted to understand how men discuss MMC when they are together. The aim of utilizing both FGDs and IDIs for data collection was to ensure that information on both individual and group perceptions and knowledge was collected. There was also one FGD conducted with health care providers who are at the forefront of the MMC programme.

FGDs and IDIs were conducted February through May 2011, a year after the MMC programme was launched in this areas of KZN. The FGDs were facilitated by a skilled isiZulu-speaker male facilitator (SMF). Notes were also captured simultaneously by trained research assistants. FGDs were characterized by open-ended questions with probes about MMC knowledge, experiences and perceptions that were originally drafted in English and translated into Zulu.

### **Participant Recruitment and Eligibility**

Individuals were recruited using a purposive sampling method at sports grounds, homes, and shops. A purposive sampling method is essential when a researcher is assessing a community opinion about societal issues such as MMC in order to get a diverse population (King, 2004). A recruiting team including six community members visited community soccer grounds during games and also visited homes. Study participants were drawn from post-matriculants, learners, employed and unemployed

individuals, traditional healers, health care providers, religious representatives, and general community members. Eligibility was limited to those aged 18-89 years, and resident in the area for five years or more.

### **Selection Criteria**

The Zulu-speaking men aged 18 years and above will be included in this study and interviewed following their consent. Participants must have been living in Nongoma, Vryheid and Hlabisa communities for at least 5 years prior to study. Male service providers including doctors, nurses and traditional authorities from these three communities will be recruited in the study through their consent.

The study was thoroughly explained to each participant, stating the purpose in their native language (IsiZulu). Men interested in enrolling in the study were invited to participate and informed consent was obtained using the language preference of the participants. Consent forms were signed prior to the FGDs and IDIs. Each focus group lasted for 60 minutes and involved 10-13 men. Three FGDs were conducted among older men aged 30-89 and three FGDs were carried among young men aged 18-30. One FGD was held with health care providers. Study participants were offered refreshments and R100.00 for participation. Both FGDs and IDIs were held in a private place for purposes of confidentiality.

The Ethics Committee of the University of Cape Town, Health Science Faculty, Groote Schuur Hospital, approved this project on 31 May 2010 (Protocol number 189/2010).

### **Data management and analysis**

Data was audio recorded, in addition experienced transcribers were responsible for transcribing and translating the data verbatim.

A thematic analysis approach was used for data analysis. Initial categories for analysis data were drawn from the interview guide and themes and patterns emerged after reviewing the data. Key themes were identified during IDIs and FGDs: *Men's general knowledge of MMC, Understanding of MMC Programme, Understanding of HIV and MMC, the primary facilitators of MMC uptake, factors that inhibit the uptake of MMC, MMC acceptability, and attitudes towards MMC*. Several researchers reviewed the data independently to confirm the themes and categories.

Once themes were identified, all transcripts were read more than once, until consensus was reached on the overall meaning of the text. The second step was to prepare the transcript by dividing the original text into "meaning units" and "single thought units", using a simple method. Thematic analysis encouraged re-reading of master transcripts with the identified themes in mind. Theme words or phrases were revised to fit the overall meaning of the original meaning units. The main aim of thematic analysis is to write out a summary of themes accurately (King, 2004).

## **Results**

### **Characteristics of the study sample**

The study took place in three rural communities in Northern KwaZulu-Natal; participants were drawn from Kwa-Hlabisa, a deep rural community, a peri-urban township within the town of Vryheid, and Nongoma a remote rural village. Kwa-Hlabisa and Nongoma share similar socio-economic development as their sustainability is the tourism industry centred on the adjusted game reserve, while Vryheid is the centre of coal mine and cattle farming. Of the 80 participants, 32 lived in Vryheid, 19 in Nongoma and 29 in Hlabisa. The age range was 18-30 for young men and 31-89 for older men. More than 90% of participants were unemployed. The prevalence of male circumcision in these communities was very low; of the 80 men who participated in the study only 28 percent

reported that they were circumcised. Few participants in the sample were married, and most participants had informal relationships (King, 2004). Half of the sample self-reported that they knew their HIV status.

**Table 1. Characteristics of the study sample**

<b>Characteristics</b>	<b>Males Vryheid (N=32)</b>	<b>Nongoma (N=19)</b>	<b>Hlabisa (N=29)</b>
<b>Age group</b>			
16-30	14	13	16
30-89	18	6	13
<b>Marital status</b>			
Single	28	18	21
Married	4	1	8
<b>Residence type</b>			
Rural	14	19	29
Township /urban	18	0	0
<b>Education level</b>			
Primary up to grade 8	0	1	7

up to grade 12	27	14	20
Tertiary	5	4	2
<b>Religion</b>			
Catholic	4	2	6
Zionist	13	7	14
Nazareth Baptist (Shembe)	5	8	9
Other	9	2	0
<b>Employment status</b>			
Employed	5	3	5
Unemployed	25	16	24
<b>Circumcision status</b>			
Circumcised	8	7	5
Uncircumcised	24	12	24
<b>Preferred person to carry out procedure</b>			
Doctor	32	19	29
Traditional healer	0	0	0

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*Scott et al., 2005*

## Men's general knowledge of MC

Both in-depth interviews and focus group discussions demonstrated high levels of knowledge of the male circumcision (MC) practice. Participants described their understanding of male circumcision mostly by describing it as *Ukuqhatha*, a Zulu word referring to circumcising “at the mountain”, a reference to cutting off the foreskin on the tip of the penis in a traditional setting (Bailey et al., 2001). Participants described a foreskin as a trap or host for bacteria. This general knowledge existed among men despite the low practice of traditional male circumcision (TMC) among the Zulu population. Many participants remarked that MC provides health benefits specific to HIV and sexual transmitted infections (STIs). However, detailed knowledge regarding the health benefits of circumcising varied by age; young men exhibited more health benefit knowledge than older men.

During IDIs, men were asked to make distinctions between TMC and MMC. All participants shared the common knowledge of TMC that it is usually performed in a non-clinical setting by traditional providers for cultural or religious reasons on adolescents or young men. There was also general knowledge among all men that MMC is carried out at the clinical setting by trained health providers.

*“Traditional circumcision done in mountains usually is done by izinyanga (traditional healers) whereas in the hospital, doctors help to do it”. [Male FGD Participants (18-30 years), Nongoma].*

When participants were asked to discuss the characteristics of these two forms of circumcision in their respective FGDs, men characterized TMC as dangerous and painful: *“Some men do not come back from the mountain, they die there”*. This was mentioned by several young and old men in their respective FGDs. During the discussion, all participants expressed concerns of safety linked to TMC, and that this practice has led to high death rates among young boys, particularly in the Xhosa population. Contrary, participants characterized MMC as a safe procedure because it is performed by doctors.

*“I have heard that circumcision at the mountain is performed by people who are not trained and its painful, there are no treatments like tablets and injections and some boys don’t come back but circumcision done at the hospital is safe, there are trained doctors and they can inject you so that you feel better, You see?” [Male FGD Participants (18-30 years), Vryheid].*

### **Understanding of MMC programmes**

Nearly all respondents were aware of the new launch of MMC in the health settings. During FGDs, older men praised the Zulu King for bringing back this tradition to hospitals as a part of preventing HIV. When participants were asked why hospitals were relevant for performing circumcision, there were two common responses: (1) safety, and (2) access to other services. All participants said that the MMC programme was safe because in the hospital there are all measures to respond to excessive bleeding which could result in death. Participants also expressed views that MMC provides access to other services such as blood pressure, weight and HIV Counselling and testing (HCT).

*“To do circumcision at the hospital is safe and clean because trained doctors are there. Should it happen that the person has prolonged bleeding the hospital will be able to give him some injections and tablets to stop the bleeding that is not done at the mountain”. [Male FGD participants (30-89 years), Nongoma].*

### **Understanding the relationship between HIV and MMC**

In all FGDs, participants showed high knowledge and understanding of the HIV pandemic. However, few men showed inaccurate knowledge about health benefits of MC. Participants were asked to describe the impact of HIV burden in their communities, they commonly used this phrase: *“Many people are dying in this community because of this disease (HIV)”*. However, during IDIs with young men, participants extended blame to young people for being irresponsible in terms of condom use. When participants were asked “who are the most affected people in terms of the age group by HIV/AIDS in their respective communities,” there was consensus that it was young people. Similarly,

when they were asked what “causes the high spread of HIV,” all participants shared the view that young people consume alcohol excessively and forget to use condoms.

During FGDs, men were asked which HIV prevention strategies might curb the increasing incidence rate of HIV transmission in their communities. Many young men in the study insisted that there is a need to consider new effective strategies such as MMC since pre-existing mechanisms such as Abstain, Be faithful and Condomise (ABC) have been ineffective.

In 5 of the 6 FGDs, participants were asked to discuss the association between HIV and MMC. Many participants reported a strong correlation between HIV and MMC, which follows their general understanding that MMC prevents sexual transmitted infections such as HIV/STIs. Many responses from IDI participants were based on *hearsay* (what is said in the media). From this, their understanding of the association between HIV and MMC was that circumcision does not prevent HIV transmission, nor does it cure it. Rather they knew MMC reduces the chances of being infected with HIV. This suggests that the knowledge was good and accurate.

*“People who circumcise must be clearly told that if they are circumcising it is not that they are preventing getting infected with HIV or you will not get HIV. Circumcising minimises the chances of getting infected with 60 % and does not permit a person to have unprotected sex”. [18 year old Male, IDI, Vryheid].*

In contrast, older men were not certain about the relationship between HIV and MC, but they learned in the media that circumcision might curb the spread of HIV.

*“We hear that male circumcision prevents HIV. When this foreskin is cut it helps to prevent HIV. There is this thing called a condom as well, others use it, others don’t use it at all, but it is used to help prevent HIV. [Male FGD Participants (30-89 years), Hlabisa].*

However, it came to light in all FGDs that the majority of young men had good knowledge regarding the MC and HIV association, and the methods discussed by young men concurred that MC is truly protective to HIV/STIs. They said: (1) MC is not a substitute for a condom, (2) MC does not prevent pregnancy and is potentially beneficial for STI prevention, (3) germs don't live on a circumcised penis and (4) the foreskin is highly sensitive to many HIV target cells. Again, there was a general consensus among participants that despite the health benefits from MMC, men must continue using condoms even if MC has been performed to them.

*"It is not true that you can't get HIV but the chances of getting it decrease, and circumcising does not mean that you should have unprotected sex because circumcising does not prevent you from impregnating your girlfriend, circumcision only makes the chances of getting HIV lower and protect you from STIs infection."* [18 year old Male, IDI, Nongoma].

### **Primary facilitators of MMC uptake**

In FGDs, men described potential factors that facilitated MMC uptake including HIV and STI prevention, sexual pleasure, social pressure, and hygiene.

#### *HIV and STI prevention*

Almost all study participants were aware of the benefits of male circumcision in reducing the risk of HIV/STD and this was seen as a health benefit and as something that would motivate them to get circumcised. This finding appeared in both IDIs and FGDs. Participants were asked to provide the reasons that influenced their decision to circumcise or willingness to circumcise. Their first response was to reduce the chances of HIV infection and sexual transmitted diseases. HIV prevention was cited to be the main reason men would be willing to or had decided to get circumcised.

*“Circumcision helps you not get HIV easily, and STIs. So once a man has removed the foreskin, chances that he can get any sort of STIs are very small and that is why I decided to do circumcision” [Male FGD participants (30-89 years), Nongoma].*

### *Sexual pleasure and satisfaction*

The vast majority of men in the study, and especially those willing to be circumcised, expressed improved sexual pleasure and performance as a key facilitator. Young men reported being informed by others about this association between circumcision and sexual pleasure. However, older men cited this association of sexual pleasure and MC as baseless:

*“The truth is that there is no one who can say there is a difference unless it is from a person who can feel this and say that it is a first time I am sleeping with someone like this (circumcised) it is different. How can you know the difference because it is still as it was when you were not circumcised? Unless it is a person who has just circumcised now” [Male FGD Participants (30-89 years), Hlabisa].*

Many young participants across geographic location believed there was significant pleasure after circumcision. In 4 of the 6 FGDs, young men highlighted their personal sexual experiences after MMC was performed.

*“What I can say is that I used to think that I was having good sex but after circumcising that is when I was feeling it” [18 year old Male, IDI, Vryheid].*

There was a common belief especially among circumcised young men that circumcision enhances sexual pleasure and women’s satisfaction compared to uncircumcised men. Some young men reported that circumcision works as a “natural condom” suggesting latex condom is not necessary when a man is circumcised. This belief that MC is central to sexual pleasure increases risk of HIV infection.

### *Social pressure*

In many in-depth interviews among young participants, *peer pressure* was cited to be one of the facilitators for MMC uptake. When circumcised men were asked what motivated *them to get circumcised*, one young man said:

*“I was staying in Durban with friends who are circumcised, so I used to get embarrassed at other times when I was taking a bath in front of them because they were circumcised and I was not. I saw myself as someone who is not at their level and they laughed a lot at me”*  
[Male FGD Participants (18-30 years), Vryheid].

Religious association, particularly with the Shembe Christian Church, was another source of social pressure. Among older men, a few participants remarked that they have been circumcised *at the mountain* as part of their religious belief (Shembe Church). They stated that the motive for MC uptake was to abide by the principles of the church and also to be accepted during men’s gathering.

*“I have seen a lot of circumcised people from Shembe Church. If you are not circumcised you do not eat with those who are circumcised, they eat alone and they exclude uncircumcised men when discussing important matters of the church. I have seen them from Shembe Church especially, they sit there and you also sit here to show that you have not done this job, male circumcision”* [Male FGD Participants (30-89 years), Hlabisa].

### *Hygiene*

Hygiene was described as a common facilitator to uptake of MMC. Many participants described the cutting of the foreskin as a symbol of cleanliness and good hygiene. During focus group discussions, participants cited hygiene as a very common facilitator for MC uptake although men noted a need for a shower after sex in uncircumcised men because a foreskin is able to trap bacteria.

## Factors that inhibit MMC uptake

Several barriers were cited by study participants as reasons for not having been circumcised at the clinic and hospital. They included: adverse events, the abstinence period after circumcision, HIV counselling and testing as a prerequisite for MMC, staff shortages, workload and working environment that was not conducive for circumcision. The model used by the provincial department of health in rolling-out MMC executes community-based approach, where MMC providers set camps in each district. Men are mobilized from all aspects of societal platforms including schools, churches, Taverns, Izimbizo, taxi ranks etc. The minimum package for MMC services in this context involves HIV testing and counselling (HCT), MMC performed according to the Clinical Manual/guidelines for MMC under local anaesthesia, Informed consent while performing MMC under general anaesthesia is not encouraged (Brother for life organization, 2010).

### *Adverse events*

When participants were asked to discuss barriers to MMC, the most frequently cited barrier was fear of pain, bleeding and death during and after the procedure. In respect to possible death, respondents repeatedly remarked that:

*“We understood that circumcision was going to happen at the hospital but we looked at the death that was occurring in other provinces like Eastern Cape where Xhosa boys lost their lives due to excessive bleeding. Although this circumcision was performed at the mountain, these incidences will always bring a second thought if one thinks of going to hospital for MC even though it’s safe” [Male FGD Participants ( 30-89), Nongoma].*

Most respondents however, reported no concern about adverse events associated with circumcision performed at the hospitals. Many men during IDIs asserted that they had never heard about any death when MC is performed at the hospitals after the roll-out MMC programme was launched in KZN.

### *Abstinence period while healing*

The Manual for Male Circumcision under local Anaesthesia outline the instructions for delivering MMC under local anaesthesia. Some of these instructions prescribe that, after the operation, the individual is supposed to rest at home for some days. This rest is meant to help the wound to heal rapidly. This suggests that there should be no sexual intercourse for 4-6 weeks because sexual activities may increase risk of getting HIV and STIs. Sexual intercourse while healing has a potential of resulting into severe and long-term sexual problem. (WHO, 2008).

This abstinence period was remarked as the barrier during FGDs with participants. Almost all participants cited their concern that after a man has been circumcised he has to abstain from having sex for approximately six weeks. This barrier varied by age, as young men were more concerned that their partners might have sex with other men during this healing period. In contrast, older men viewed this period as a barrier because sharing a bed with their partners will make it impossible to adhere to this abstinence period.

*“For us is not easy, in a way that if you have a partner it is not easy that you can do it. For me it will not just be easy because my wife is beside me all the time. I first have to talk to her and say I am thinking of doing this thing (MMC) and it should be something that we both agree on”. [Male FGD participants (30-89 years), Hlabisa].*

In all FGDs the abstinence period was discussed, circumcised men reported variation in terms of wound healing that facilitate duration of abstinence period. While circumcised men said that the penis healing process took them ‘2 weeks -6 weeks’, health care providers insisted that men should adhere to the 4 – 6 weeks abstinence period regardless of how fast the penis seem to heal so as to reduce extensive complications with the healing of the sexual organ.

### *HIV Counselling and Testing as a prerequisite for MMC*

It is South African procedure that to be circumcised clinically, one first needs to get HIV Counselling and Testing (HCT) (Department of Health, 2010). Some uncircumcised men reported that they were not aware that HCT is compulsory for MMC.

*“This is surprising to me that you are first tested for HIV because people are scared to test their blood. It means many guys (adult men) will be scared to circumcise too”. [Male FGD Participants (18-30 years), Vryheid].*

### *Staff shortage (Health care providers) and Work-Loads*

The MMC roll-out programme launch created a point of concern among health care users, and this was also pointed out as a barrier. All health providers noted a shortage of staff as the main barrier during the provision of the MMC programme. This barrier was also noted among FGDs with young men when they were discussing barriers of the MMC provision. Young men in the study reported that shortage of staff in the process of delivering the MMC contribute in prolonged time waiting, long queues and distrust between patients and providers.

*“This MMC programme is a good strategy to fight against HIV but what I noticed when I went for circumcision was that there were few doctors and many patients waiting to be circumcised, people started complaining because they were told not to eat anything and some guys who were behind me left because it was getting late, the government must bring more staff” [18 year old Male, IDI, Nongoma].*

A number of barriers around MMC provision were pointed during the discussed with health providers which noted to *work load* and *Working environment*. These barriers were causing strain in this new programme since hospitals receive a high volume of MMC clients on daily basis.

### Work load

*“Getting tired is something we experience a lot because since the campaign started it has never happened that there is additional staff provided. The staff that works on the campaign is the staff that works from Wednesday to allocate circumcisions that will take place on Saturday and Sunday. At the same time, there is work at the ward; there are patients who have already circumcised which you need to pay attention to and other people who are not visiting for MMC. It is the same staff and you are not divided. There is a serious work load”*  
[One HCP, FGD,].

### Working environment

The MMC roll-out in KwaZulu-Natal is conducted through a day -to- day circumcision in the health setting and also through seasonal camps (identified clinics and hospitals) where mass circumcisions are performed by trained doctors and nurses. After these camps were established MMC has attracted many boys and adult men who seek to be circumcised in these camps. In one of the male circumcision *camps* the situation of the working condition as a barrier was summed up. Health providers viewed working conditions as potentially having an effect on the quality of service delivered, as MMC requires a high hygienic environment.

*“The other barrier I have seen is the place where the work is done at the camps. You find that there is not enough space or the place is not very clean and the procedures that are done need to be practiced carefully, I end up seeing patients coming back here, some with septic problems and I think it is the place where the work was done which was not clean. [One HCP, FGD,].*

The possibility of establishing new MMC units and specific staff within hospitals that offers male circumcision services was discussed among health care providers as a way of strengthening the programme.

### **Attitudes of men towards MMC**

Almost all men in the study were supporting the roll-out of MMC as part of HIV prevention. Many uncircumcised young men said they would be circumcised as they perceived the MMC programme to be safe. Although there was strong support of MMC among older men, they expressed less desire to access MMC. They said they are in a steady partnership and perceive themselves at lower risk. Some suggested that young boys (young men) should go for MMC as they are highly sexually active and often have multiple partners, factors that increase the HIV infection. Many participants through self-reported behavior disapproved of risky sexual behavior after MMC. They said it would not make sense because the primary reason for circumcision is to reduce chances of getting HIV.

*“We are in support of male circumcision to be done in hospitals so that HIV risk can be decreased and we think this is good because in hospitals complications maybe prevented”*  
*[Male FGD Participants (30-89), Hlabisa].*

All men appeared to support the idea that MMC should be performed at birth when boys are still babies, with the parents' consent. Most participants believed that early circumcision would be easier and less complicated because the adult operation is more complex and requires anesthetic. However, a few participants were not sure whether performing circumcision at birth was the best option, this concern is linked to the enormous pain that occur after the operation.

### **The community view of MMC**

It was important to explore how the community responded to the roll-out of the MMC programme, and as such participants were asked in the FGDs and IDIs about their views towards MMC programme and community perception about medically circumcised men compared to uncircumcised men.

The responses from participants showed a high level of MMC acceptability in these communities. Older men said that their communities were very excited by this new programme because it will save lives particularly young people from dying as a result of AIDS. Young men stated that MMC has gained huge support in their communities as well:

*“Most people in my community are very open about circumcision, they have been encouraging us to do this ‘thing’ at the hospital, and recently, everybody is talking about MMC” [Male FGD Participants (18-30), Nongoma].*

Generally, in all discussions participants shared a common view that their communities had supported and accepted the launch of MMC. Another FGD with older men, which included traditional healers, local authorities, and religious leaders, expressed a high support of MMC because it is safe and reduces HIV/STIs.

## **Discussion**

In this study we have mainly focused on perception, attitudes and beliefs of men about MC rather than acceptability of MC because numerous studies have been conducted on the acceptability part in various regions including this population (Scott, Weiss & Viljoen, 2005). However, more qualitative studies are needed to explore the views of health care providers who are rolling-out the MMC programme. Health providers' views are important in the scale-up of MMC to highlight some gaps and challenges that require attention to improvise quality MMC services since they render this service. There is possibility that health providers' attitudes and perception towards the programme can contribute to the improved quality of MMC services. It is therefore pivotal to fill these gaps so that all parties involved in the roll-out of MMC have their views considered to ensure smooth delivery of MMC.

The prevalence of male circumcision in these traditionally non-circumcising communities was low (25%) among the men who participated in the study. Factors that might be contributing to this include the fact that traditional male circumcision was abandoned in the 19<sup>th</sup> century. These results are consistent with other MC prevalence studies in eastern and southern Africa where MC is uncommon (Weiss, Quigley & Hayes, 2000).

This study was carried out in a context where MMC was being actively rolled-out as part of the HIV prevention component. In 2007 World Health Organization endorsed MMC to be part of existing HIV prevention strategies (WHO, 2007). As noted in previous studies, exploring perceptions, knowledge and beliefs, and apparent MC is important in the scale-up of MMC programme (Westercamp & Bailey, 2007); Herman-Roloff et al., 2011). Even though the majority of persons in our sample had not been circumcised, there was a high level of awareness of the medical male circumcision practice, good general knowledge about its benefits, and widespread acceptability of the practice. This high knowledge and awareness among the men studied may have contributed to the state of positive attitudes about MMC noted in this study. The overall attitude of MC was positive. Participants believed that the main aim of MMC is to fight against the HIV epidemic since HIV/AIDS continues to cause many deaths in their communities.

There was a high level of knowledge about MC and its health benefits among men studied, although detailed knowledge varied by age group. Young men knew that MC reduces the risk of HIV and protect against STDs whereas older men said they were not sure of detailed health benefits but MC protected men against HIV. These results are not consistent with a study conducted in Uganda where older men demonstrated more knowledge of MC for HIV prevention than young people (Wilcken, Keil & Dick, 2010). This knowledge variation could not be consistence because the sampling was totally different, and possibly because in this study context older men were less educated. These differences highlight the importance of conducting context-specific research that

can inform local programs. Thus, there is a need for major education programme to correct inaccurate knowledge and deficits about MMC.

In studies conducted in (Kusumo, Kenya), in (Rakai, Uganda) and (Orange Farm, South Africa) provides evidence that male circumcision significantly reduce the risk of HIV acquisition. In these studies participants supported the promotion of male circumcision because it was meant to save lives of people (Sawires et al., 2007). The support of MC as part of HIV prevention was also evident in one study undertaken in KwaZulu-Natal by Scott et al, where they found that 66% of men and 64% women cited that they support MC because it could provide protection from STIs, including HIV/AIDS (Scott, Weiss & Viljoen, 2005). This study noted a need to educate women about MMC to strengthening support system between partners.

Although the majority of men in the study were uncircumcised, they were able to distinguish between TMC and MMC. Our results suggest that all men had negative attitudes towards TMC. They said it is too risky, and they have heard on the media that many young men lose their lives after TMC due to related adverse events including excessive bleeding and penis loss. In contrast, they had positive attitudes about MMC because it was seen as much safer. These negative perceptions towards TMC may not be astonishing because these are non-circumcision communities after the practice was stopped in the nineteen century. These results are similar to another study conducted among uncircumcised Zulu men where a medical provider was preferred over a traditional provider (Scott, Weiss & Viljoen, 2005). Nearly all of the participants in that study recommended hospitals because they are safe, have trained health providers and access to other health services and medication. These results are also consistent with results from other contexts. Studies in Uganda, Kenya, Malawi and elsewhere in South Africa reported fear of infection, bleeding, excessive pain, and possible mutilation at the hands of traditional circumcisers (Westercamp & Bailey, 2007; Herman-Rolof et al., 2011) as significant barriers. It is important to note however that there is a

possibility of social desirability bias where participants may have been saying what they thought the researcher wanted to hear. Possible bias was however reduced by ensuring that all interviewers were trained and are native Zulu speakers. However it should be taken in consideration having Zulu speakers may not necessarily address 'social desirability'. The sample size was purposive to ensure that diverse opinion of these contrasting rural communities is presented.

The WHO/UNAIDS recommends that before MMC, an HIV test needs to be performed (WHO, 2007). In this study many of the participants reported that their primary barrier to MMC was the fear to test for HIV. This barrier was firstly noted in 4/6 FGDs with men and later confirmed in one FGD with health care providers. There was a common trend among uncircumcised men who said they were not ready to test for HIV. Similar results regarding this barrier were reported by Grund & Hennink where they found that HIV counselling and testing may act as a barrier to MMC, due to fear of a potential positive result (Grund & Hennink, 2011).

The increased death rate of young boys during traditional circumcision especially in Eastern Cape where traditional circumcision is practiced has contributed to this barrier (Kwata, 2009). In these non-circumcising communities, excessive pain and preventable premature death during and after MC is more likely to be a barrier. Lagarde et al. (2003) found that those who underwent the procedure reported it to be painful. Research into how to minimize adverse events, and properly manage pain is important.

In this study, participants highlighted that male circumcision enhances sexual pleasure and performance. This was mostly noted in FGDs among younger men. This might have been influenced by peers as it was only reported by younger men. These findings were consistent with other literature that men are motivated to be circumcised in order to enhance their sexual pleasure (Bailey et al., 2002; Lagarde et al., 2003). Fifty percent of circumcised and 30% uncircumcised respondents

in South Africa believed that MC enhance sexual pleasure and performance (Westercamp & Bailey, 2007).

A major concern about circumcision is the possibility that its implementation could lead to risky sexual behaviour (WHO, 2005). Many studies have noted similar concerns about the possibility of such behavioural dis-inhibition among circumcised men. There is evidence that some circumcised men engage in higher risk behaviour than uncircumcised men (Tyndall et al., 1996). This trend was observed to be associated with circumcision status in Kenya, Uganda, Rwanda (Bailey et al., 2002) and the RCT in the Orange Farm had parallel findings (Auvert et al., 2005). There is a need to provide appropriate counselling and educational information targeting men who intend to circumcise by stating that MC is not a substitute for condoms, and that condom use remains necessary during sexual intercourse. In this study the data did not address the possibility of risky sexual behaviour among circumcised men or who were willing to circumcise in future. Participants were asked about possible risk knowledge including risk compensation after circumcision. Many participants through self-reported behavior disapproved of risky sexual behavior after MMC. They said it would not make sense because the primary reason for circumcision is to reduce chances of getting HIV.

### **Study limitations**

Only one FGD was conducted with health care providers. While the study findings were relevant, there is also a need to take into account that the sample of health providers was limited and it did not include surgeons or general practitioners who are the people actually carrying out MMC, who might have given other perspectives with regards to challenges and gaps existing in the roll-out of MMC programme. The study results should not be generalized to other countries since the study sample was not large and was specifically drawn from rural Zulu communities. If the results of this study are to be used it is important to take into consideration that the study was conducted in a non-circumcising communities (Scott et al., 2005). Although this study has made references to women but there were not included as participants.

## **Conclusion and Recommendation**

This study concludes by making a few possible recommendations so that the quality of MMC to meet the needs of men and women in the KwaZulu-Natal province are enhanced. The following methods are proposed: increase the number of health providers to deliver the MMC efficiently, promote circumcision at birth, establish special unities for MMC at the hospitals, further training for MMC staff to mitigate post MMC complication, establish peer educators (for recently circumcised youth) in communities to promote MC, educate and organize women to mobilize their partners and their children, increasing involvement of religious leaders, traditional healers and local authorities, and educate the general community about the health benefits of MMC. Most importantly, an effective education to the general population that MMC only partially protect HIV transmission from women to men, and therefore clear education as to why HIV counselling and testing is essential before MMC takes place. Behavior change communication should also be considered, this means communication campaigns for male circumcision should focus on health benefits and include role models for men and women. It remains important to develop and circulate information specifically emphasizing the fact that MC only provides partial protection of HIV infection. Since there is lack of a policy framework, the need to involve policy makers remains important to ensure that human rights and gender obligations are balanced well in MMC policy development. The need to monitor the resources allocated for MMC programme including human capacity remain critical to ensure these resources are not diverted to other health programmes. In light of new trends in health care delivery, there would be a need to address how MC provision can be integrated with HIV/STI prevention services. As part of this study recommendation more qualitative studies are needed to look into perceptions of health providers towards the roll-out of MMC and explore potential gender-related effects of male circumcision for HIV prevention. This research focus could also consider assessing the capacity of health care system to roll out the MMC programme. The need to develop more qualitative research with regards to Early Infant Male Circumcision (EIMC) remains critical

important, and further research on whether certain demographic characteristics such as *education, employment, religion and marital status etc.* influence attitudes and perceptions and knowledge of MMC, especially as a part of a HIV prevention strategy.

### **Acknowledgements**

I wish to convey my warm thanks to my supervisor, Christopher Colvin, and also acknowledge the contribution made by Marie-Lousie Newell, John Imrie, Nora Rosenberg, Thembelihle Zuma, and Cornel du Preez. Again, I would also like to appreciate the contribution made by the following funders: Medical Research Council (MRC), Africa Centre for Health and Population studies, Umthombo Youth Development Foundation, and the KwaZulu-Natal Department of Health. Finally, I would like to thank the local authorities, communities, participants and research assistants who made this study possible through their cooperation and participation.

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## **Part D: Appendices**

University of Cape Town

## APPENDIX 1: QUESTIONNAIRE

### QUESTIONS FOR INDIVIDUAL (MEN)

#### **Introduction the interview**

Thank you for agreeing to meet with me. I'd like to talk with you about your experience, perception and knowledge of MMC in reducing heterosexual HIV transmission. We are also talking to other people in this community and other communities particularly men about their experiences, perception and knowledge about circumcision.

All the interviews are confidential. Although we will use your interview in developing our broader understanding surrounding MMC particularly in KwaZulu-Natal, we won't be telling other people what you said specifically and we won't link anything you have said to your name in our reports.

However, we will be talking to service providers including traditional healers and health providers about their views and experiences of all those we have interviewed, with the aim of identifying ways to strengthen MMC as part of HIV prevention.

I would like to ensure that I have a good record of the interview, gathering your views as accurately as possible. The information you agree to share with the interviewer is to be used solely for the purposes of this Medical Male Circumcision study. Therefore, the information contained in the oral interviews will not be given to any non-project staff except in cases where it is useful to inform HIV prevention programs and policies that promote the practice of MMC. When this material becomes available, it may be read, quoted, or cited from and disseminated for educational and scholarly purposes only.

Any information obtained in this interview, which can be linked to you, will remain confidential. Such information will only be disclosed with your permission. Confidentiality will be maintained by means of codes and removal of any identifying information such as your name from the records. Only the researcher will have access to your information that is stored in a lockable drawer and only a research team will have access to the key

#### **Questions:**

##### Individual interviews

- What is interesting about your community?
- What community programs are available for young people at your community?

- Are you a member of any community project at your community?
- Are there any possible employment opportunities in this area (your community)?
- How is the situation about HIV epidemic in this area?

#### **Investigating Knowledge**

- Would you tell me about your understanding of MMC?
- Would you tell me more about what you know of traditional male circumcision?
- How is traditional circumcision compare to MMC?
- Can you please tell me about the first time you heard of MMC?
- What was your reaction towards the rollout of MMC in your community?
- Please describe the MMC services in this area? (probe where, who and how)
- Where are these services offered? (probe environment conditions)
- Who provide the MMC services? (probe the personal competency, caring and supportive attitudes )
- How the MMC is being performed in the health setting?
- What is your say on the information given before and after MMC procedure?
- What are the benefits of MMC in generally? (probe if they don't mention health benefits and clinical complications)?
- Why there is a push that a MMC be done in the health setting environment (probe clinical complication)?
- Have you ever heard about any benefit of MMC? (probe when it's done in hospital than tradition)
- Please share your knowledge on how HIV is transmitted? (probe mainly on sexual transmission)
- What could be other possible ways to prevent HIV transmission among men/heterosexual)?

#### **Investigating Experiences and Perception**

- What do you think of Medical male circumcision?
- What is your say on the different instrument used in the process of MMC in KZN (community)?
- Would you share what others men think of the instrument used in MMC operation?
- How is the attitude of health care providers delivering MMC? (probe treatment)?
- Would you share the condition of the environment while still waiting to be Medical circumcised (probe waiting time, long queues and food)?
- Do you know people in the family (including you) and in the community who have undergone circumcision (traditional or MMC)?
- Would you tell me what has influenced men's decision whether or not to circumcise?
- What is the general perception of your community about MMC?
- Would you share your experience during and/or after male circumcision (Medical/Traditional)?
- Describe a shared experience of (Medical/Traditional) circumcision among your peers?
- What is the general perception of your community about MMC?
- What seems to be a challenge and concern in the roll-out of MMC program? (probe what men perceive to be a correct approach in implementation phase?)
- Would you share your experience or other men regarding the quality of MMC services?
- Would you share with us how your family and community members view circumcision?
- Please tell us your view about men who are circumcised or not circumcision
- Would you share your views on men who have undergone MMC or tradition circumcision?
- Which form of circumcision (MMC/traditional) would you recommend to someone intending to undergo for male circumcision?
- What do you think about providers of medical and traditional male circumcision?
- Would you share with us your perception about the roll-out of MMC program in the community?
- What do you think of MMC as a new form of HIV prevention?

*Thank you very much for your time. It's been really interesting to hear about your experiences.*

*Do you have any questions at this stage?*

*Again thank you. And let me just remind you that, as I said at the beginning, this interview will be confidential - no one will know what you personally have said, although we will use what you have said to help the broader picture of the medical male circumcision regarding the reduction of heterosexual transmission. I would also like to make another appointment to talk to you again later with other men of your age- would that be ok? At the next focus group discussion I'd like to ask some related questions about you and other men's experiences, perceptions and knowledge.*

University of Cape Town

## **Focus Group Discussions With Men**

### **Introduction to the interview**

Thank you for agreeing to meet with me. I'd like to talk with you about your experience, perception and knowledge of MMC in reducing heterosexual HIV transmission. We are also talking to other people in this community and other communities particularly men about their experiences, perception and knowledge about circumcision.

All the interviews are confidential. Although we will use your interview in developing our broader understanding surrounding MMC particularly in KwaZulu-Natal, we won't be telling other people what you said specifically and we won't link anything you have said to your name in our reports.

### **INSTRUCTION**

It is very important to give each other a chance to talk, share ideas and experiences about the task given in your discussion because we have different experiences. It is also important to note that everyone's opinion is valued and should be respected. This discussion is expected to take approximately an hour.

### **Activity**

1. In your group let us discuss the different between traditional circumcision and Medical male circumcision.
2. What motivate men to circumcised and not to circumcise
3. In your group try an discuss possible ways that could be followed in order to improve the provission of MMC.
4. There are so many ways that may be followed to ensure that men feel part of this MMC programme and that men would well recieve this programme and appreciate its implimentation.
5. What methods do you think could be used to educate men and women about the health benefits and danger of MMC (Try to put your answeres in a systematic form in terms of *health benefits* and *dangerous knowledge about MMC* )
6. What do you think traditional healer, local authorities and religious groups think of men who are circumcising at the hospital?
7. In your group whay other mechanisms could be used to encourage traditional healers to support MMC programme.
8. What do you think women in your community pecieve the launch of MMC programme and which part do you think women can play in the promotion of this programme.

### **Thank you**

## FGD questionnaire guide with health-care providers

- What do you like about your job?
- How long have you been involved in the roll-out of MMC programme?
- How did you get involved in this MMC programme?
- How do you rate the MMC progress since it was launched in this community?
- Are there any barriers affecting the circumcision intake among men in this community?
- What seem to be the health related barriers in delivering the MMC programme in this community
- Do you think the MMC programme has some limitation, if so, what are those shortcomings?
- Have you ever experience any form of complication during and after medical male circumcision was performed to a patient?
- Do you hear people talking about this MMC programme? What women and men are saying?
- In the media there's been a lot said about the clamp device –what is your take on the clamp?
- **Recommendations**
- **Let's pretend as if you are in the task team of health-care providers currently working on the roll-out of MMC in this region and, your task are to compile recommendations to the KZN Minister of Health.**
- As a team how would you propose a possible ways to improve the provision of this programme (MMC) to the general population?
- How to maintain quality service on MMC delivery?
- In your experience working in the programme as a health provider what need more attention?
- Who should come on board (partnership) in promoting this MMC programme

## APPENDIX 2: CONSENT FORM AND PARTICIPANT INFORMATION FORM

### General

Thank you for agreeing to meet with me today. My name is (\_\_\_\_\_). You have been invited to participate in the study because you signed up for participating in a study on male circumcision and heterosexual HIV transmission. Each interview will take approximately 30 minutes. At this stage you are requested to participate in the interview for this research project which is conducted under the direction of the University of Cape Town.

**Please take note that this project is done in collaboration with the KwaZulu-Natal Department of Health.**

### Purpose and process

The purpose of the study is to understand the perception, knowledge and experience of men regarding male circumcision in reducing heterosexual HIV transmission. If you decide that you would like to participate in this project, you will be interviewed by the researcher who is reading this form to you. During the interview you will be asked questions relating to the following topics:

- Your pre-existing knowledge of circumcision
- Your perceptions towards male circumcision in relation to your culture and religion;
- Your experiences about male circumcision.

The interview might also address other topics that come up while you are speaking about these topics.

### Potential risks of your participation

Some of the questions that maybe asked to you may cause discomfort. It is your choice to answer or to NOT answer these questions.

### Potential benefits of the research

We *hope* that the study findings will be used by policymakers and health managers to decided **if** and **how** to use medical male circumcision with other preventative strategies to address HIV transmission. If participants may need more information regarding the clinical circumcision they will be referred to the nearest health care facility. Participants will receive a voucher for their participation in the interview.

### Confidentiality

Any information obtained during this study, which can be linked to you, will remain confidential. Such information will only be disclosed with your permission. Confidentiality will be maintained by

means of codes and removal of any identifying information from the records. Only the researcher will have access to your information that is stored in a lockable drawer and only a research team will have access to the key.

**Participation and withdrawal**

Participation in this study is voluntary. There is no obligation to participate only because you have been recruited and agreed to meet the researcher.

1. Your involvement in this study has been fully explained to you and you freely consent to participate. You may discontinue your participation in the interview at any time without penalty, and that your decision to participate or discontinue participation will in no way affect any services you may receive from your nearest health-care facility.
2. You understand that your participation is voluntary and you have the right to withdraw your consent or discontinue participation at any time. You have the right to refuse to answer any question(s) without giving an explanation or saying why.
3. Should you have any questions after the interview you are welcome to contact the fieldworker (see contact details below).

Date:.....

Signature Participant:.....

**Field worker**

I declare that I read this document to the participants and answered the participants' questions to my best knowledge. This conversation was conducted in Zulu language.

Date:\_\_\_\_\_

Signature-----

Fieldworker:\_\_\_\_\_

**Contact Details of Field worker:**

**Mr. Sicelo Sengwayo, School of Public Health and Family Medicine**

**Faculty of Health Sciences**

**University of Cape Town**

**Observatory, Anzio Road**

**Cell: 072 310 6882**

## Participant Information Form

### Respondent characteristics

Before you begin assign a code to the interview, and only the assigned code in subsequent notes about the interview. Also make notes of:

- Gender-----
- Age group-----
- Date and the place of the interview-----
- Marital status (Single/Married)-----
- Residence Type (Rural, Township, and urban)-----
- Duration of resident in the area-----
- Ethnic group (Zulu)-----
- Education level (None, Primary, up to grade 10, up to grade 12 and tertiary)-----
- Religion (Catholic, Zionist, Nazareth Baptist (Shembe), Lutheran, None and Other-----
- Employment status (Employed and unemployed)-----
- Circumcision status of self (Circumcised, Uncircumcised)-----
- Willingness for self to be circumcised (Yes/No)

University of Cape Town

**APPENDIX 3: LETTER OF APPROVAL FROM RESEARCH ETHICS COMMITTEE**

## **APPENDIX 4: INSTRUCTIONS FOR AUTHOR OF AJAR**