

**MALE CIRCUMCISION AND RISKY SEXUAL BEHAVIOUR AMONGST
YOUTHS AGED 15-24 YEARS IN ZAMBIA**

By

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DECLARATION

I, Chipwaila Choolwe Chunga hereby declare that this dissertation is my original work and has not been presented for any other awards at the University of Zambia or any other University.

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ABSTRACT

Research evidence suggests that male circumcision is perceived in some areas as protective against Human Immune Virus (HIV) infection, and has even been referred to as the “invisible condom.” Such perceptions of protection may lead to increased risk behaviours, including reduced condom use. The aim of this study is to establish the association between Male Circumcision on risky sexual behaviour amongst Zambian young people aged 15-24 years.

The study was based on secondary data from the Zambia Demographic and Health Survey 2013/14 and a cross-sectional study design was adopted with reference to the nature of the ZDHS. Three level analyses were employed using STATA version 13.0. Descriptive analysis was done at the first level whilst chi-square tests were employed to measure association between dependent and independent variables at second level. A multivariate ordinal regression was used estimate odds ratios (OR) and 95% confidence intervals (CIs) with level of risky sexual behaviour as the outcome variable and age at circumcision, reason for circumcision and the circumciser as independent variables.

The study findings show that the most common reason for circumcision amongst the young people is treatment of diseases (17.3 %); further premarital sex and condom use are significantly associated with the respondents’ circumcision status. In addition, youths circumcised at the age 15 to 19 years old are 0.36 times less likely to engage in higher risky sexual behaviour compared to their counter parts circumcised below the age of 5 years (95% CI:0.15-0.88, P-value:<0.001). According to the findings, Youths that were circumcised by the traditional circumcisers were 2.4 times (p-value 0.015) much more likely to engage in high sexual risky behaviours compared to those circumcised by a health personnel (95% CI:1.18-4.94, P-value<0.015).

The study concluded that male circumcision is associated with low use condoms and youth’s engagement in premarital sex. In addition, reasons for circumcision, age at circumcision and the circumciser are strongly associated with moderate to high risky sexual behaviour.

DEDICATION

To my late uncle Waza Chunga

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First and foremost, I would like to thank my God, for his unfailing love, mercy and grace that he has relentlessly given me. He has given me the ability to endure regardless of the many hurdles that I stumbled upon, I have finally reached the end. He is my source of wisdom and knowledge.

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ABBREVIATIONS

ABC	Abstinence, Being faithful to one partner, and Condom use
CDC	Centre for Infectious Disease Control
CPH	Census of Population and Housing of the Republic of Zambia
CSO	Central Statistical Office
HIV	Human Immune Virus
MOH	Ministry of Health
NMC	National Male Circumcision
RCT	Randomized Controlled Trials
SEA	Standard Enumeration Areas
UNZABREC	University of Zambia Biomedical Research Ethics Committee
RSB	Risky Sexual Behaviours
VMMC	Voluntary Medical Male Circumcision
WHO	World Health Organisation
ZDHS	Zambian Demographic Health Survey

CHAPTER ONE: BACKGROUND

Research evidence suggests that male circumcision is perceived in some areas as protective against Human Immune Virus (HIV) infection, and has even been referred to as the “invisible condom.” However, such perceptions of protection may lead to increased risk behaviours, including reduced condom use (Van Dam, J and Anastasia, M.C., 2000). Given the underlying beliefs that Male Circumcision is viewed as an invisible condom, there is need to establish the effect of male circumcision on sexual behaviour amongst circumcised men that can consequently lead to increased risk of HIV acquisition especially in Sub-Saharan Africa including Zambia, where a number of Voluntary Medical Male Circumcision (VMMC) services have been largely scaled up in the recent years.

There is evidence from the Zambian Demographic Health Survey (ZDHS) which shows that in certain section of the population, the HIV prevalence rate is higher for circumcised men compared to uncircumcised men (CSO, 2015). Such findings create an avenue to explore the reasons for increased HIV prevalence in circumcised men in Zambia which have not been observed in West African countries and other countries that have reaped the full benefits of high male circumcision prevalence. In view of this, risky sexual behaviour has been identified to play a role in the link between HIV/AIDS and Male Circumcision. Therefore, this research aimed at establishing the effect of male circumcision on sexual behaviour amongst circumcised men aged 15-24 years in Zambia. Risky sexual behaviour is commonly defined as behaviour that increases one’s risk of contracting sexually transmitted infections and experiencing unintended pregnancies. They include having sex at an early age, having multiple sexual partners, having sex while under the influence of alcohol or drugs, and unprotected sexual behaviours (CDC, 2010).

1.1 Background

The global human immunodeficiency virus (HIV) pandemic continues to expand, with an estimated 2.3 million people becoming infected each year (WHO, 2011). Sub-Saharan Africa is one of the major regions where the disease burden is high as it is estimated that two thirds of the global HIV/AIDS disease burden resides in Sub-Saharan Africa. Particularly in Zambia, the HIV/AIDS prevalence is currently 13.3% according to the country’s Demographic and Health Survey for 2013/2014 (CSO, 2015). The HIV/AIDS pandemic has for so long been one of the factors that have contributed to the country’s high poverty levels. Over the years, huge sums of money have been spent to fight HIV/AIDS across the country

(Piot, P, 2001). In this light, male circumcision has come on board as one of the key interventions that is aimed at reducing the number of new infections in countries affected by HIV as recommended by the World Health Organisation.

Male circumcision is defined as the surgical removal of the intact foreskin of the human penis. The intact foreskin is one of the risk factors for HIV transmission from infected women to men (Wabwire-Mangen et al., 2009). Worldwide circumcision is undertaken for religious, cultural, and social as well as medical reasons. In line with medical reasons, Randomized clinical trials, conducted in sub-Saharan Africa; Uganda (Gray et al., 2007); Kenya (Bailey et al. 2007) and South Africa (Auvert et al., 2005), showed that male circumcision protects against HIV as well as reduces the incidence of other sexually transmitted infections (STIs), including genital ulcers, human papilloma virus (HPV), and chlamydia in female partners of men. These studies showed that circumcision reduced the risk of heterosexual HIV transmission from an infected woman to a circumcised man by more than 60%.

In July 2009, Zambia launched the National Male Circumcision (NMC) program as part of the comprehensive strategy on HIV prevention, in addition to the existing strategy of abstinence, being faithful to one partner, and condom use (ABC). Prior to the launch of this policy, male circumcision was mainly practiced for socio-cultural reasons as a rite of passage from childhood to manhood among the Lunda and Luvale ethnic groups; and also as a religious ritual among the Muslim Population. The Ministry of Health (MOH) in Zambia recognises male circumcision in the context of the Public Health Act of 1935, it also recognises VMMC as an important component of comprehensive male reproductive health services under the Reproductive Health Policy of 2008, and as part of the comprehensive HIV prevention interventions under the HIV and AIDS Policy of 2005. The MoH's overall target is to achieve 80% coverage of VMMC among uncircumcised, HIV-negative men aged 15-49 by 2015 (MOH, 2012).

The Ministry of Health, in line with the international public health community agrees that VMMC should be added as a priority component to existing comprehensive HIV prevention strategies in countries such as Zambia, which have generalized heterosexual epidemics and low MC prevalence. The Ministry further acknowledges that the effectiveness of male circumcision in reducing the risk of transmission of HIV from women to men has been well documented in Eastern and Southern Africa, and supporting evidence for sustained effects

from follow-on cohort studies continues to emerge (MOH, 2012). These findings demonstrate that the effectiveness of male circumcision in preventing HIV transmission from women to men is significantly greater than any HIV vaccine developed to date.

While there is no evidence establishing a direct protective effect of male circumcision on HIV acquisition for women, the indirect benefits for the female population in Zambia over time are expected to be substantial. The MOH is confident that an estimated 30% of the HIV infections averted over a 20-year period due to increased MC prevalence will be among women, as the prevalence of HIV among the male population decreases as a result of improved VMMC coverage and the risk of contracting HIV among the female population also declines (MOH, 2012). However, this is not the case with some selected populations within Zambia where there have been increased HIV prevalence rates in the period 2007 to 2013. In addition, there is also evidence coming from some provinces within Zambia where the HIV prevalence rate for circumcised men is more than the prevalence of uncircumcised men (CSO, 2015). This raises a number of questions on the effectiveness of VMMC as a measure of reducing HIV/AIDS in Zambia. Looking forward, the research project aims at exploring sexual behaviour as one of the possible driver for HIV/AIDS in Zambia. The study looked at the effects of male circumcision on sexual behaviour in Zambia's young population (15-24 years). The research was motivated by the possibility that male circumcision could be providing a false sense of security against the acquisition of HIV/AIDS among young people, which ultimately could have an effect on their sexual behaviour.

1.2 Problem Statement

In spite of the main benefits of male circumcision as a health intervention, if not properly implemented and monitored it may lead to high risky sexual behaviours amongst young people that tend to take it as an invincible condom. Given the underlining benefits of male circumcision of providing at least 60% protection against the acquisition of HIV/AIDS amongst circumcised men, it should follow therefore that with increased circumcision prevalence there should be a reduction in the HIV infection rate. In Africa, countries such as Senegal with male circumcision prevalence of 89% and HIV prevalence of nearly 1% follow the inverse relationship between male circumcision prevalence and HIV prevalence (UNAIDS, 2006). However, there are countries and regions that do not follow the generally observed trend. For example, according to the 2013/14 ZDHS, circumcised men in Southern and Eastern Provinces of Zambia have a higher HIV prevalence rate than uncircumcised men.

In Eastern Province, the prevalence rate amongst circumcised men is 11% and 7.5% for uncircumcised men. The case is the same with Southern Province where the prevalence is 14.7% among the circumcised and 10.5% for uncircumcised men (CSO, 2015).

Although Zambia has recorded a significant increase in the percentage of circumcised adult males aged 15–59 years, from 12.8% in 2007 to 21.6% in 2013, the HIV prevalence rate reduced only with a small margin. From 2001/2 to 2007 Zambia recorded a reduction of 1.3% from the initial 15.6% HIV prevalence rate in 2001/2 to 14.3% in 2007. In the period 2007 to 2013 however, the prevalence rate only reduced by 1% (14.3%-13.3%), indicating that the rate at which the prevalence is reducing was diminishing in the last 5 years preceding the survey (CSO, 2015).

In addition, Zambia recorded an increase in the number of youths infected with HIV in the age group 20-24 from an initial 8.7% in 2007 to 9.4% in 2013. Contrary to the increased prevalence of HIV in this age group, it should be noted that the same population actually has the highest male circumcision prevalence rate of 27.6%. Furthermore, by age, the circumcised male population aged 15-19 years have a higher HIV prevalence rate than those that are not circumcised within the same population age group (5.4% vs. 3.7%) (CSO, 2015).

Based on the observed trends in the HIV/AIDS statistics amongst circumcised and uncircumcised men, two major reasons can be adopted to explain the observed HIV prevalence. One of the reasons that could be associated with this observed prevalence could be the introduction and use of antiretroviral treatment leading to higher life expectancy among those infected, and secondly, lack of compliance in HIV prevention efforts, especially amongst circumcised men exhibiting risky sexual behaviour, including concurrent multiple partnerships, non-consistent condom use with non-marital and non-cohabiting partners, and transactional sex. Therefore, in the context where circumcision is viewed as a natural condom against HIV transmission, there is a possibility of behaviour risk compensation among circumcised men, leading them to engage in risky sexual behaviour. To date, there are still unanswered questions as to what difference circumcision will make in terms of risky sexual behaviour and HIV infection in Zambia.

1.3 Research Questions

- i. What is the link between male circumcision and risky sexual behaviour and are there differences in sexual behaviour amongst circumcised and uncircumcised men?

- ii. Is there an association between age at circumcision and sexual behaviour among circumcised men?
- iii. Are there any differences in risky sexual behaviour with respect to who performed the circumcision and one's reason for circumcision?

1.4 Main Objective

To establish the impact of Male Circumcision on risky sexual behaviour amongst Zambian young people aged 15-24 years.

1.4.1 Objectives

1. To estimate the proportion of risky sexual behaviour amongst circumcised young people aged 15-24 years.
2. To compare the risky sexual behaviour among circumcised and uncircumcised young people aged 15-24 years in Zambia
3. To establish the association between age at circumcision and sexual behaviour among circumcised young people aged 15-24 years in Zambia
4. To investigate the association of reason for circumcision and risky behaviour amongst young people

1.5 Conceptual Framework

The figure below shows the conceptual framework of this study. Generally, it shows the link between circumcision status, age at circumcision, risky sexual behaviour and HIV status. As earlier alluded, circumcision status is primarily influenced by someone's religious and cultural reasons especially in countries such as Zambia where certain ethnic groups (Lunda and Luvale) have high circumcision prevalence. However, other socio-economic and demographic factors such as age, education, wealth quintile and residence may also have an influence on circumcision status. Age at circumcision can also be linked to the above factors. However, the advent of Voluntary Medical Male Circumcision campaigns that encourages neonatal circumcision has a huge bearing on the age at circumcision.

Male circumcision status can influence sexual behaviours of young people with some evidence suggesting that circumcised men are likely to engage in risky sexual behaviours such as early resumption of sex before healing, none use of condoms or having multiple partners due to the perceptions that circumcision is an invisible condom (Michael Carter, 2012). In addition, the age at circumcision also has a bearing on risky sexual behaviour

through the reasons of one’s decision to get circumcised. Arguably, a significant number of young people get circumcised when they are already sexually active and are likely to engage in risky sexual behaviour with the belief that circumcision protects them from acquiring HIV/AIDS.

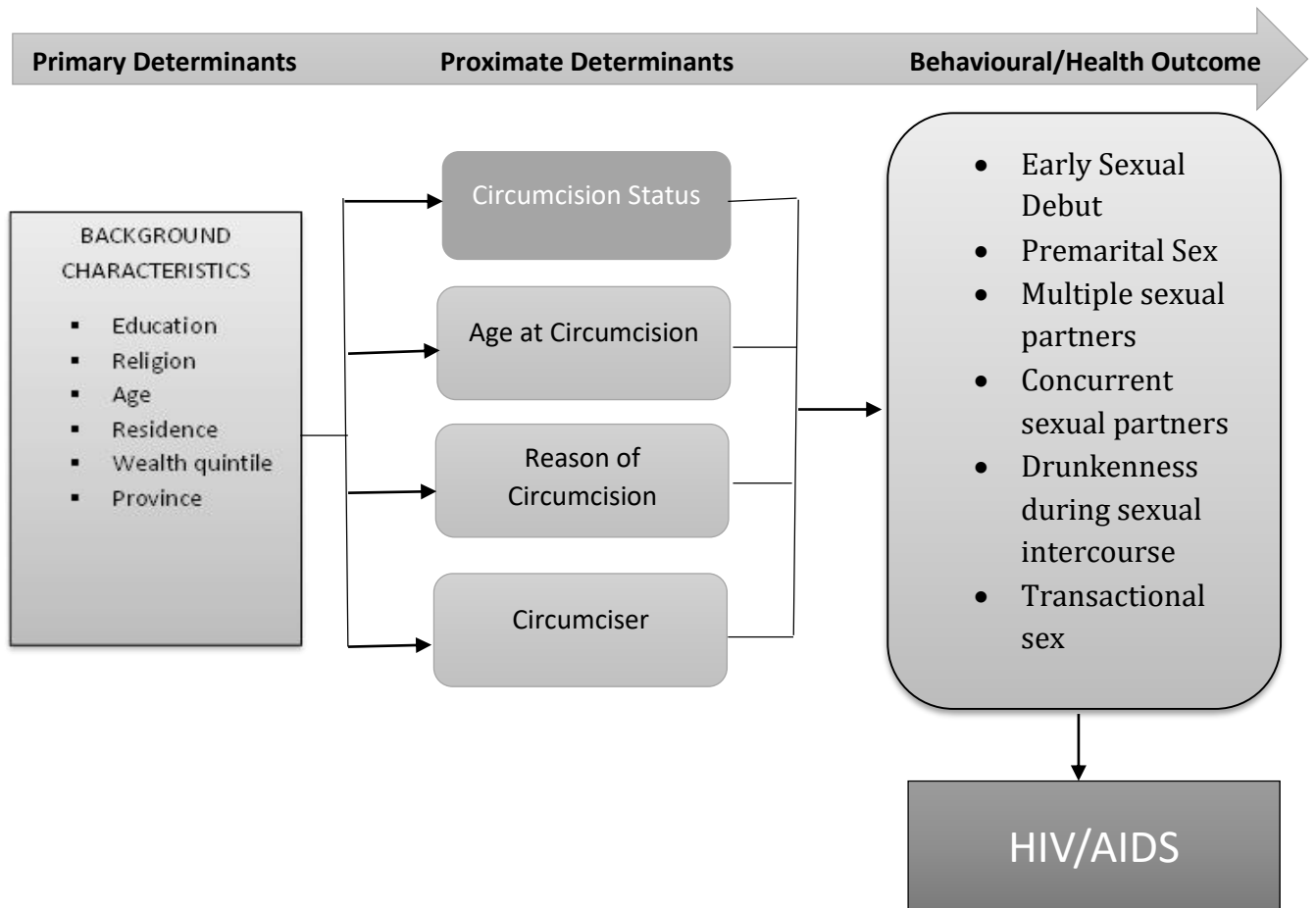


Figure 1: Conceptual Framework showing the relationship between circumcision status, risky sexual behaviour and HIV/AIDS adopted from P.S. Kibira (2013).

It should be noted, however, that socio-economic and demographic factors also directly influence risky sexual behaviour regardless of one’s circumcision status. For example, use of condoms is associated with education as most illiterate people don’t appreciate the benefits of using a condom. In addition, area of residence also has a bearing on the accessibility of condoms with rural areas having high levels of unmet needs which influenced low uptake and use of condoms (Kibira ,2013).

CHAPTER TWO: LITERATURE REVIEW

In order to pave way for an in-depth understanding of the research problem, a comprehensive literature review was undertaken. The review was based on research conducted in various countries including Zambia which links male circumcision to risky sexual behaviour. The studies show evidence towards circumcised men's sexual practices as they are likely to engage in unprotected sex with a view that male circumcision is a "vaccine" or "invisible condom" that protects them from contracting HIV/AIDS.

2.1 Review of Empirical Evidence

Evidence from the South African National Communication Survey on HIV/AIDS in 2009 found that 15% of adults across age groups "believe that circumcised men do not need to use condoms" (Johnson S, Kincaid et al., 2010). In this study, area of residence (rural/urban) was identified as one of the major factors associated with this belief. However, the study just provided general attitudes of the population on the effect of male circumcision on sexual behaviour without ascertaining association and measuring actual sexual behaviour of circumcised men.

Similarly, a community-based survey of male circumcision (MC) perceptions in the major non-circumcising community, which are the focus of VMMC programs in many countries, was conducted in Kenya. The study was focused on women (n=1088) and uncircumcised males (n=460) to provide insight into factors contributing to the acceptability and preference for MC in those targeted by VMMC programs. According to the findings of the study, approximately 20% of women and a similar proportion of uncircumcised men stated that condom use is less necessary and that HIV is a less serious threat now that MC is available, suggesting that behavioural risk compensation is a possibility as VMMC programs scale up. Further, the finding that women who believe they are less likely to use a condom now that MC is available prefer uncircumcised partners may reflect a fear that they will be less able to successfully negotiate condom use with circumcised men (Westercamp, 2012). This study provides a evidence of the effects of male circumcision on sexual behaviour even though it only looks at one component of sexual behaviour which is condom use.

Another Study was conducted in Uganda in 2011 using AIDS Indicator Survey, focusing on a subsample of 7,969 weighted cases of men age 15-59 who have ever had sex and who have received their HIV test results. It examined associations between risky sexual behaviours and circumcision status among men age 15-59, and associations between risky sexual behaviours

and age at circumcision among circumcised men. The study found that at the bivariate level, circumcision status is associated with risky sexual behaviours. Also the results from the logistic regression models showed that circumcised men are more likely to engage in risky sexual behaviours, while age at circumcision is not significantly associated with these behaviours. Circumcised men are also less likely to be HIV-positive (Kabira et al, 2013).

A similar study also was conducted to test whether circumcised men in Zimbabwe are more likely to have engaged in risky sexual behaviour using data from the Zimbabwe Demographic and Health Survey (ZDHS). The survey interviewed men age 15-54 who are usual residents of a household or were visitors who stayed in the household the night before the survey. In total, 7,480 men were interviewed in the survey. Logistic regression was used to assess the association between circumcision and risky sexual behaviours. The study found no statistically significant association between male circumcision and risky sexual behaviour (Chikutsa, 2013).

Another prospective cohort study in Siaya and Bondo District Hospitals, western Kenya, was conducted to assess if men from the Luo ethnic community who underwent circumcision engaged afterward in more risky sexual behaviors than other Luo men. The study compared sexual behaviors of 324 recently circumcised and 324 uncircumcised men at 1, 3, 6, 9, and 12 months after circumcision/study enrollment. The main outcome indicators were incidence of sexual behaviors known to place men at increased risk of acquiring HIV, namely, having sex with partners other than their wife/wives for married men or other than “regular” girlfriends for unmarried men. The results from the study showed that during the first month following circumcision, men were 63% less likely to report having atleast one risky sexual acts than men who remained uncircumcised. However, on the second, third, fourth and last subsequent follow-ups the study reported no difference in engaging in risky sexual acts amongst circumcised and uncircumcised men. In other words, the reported difference disappeared during the remainder of follow-up, with no excess of reported risky sex acts among circumcised men. Similar results were observed for risky unprotected sex acts, number of risky sex partners, and condom use (Kawango E. Agot et al, 2007).

Furthermore, a study was conducted in Kenya to perform a comprehensive, prospective evaluation of risk compensation, comparing circumcised versus uncircumcised men using three randomized controlled trials (RCTs). In this study there were 1,780 eligible RCT participants but 1, 319 enrolled (response rate = 74%). At the baseline RCT visit, men who enrolled in the sub-study reported the same sexual behaviours as men who did not. The study found a significant reduction in sexual risky behaviour among both circumcised and

uncircumcised men from baseline to 6 ($p=0.01$) and 12 ($p = 0.05$) months post-enrolment. Longitudinal analyses indicated no statistically significant differences between sexual risk propensity scores or in incident infections of gonorrhoea, chlamydia, and trichomoniasis between circumcised and uncircumcised men. These results were based on the most comprehensive analysis of risk compensation yet done. The study concluded that circumcision did not result in increased HIV risk behaviour. However, continued monitoring and valuation of risk compensation associated with circumcision is needed as evidence supporting its efficacy is disseminated and MC is widely promoted for HIV prevention (Mattson CL et al, 2008).

Lastly, a study was conducted in Zambia to investigate how many men were having sex within this six-week period after circumcision. The study also sought to identify factors that were associated with the early resumption of sexual activity, and if sex in the post-operative period would have wider implications for the impact of circumcision programmes on the prevention of new HIV infections. A total of 225 men were interviewed about their sexual behaviour before circumcision and again six weeks later. The men had a mean age of 21 years. At baseline they reported a mean of three lifetime sexual partners and 44% had a regular partner. Unprotected sex in the four weeks before circumcision was reported by 22% and 10% had been diagnosed with a sexually transmitted infection within the past twelve months. Just under a quarter (24%) of men reported resuming sex within the six-week healing period. Almost half (46%) of these men had sex within the first three weeks after surgery. Moreover, 81% of men resuming sex during the healing period reported unprotected sex, and 32% said they had had unprotected intercourse with two or more partners.

Additionally, the study also shows that early resumption of sexual activities amongst circumcised men was more prevalent to youth that had a higher number of lifetime sexual partners and unprotected sex in the period immediately before circumcision. Therefore, identifying men who already engage in risky sexual behaviour when they present for circumcision and targeting their counselling accordingly might be effective. The investigators calculated that a 24% prevalence of sex during the six-week healing period among the 61,000 men circumcised in Zambia in 2010 would result in 69% more HIV infections compared to sexual abstinence for the duration of healing. Some 32% of these extra infections would be in men and 37% in women (Michael Carter, 2012).

2.2 Justification of Study

In Zambia, studies aimed at assessing the resumption of sexual activity during the post-circumcision wound-healing period have been conducted. However, there has been inadequate research done on the general effect of male circumcision on risky sexual behaviour, an area which was the focus of this study. Knowledge on effects of male circumcision on risky behaviour will play a critical role in developing strategies of administering male circumcision programs taking into account the possible effect on risky sexual behaviour. On the other hand, the study also assessed the effect of age at circumcision on risky sexual behaviour in order to make policy recommendations on the appropriate age at which to carry out circumcision that will guarantee minimal effect of circumcision on sexual behaviour.

Furthermore, the study also measured the effects of young people's reasons for undergoing circumcision and how these reasons influence their sexual behaviour. This is equally cardinal to ensure that information dissemination on VMMC should emphasize caution in messages promoting medical male circumcision to avoid giving the impression that it provides immunity against HIV. For the similar reason, the study has provided information on the effect of the circumciser on risky sexual behaviour.

Lastly, the study focused on the population aged 15-24 years mainly to provide more information on the reasons for the observed trends such as increased prevalence rate between 2007-2013/14 and also why in the same age bracket for young people aged 15-19 years circumcised men have a lower HIV prevalence rate compared to uncircumcised men (CSO, 2015).

CHAPTER THREE: METHODOLOGY

3.1 Research Design

This was a cross sectional study as it was aimed at making comparisons in risky sexual behavior between two population sub-groups (circumcised and non-circumcised males) at a point in time. The study used data from the 2013/14 Zambia Demographic and Health Survey and a purely quantitative approach was adopted in the analysis.

3.2 Study Setting

The study covers all the ten (10) provinces where the Zambia Demographic and Health Survey was conducted namely Central, Copperbelt, Eastern, Luapula, Lusaka, Northern, North-Western, Muchinga, Southern and Western Province.

3.3 Data Source

This research developed its methodology on the foundations of secondary data from the Zambia Demographic and Health Survey (ZDHS) 2013-2014. The sample for the 2013-2014 ZDHS was designed to provide estimates of population and health indicators at the national and provincial levels classified into rural and urban areas. The target groups for the ZDHS were both men aged 15-59 years and women aged 15-49 years in randomly selected households across Zambia. Three types of questionnaires were used for the ZDHS; Household questionnaire, Women questionnaire and Men's questionnaire. The three instruments were based on the questionnaires developed by the Demographic and Health Surveys Program and adapted to Zambia's specific data needs.

3.4 Sample Design

The 2013-2014 ZDHS sampling frame was adopted from the Census of Population and Housing of the Republic of Zambia (CPH) conducted in 2010, provided by the Central Statistical Office (CSO), consisting of 25,631 standard enumeration areas (SEA) created for the CPH 2010. The 2013-2014 ZDHS used a stratified sample design and selection was done from the 2010 CPH sampling frame. The survey used a two-stage stratified cluster sample design, with EAs (or clusters) selected during the first stage and households selected during the second stage. The stratification was achieved by separating every province into urban and rural areas. Therefore, the 10 provinces (strata) were subsequently stratified into 20 sub-sampling strata. In the first stage, 722 EAs (305 in urban areas and 417 in rural areas) were selected with probability proportional to size. In the second stage, a complete list of

households served as the sampling frame in the selection of households for enumeration. An average of 25 households was selected in each EA. It was during the second stage of selection that a representative sample of 18,052 households was selected.

3.5 Sample Size

A representative sample of 18,052 households was drawn for the 2013-2014 ZDHS survey. This sample included 16,411 women aged 15-49, 14,773 men aged 15-59 from urban and rural areas and 13,457 under-five children were captured. However, this study focused on young people aged 15-24 years recruited in the study at 97% response rate. A total of **5672** males aged 15-24 years were recruited in the 2013/14 ZDHS, nonetheless only respondents that meet the inclusion criteria were covered in this study.

3.5.1 Inclusion Criteria

All circumcised and uncircumcised men aged 15-24 years.

3.5.2 Exclusion Criteria

Young people aged 15-24 years that did not know their circumcision status.

3.5 Definition of Outcome Variable

In this study, the outcome variable is risky sexual behaviour. Risky sexual behaviour is commonly defined as behaviour that increases one's risk of contracting sexually transmitted infections and experiencing unintended pregnancies. According to the Centre for Disease Control (2010), Risky Sexual Behaviour includes having sex at an early age, having multiple sexual partners, having sex while under the influence of alcohol or drugs, and unprotected sexual behaviours. The study, therefore, adopted 7 forms of risky sexual behaviours that are associated with males and are included in the 2013/14 Zambia Demographic and Health Survey. The risky sexual behaviours that were considered for this study included; (i) having transactional sex in the last 12 months, (ii) non-condom use at last higher-risk sexual encounter, (iii) age at first sex (early sexual debut), (iv) Multiple Sexual Partners, (v) concurrent sexual partners, (vi) drunkenness during sex in the last 12 months, (vii) concurrent partners and (viii) premarital sex. In context of this study and the ZDHS transactional sex referred to payment for sex or exchange of any gift items for sex in last 12 months prior to the survey. Non-condom use at last higher-risk sex referred to not using a condom the last time a respondent engaged in higher-risk sex. Drunkenness during sex meant that the last

time respondents had sexual intercourse they took some alcohol, and premarital sex meant sex before marriage. These four variables (transactional sex, non-condom use at last higher-risk sex, drunkenness during sex and premarital sex) were coded as “0” for “no” and “1” for “yes”.

Given that the age of consent for sex, marriage, and adult decision making in Zambia is age 18, age at first sex was categorized as first sex at age 18 or older (code 0) or first sex before age 18 (code 1). This variable only applied to men who were aged 18 years or older at the time of the survey because those who were younger than age 18 were still at risk of having first sex before age 18. The variable on number of lifetime partners was organized into two categories: 1–3 lifetime partners and 4+ partners. And lastly, concurrent partners as risky behaviour was sub divided in two categories, those that had never engaged in any overlapping sexual relationships with more than one person were coded “0” and those that engaged in overlapping relationships with more than one partner were coded “1”.

3.5.1 Definition of Explanatory variables

The definition of explanatory variables was based on the 2013/14 Zambia Demographic questions on circumcision.

3.5.2 Circumcision status

Circumcision status referred to state were whether or not the foreskin was completely removed from the respondent’s penis. Therefore, respondents were expected to be either circumcised or uncircumcised.

3.5.3 Age at circumcision

Age at circumcision referred to the completed number of years the respondents had at the time they were being circumcised.

3.5.4 Circumciser

The circumciser referred to the person that conducted the circumcision to the respondents. Two main categories were adopted which included Health personal and Traditional circumciser.

3.5.5 Reason for circumcision

This referred to the various explanations that young people had for undergoing circumcision. The reasons were classified under tradition custom, treatment of disease, hygiene, prevention of disease and increase sexual pleasure.

Table 3.1: Operational definition and measurement of variables

Dependent Variables	Indicator	Scale of measurement
Risky Sexual Behaviours	Early Sexual Debut (Yes/No) Premarital Sex (Yes/No) Multiple Sexual Partners (Yes/No) Drunkenness during sex (Yes/No) Concurrent Partners (Yes/No) Condom Use (Yes/No) Transactional/ Paid Sex (Yes/No)	Nominal
Levels of risky behaviour	Higher risk (5+) Moderate risk(3-4) Lower risk (1-2) No risk (0)	Ordinal
Independent Variables		
Circumcision Status	Yes No	Nominal
Age at circumcision	Below 5 years 5 to 9 years 10 to 14 years 15 to 19 years 20 to 24 years	Ordinal
Circumciser (Personnel who conducted circumcision)	Health Personnel Traditional Circumciser	Nominal
Reason for circumcision	Traditional Custom Treatment of disease Hygiene Increase sexual pleasure Prevention of disease	Nominal

3.7 Data Analysis

In this study, analysis of the data was done in three stages which include Univariate, Bivariate and Multivariate. At every stage, STATA version 13.0 was used. Univariate analysis involved descriptions of background characteristics and risky sexual behaviours. Categorical variables were presented as proportions and frequencies whilst continuous

variables were presented by means, standard deviations and confidence intervals. Bivariate analysis involved Chi-Square tests which established the association between dependent and independent variables.

Lastly, with regard to multivariate analysis, a variable called level of risky behaviour was generated. The risk behaviour variable was generated based on the seven forms of risky sexual behaviours which include Early Sexual Debut, Premarital sex, Multiple Sexual Partners, Drunkenness during sex, concurrent partners, Condom use and Transactional Sex. The variable was classified into seven categories which include;

Category 0: Includes all those that never engaged in any of the 7 risky behaviour activities.

Category 1: Included all those that only engaged in one form of risk activities.

Category 2: Included all those that engaged in two forms of risk activities.

Category 3: Included all those that engaged in three forms of risky sexual activities.

Category 4: Included all those that engaged in four forms of risky sexual activities

Category 5: Included all those that engaged in five forms of risky sexual activities

Category 6: Included all those that engaged in six forms of risky sexual activities

Category 7: Included all those that engaged in all seven forms of risky sexual activities

Thereafter, multiple ordered logistic regression analysis was used to measure the relationship between the independent variables and the dependent variable. Odds ratios along with 95% confidence intervals for circumcision status, age at circumcision and reason from the models were reported.

3.8 Ethical Consideration

The study used secondary data from the Zambia Demographic and Health Survey (ZDHS). ZDHS took into consideration the World Health Organization's ethical and safety recommendations for research thus ensured minimum risks to the respondents. Once the dataset was obtained with permission from Central Statistical Office, it was not made available to any third party without consultation and approval from the Central Statistical Office. Henceforth, the researcher ensured that data is saved and managed in the most secure manner to avoid unauthorised people from accessing it. The dataset was stored in a locked with password folder accessible only to the researcher. Once the study is completed and published to the satisfaction of the researcher and the University, the dataset will be deleted.

It is hoped that through the study findings, the research will be able to provide valuable information on the association between Male Circumcision and risky sexual behaviour that

will assist the Government of Zambia through the Ministry of Health to administer Voluntary Medical Male Circumcision programs with maximum caution. On the other hand, the researcher recognises the risks associated with the study with regard to dissemination of findings that may show the negative effects of Male Circumcision. In light of that, necessary precautions were taken in interpretation of findings which include clearly highlighting the factors associated with the negative effects and making necessary recommendations that can help offset the negative effects. Lastly, Ethical clearance was obtained from UNZABREC before this study took off.

CHAPTER FOUR: STUDY FINDINGS

This chapter presents the study findings on the effects of male circumcision on risky sexual behaviours. The study is focused on the male population aged 15 to 24 years who were enumerated during the Zambia Demographic Survey. The study focused on seven major risky behaviours which included non-use of condoms, premarital sex, and drunkenness during sex, concurrent partners, having more than one sexual partner and earlier sexual debut.

4.1 Background Characteristics of Circumcised and Uncircumcised youths

This section of the research findings focused on the demographic and socio-economic characteristics of the respondents.

Table 4.1 shows the respondents' background characteristics stratified by their circumcision status in column one and two. The third column shows combined characteristics for both circumcised and uncircumcised youths. The percentages are based on the total in each column, however, no response for each variable was considered to come up with final percentages.

Therefore, according to the study findings in terms of the age distribution for both the circumcised and uncircumcised youths, 58.8% (n=3,328) of respondents in the study were 15 to 19 years of age and 41.2% (n=2,328) were in the age group 20 to 24. The age group 15-19 also represent the majority of circumcised respondents (54.1%) compared to 45.9% (n=639) of the circumcised respondents aged 20 to 24 years.

In terms of the education attained for both uncircumcised and circumcised youths, majority of them (59.6%) have attained secondary education whilst the minority (1.8%) have no education at all. Comparatively, amongst the circumcised respondents 68.8% have also attained a secondary education and only 1.3% of circumcised respondents have not attained any formal education. Additionally, the study findings shows that 79.3% (n=4463) of the participants are protestant by religious affiliation, 19.8% (n=1112) are Catholic whereas the minority 0.4% belong to other religious affiliations other than Catholic, Protestants and Muslim. By circumcision status, 80.7% of circumcised respondents are protestant, 17.1% (n=237) are Catholic, 1.7% (n=24) are Muslim and the minority 0.6% go to other churches/religious affiliations.

Furthermore, the study findings on Marital Status of respondents shows that in both the circumcised and uncircumcised youths majority of the respondents (89.2%) have never been married, only 9.6%(n=542) are married and the minority (0.3%) are cohabiting. By

circumcision status, 90.5% (n=1260) of circumcised respondents were never married and the minority 0.4% (n=5) are cohabiting.

Lastly, table 4.1 also shows the distribution of the respondents based on the regions from which there were based during the study. Region is sub-divided in the ten provinces of Zambia that were enumerated. In the general population of both the circumcised and uncircumcised youths, Lusaka province had the highest distribution of respondents contributing 20.5% (n=1158), followed by Copperbelt province with 19.6% (n=1107) and the least was Western province with 4.1% (n=237). By circumcision status, 29.6% (n=411) of circumcised respondents were from the Copperbelt province followed by 21% (n=292) from Lusaka Province and the minority were from Muchinga with only 2.2% (n=31).

Table 4.1: Background characteristics of circumcised and uncircumcised respondents

	Circumcised	Not Circumcised	Both*
Age of respondents			
15-19	754(54.1%)	2574(60.4%)	3328(58.8%)
20-24	639(45.9%)	1689(39.6%)	2328(41.2%)
Education level			
No education	18(1.3%)	82(1.9%)	100(1.8%)
Primary	341(24.5%)	1658(38.9%)	1999(35.4%)
Secondary	958(68.8%)	2410(56.6%)	3368(59.6%)
Higher education	75(5.4%)	110(2.6%)	185(3.3%)
Religion			
Catholic	237(17.1%)	875(20.7%)	1112(19.8%)
Protestant	1120(80.7%)	3343(78.9%)	4463(79.3%)
Muslim	24(1.7%)	7(0.2%)	31(0.6%)
Other	8(0.6%)	14(0.3%)	22(0.4%)
Marital Status			
Never Married	1260(90.5%)	3782(88.7%)	5042(89.2%)
Married	109(7.8%)	433(10.2%)	542(9.6%)
Cohabiting	5(0.4%)	11(0.3%)	16(0.3%)
Divorced	7(0.5%)	16(0.4%)	23(0.4%)
Separated	12(0.8%)	22(0.5%)	33(0.6%)
Region			
Central	79(5.7%)	441(10.4%)	520(9.2%)
Copperbelt	411(29.5%)	696(16.3%)	1107(19.6%)
Eastern	55(4%)	652(15.3%)	707(12.5%)
Luapula	79(5.7%)	238(5.6%)	317(5.7%)
Lusaka	292(21%)	866(20.3%)	1158(20.5%)
Muchinga	31(2.2%)	241(5.7%)	272(4.8%)
Northern	38(2.7%)	303(7.1%)	341(6%)
North western	193(13.9%)	45(1.1%)	238(4.2%)
Southern	83(6%)	675(15.8%)	758(13.4%)
Western	131(9.4%)	106(2.5%)	237(4.1%)
Total	1393(24.7%)	4263(75.3%)	5656(100%)

*Total of uncircumcised and circumcised youths

4.2 Circumcision Characteristics amongst Respondents

The section present key study findings on the proportion of the place of circumcision and some of the key underlying reasons for getting circumcised. The place of circumcision, reason for circumcision and age at circumcision play a critical role in explaining some of the factors that explain the differences in the sexual behaviours amongst circumcised and uncircumcised men aged 15-24 years.

In terms of the actual distribution of the circumcision status of the study participants, the study shows that only 25% of the respondents ' aged 15 to 24 years are circumcised and the other 75% are not circumcised (refer to table 4.1). The researcher further investigated some of the key reasons why circumcised youths get circumcised. Even though historically circumcision was primarily done as one of the traditional customs in Zambia, the trends have now increased to include some health and personal reasons as depicted in Figure 2.

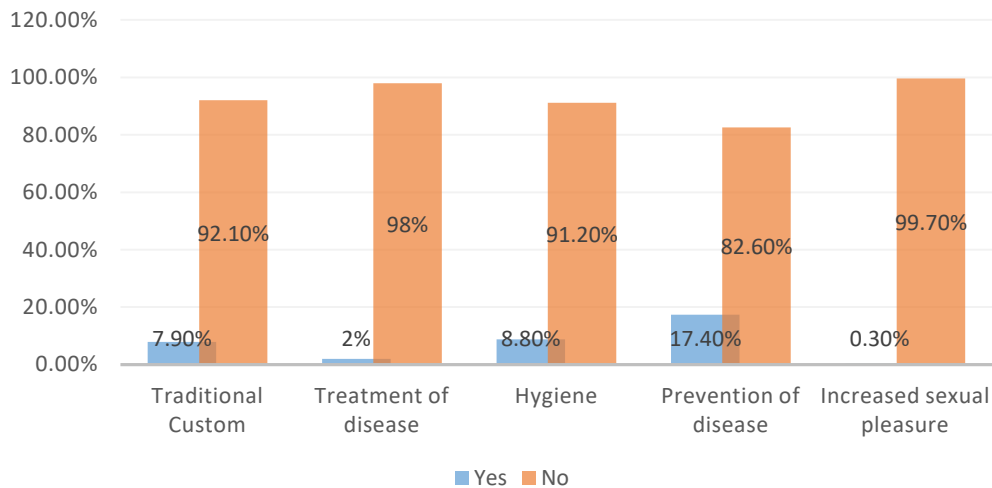


Figure 2: Percentage Distribution of respondent's reasons for circumcision

The key study findings on the reasons for getting circumcised show that the most common reason for getting circumcised is for prevention of diseases as 17.4% of the respondents stated that as their reason, 8.8% of the respondents stated hygiene as one of the reasons for getting circumcised and 7.9% of the respondents got circumcised as a traditional custom. Treatment of sexually transmitted diseases and increased sexual pleasure are the least two reasons for getting circumcised as only 2% of respondents got circumcised as means for treating a disease and less than 1% of the study participants got circumcised as a way of increasing their sexual pleasure.

Table 4.2: Circumcision characteristics

Item	Count (Percentage)
Place of Circumcision	
Health facility	982 (70.6%)
Home of health provider	14 (1%)
Home	60 (4.3%)
Ritual site	235 (16.9%)
Other places/homes	101 (7.3%)
Circumciser	
Traditional Circumciser	(334(24%)
Health Professional	1068(76%)
Age at circumcision	
Pre-pubertal (Below 12 years)	556(39.97%)
Post-pubertal (Above 12 years)	836(60.03%)

The study findings on where circumcision took place shows that the majority of respondents (70.6%) were circumcised from a health facility, 16.9 % (n=235) were circumcised from traditional ritual sites and the minority 1% (n=14) had their circumcision done from homes of health providers. Additionally, 4.3% (n=60) of the circumcisions occurred at home of those being circumcised and 7.3 % (n=101) had their circumcision done from other places other than the ones listed above.

The study further reviewed the distribution of respondents by circumciser .According to the findings, the majority of respondents (76%) were circumcised by health professionals whereas the other 24% were circumcised by traditional healers.

Age at the time of circumcision was also another variable of interest in the research. Age of the circumcised was divided into two major categories which included pre-pubertal (Below 12 years) and post-pubertal (Above 12 years).

The study results in table 4.2 show that the majority of the study participants (60%) were circumcised after they had gone past their puberty whilst the other 40% were circumcised before puberty.

4.3 Risky Sexual Behaviour amongst Circumcised and Uncircumcised Youths

This section presents study findings on risky sexual behaviours amongst circumcised and uncircumcised youths aged 15-24 years in Zambia. The percentage distributions together with their chi-square test p-values were used to measure the association between circumcision status and risky sexual behaviours. The percentages are computed using the totals in each column.

Table 4.3: Risky Sexual Behaviour amongst Circumcised and Uncircumcised Respondents

	Uncircumcised Count(Percentage)	Circumcised Count(Percentage)	P-value
Premarital sex			
Yes	2588(60.8%)	923(67.1%)	0.001
No	1671(39.2%)	453(32.9%)	
Total	5259(100%)	1276(100%)	
Multiple sexual partners			
Yes	432(10.1%)	163(10.6)	0.129
No	3829(89.9%)	1214(88.2%)	
Total	4261(100%)	1377(100%)	
Drunkenness during sex			
Yes	152(7.8%)	70(10%)	0.182
No	1791(92.2%)	624(90%)	
Total	1943(100%)	694(100%)	
Condom use			
Yes	779(40%)	335(48.4%)	0.002
No	1168(60%)	358(51.6%)	
Total	1947(100%)	693(100%)	
Paid Sex			
Yes	181(6.9%)	78(8.4%)	0.153
No	2460(93.2%)	855(91.6%)	
Total	2641(100%)	933(100%)	
Early Debut			
Yes	1239(46.8%)	463(49.2%)	0.362
No	1404(54.1%)	478(50.8%)	
Total	2643(100%)	941(100%)	
Concurrent partners			
Yes	85(19.7%)	36(22%)	0.624
No	347(80.3%)	129(78%)	
Total	522(100%)	165(100%)	

***significant at p<0.05**

The study findings show that the variables premarital sex and Condom use are significantly associated with the respondents' circumcision status. The study shows that 67.1 % (n=923) of circumcised respondents have engaged in premarital sex. For the uncircumcised respondents, 60.8% had engaged in premarital sex compared to only 39.2% that did not. Relatively, the percentage of the circumcised population (67.1%) that had engaged in risky sexual behaviour is greater than those that are uncircumcised (60.8%). Further, the study shows that majority of the circumcised respondents (51.6%) didn't use condoms the last time they had sex and only 48.4% stated they used a condom the last time they had sex. In comparison with the uncircumcised population, 60% of uncircumcised respondents also stated they did not use a

condom the last time they had sex and only 40% used a condom. This shows that non-condom use was more prevalent in uncircumcised individuals than circumcised.

4.4: Age at circumcision and risky sexual behaviours

The section presents study findings on the association between age at circumcision and risky sexual behaviours. Age at circumcision was divided into two groups with the first catering for those that got circumcised before puberty (less than 12 years) and those that got circumcised after puberty (above 12 years). The researcher argues that youths that get circumcised after their puberty have a higher propensity to engage in risky behaviours than those that get circumcised earlier.

The study findings on the association between age at circumcision and risky behaviours in table 4.4 below show that premarital sex, non-condom use and early sexual debut were significantly associated with age at circumcision. Comparably, majority (62.6%) of respondents that were circumcised after they attained puberty (over 12 years) had engaged premarital sex and only 37.4% of those circumcised before puberty had engaged into premarital sex. In terms of condom use, the study shows that 54.8% of those circumcised after 12 years did not use a condom the last time they engaged into sexual activities compared to 45.2% of those circumcised before puberty that had engaged in sexual activities without a condom. Furthermore, early sexual debut was significantly associated with the age at circumcision with majority (55.9%) of those circumcised after puberty having had sexual intercourse before the age of 16 and only 44.1% of respondents circumcised before the age of 12 years had early sexual debuts.

Table 4.4: Association between risky sexual behaviours and age at circumcision

Age	Count(Percent)	Count(Percent)	p-value
Premarital sex			
	Yes	No	
Pre-pubertal	343(37.4%)	9(78.6%)	0.002*
Post-Pubertal	575(62.6%)	2(21.4%)	
Total	918(100%)	11(100%)	
Multiple sexual partners			
	Yes	No	
Pre-pubertal	60(37.1%)	293(38%)	0.854
Post-Pubertal	101(62.9%)	478(62%)	
Total	161(100%)	771(100%)	
Drunkenness during sex			
	Yes	No	
Pre-pubertal	27(39.8%)	240(38.6%)	0.884
Post-Pubertal	42(60.2%)	382(61.4%)	
Total	69(100%)	622(100%)	
Condom Use			
	Yes	No	
Pre-pubertal	107(31.8%)	161(45.2%)	0.004*
Post-Pubertal	229(68.2%)	195(54.8%)	
Total	336(100%)	356(100%)	
Transactional/Paid Sex			
	Yes	No	
Pre-pubertal	56(45.2%)	296(36.8%)	0.136
Post-Pubertal	68(54.8%)	510(63.3%)	
Total	124(100%)	806(100%)	
Early Sexual Debut			
	Yes	No	
Pre-pubertal	201(44.1%)	152(32%)	0.001*
Post-Pubertal	254(55.9%)	323(68%)	
Total	455(100%)	475(100%)	
Concurrent Partners			
	Yes	No	
Pre-pubertal	20(57%)	39(31.4%)	0.397
Post-Pubertal	15(43%)	86(68.6%)	
Total	35(100%)	125(100%)	

***significant at p<0.05**

4.5 Circumciser and Risky Sexual Behaviour

The section presents study findings of the association between risky sexual behaviour and the circumciser. The circumciser in this context refers to the person that conducted the circumcision surgery. A distinction was made between traditional circumcisers and trained medical circumcisers. The key assumption was that depending on who conducted the circumcision, the youths underwent different types of counselling on the purpose of circumcision how it can be linked to prevention of diseases.

The key study findings on the association between risky sexual behaviour and circumciser shows that condom use, paid sex and early sexual debut are significantly associated with the circumciser. According to the findings, majority of respondents (64.3%) that were circumcised by a health professional did not use a condom the last time they had sex compared to 35.7% of those circumcised by a traditional circumciser. In terms of engaging in paid sex, over 56% of those circumcised by trained health personnel were likely to engage in paid sex whilst only 43.8% of those circumcised by traditional circumcisers had engaged in paid sex. Furthermore, the study found a significant association between early sexual debut and the circumciser (the classification of the person who performed the circumcision either trained personnel or traditional circumciser). According to the study findings, 65.2% of those circumcised by a trained health personnel had engaged sexual activities before the age of 16 year and only 34.8% of those respondents circumcised by traditional circumcisers had engaged in earlier sexual intercourse.

Table 4.5: Association between Risky Sexual Behaviour and who performed the circumcision(circumciser)

Circumciser	Count(Percent)	Count(Percent)	p-value
Premarital sex			
	Yes	No	
Health Professional	470(72.7%)	7(61.5%)	0.475
Traditional Circumciser	251(27.3%)	4(38.5%)	
Total	721(100%)	11(100%)	
Multiple sexual partners			
	Yes	No	
Health Professional	111(67.9%)	569(73.7%)	0.11
Traditional Circumciser	52(32.1%)	203(26.3%)	
Total	163(100%)	772(100%)	
Drunkenness during sex			
	Yes	No	
Health professional	54(78.3%)	445(71.3%)	0.374
Traditional Circumciser	15(21.8%)	179(28.7%)	
Total	69(100%)	524(100%)	
Condom Use			
	Yes	No	
Health professional	269(80.2%)	230(64.3%)	<0.001*
Traditional Circumciser	67(19.9%)	128(35.7%)	
Total	336(100%)	358(100%)	
Transactional/Paid Sex			
	Yes	No	
Health professional	71(56.2%)	607(75.2%)	<0.001*
Traditional Circumciser	55(43.8%)	200(24.8%)	
Total	126(100%)	807(100%)	

	Early Sexual Debut		
	Yes	No	
Health professional	299(65.2%)	379(79.7%)	
Traditional Circumciser	159(34.8%)	96(20.3%)	<0.001*
Total	458	475	
	Concurrent Partners		
	Yes	No	
Health Professional	21(58.6%)	90(70.5%)	
Traditional Circumciser	15(41.4%)	38(29.5%)	0.71
Total	36(100%)	128(100%)	

4.6 Reason for circumcision and risky sexual behaviours

This section presents the study findings on the association of risky sexual behaviours and respondents that had reasons for getting circumcised. The main reason for getting circumcised were due to traditional customs, treatment/prevention of disease, hygiene and sexual pleasure. Therefore, this assessment investigated on whether there were any differences in risky sexual behaviours in relation to the reason for getting circumcised.

The study findings indicated that only condom use was significantly associated with having a reason for getting circumcised. According to the findings, 77.6% of those that did not state any reasons for getting circumcised had sexual intercourse without a condom compared to only 22.4% that had a reason. Comparably, most risky sexual behaviours observed were not significantly associated to the reasons and majority the study participants had no reason for being circumcised.

Table 4.6: Association between reason for circumcision and risky sexual behaviours

Reason for Circumcision	Count(Percent)	Count(Percent)	p-value
Premarital sex			
	Yes	No	
Stated Reason	2612(74.4%)	56(85.2%)	0.093
Reason not stated	897(25.6%)	10(14.8%)	
Total	3491(100%)	66(100%)	
Multiple sexual partners			
	Yes	No	
Stated Reason	434(73%)	2236(75%)	0.341
Reason not stated	161(27%)	747(25%)	
Total	595(100%)	2983(100%)	
Drunkenness during sex			
	Yes	No	
Stated Reason	155(70.1%)	1809(74.9%)	0.231
Reason not stated	66(29.9%)	606(25.1%)	
Total	221(100%)	2415(100%)	
Condom Use			
	Yes	No	
Stated Reason	784(70.4%)	1184(77.6%)	<0.001*
Reason not stated	330(29.6%)	342(22.4%)	
Total	1114(100%)	1514(100%)	
Transactional/Paid Sex			
	Yes	No	
Stated Reason	333(72.5%)	2334(75%)	0.245
Reason not stated	127(27.5%)	780(25%)	
Total	460(100%)	3114(100%)	
Early Sexual Debut			
	Yes	No	
Stated Reason	1252(73.4%)	1416(75.4%)	0.447
Reason not stated	444(26.2%)	46(24.6%)	
Total	2034(100%)	1462(100%)	
Concurrent Partners			
	Yes	No	
Stated Reason	85(70.4%)	349(73.6%)	0.572
Reason not stated	36(29.6%)	125(26.4%)	
Total	121(100%)	474 (100%)	

**significant at p<0.05*

4.7 Factors associated with Risky Sexual Behaviour amongst circumcised youths.

The section presents the study findings on the effect of age at circumcision, reason for circumcision and type of circumciser on risky sexual behaviour. Seven major risky behaviour variables were used in the analysis to create a composite variable called risky sexual behaviour.

According to the study findings in table 4.7 age at circumcision was significantly associated with higher risky behaviours amongst circumcised men. Young people circumcised at the age 15 to 19 years old were 0.24 less likely to engage in high levels of risky behaviour compared to their counterparts circumcised before the age of 5 years. Additionally, young people circumcised in the age 20 to 24 years were also 0.24 times less likely to engage in high levels of risky sexual behaviour compared to those circumcised at the age below 5 years old. The observed findings may be attributed to the fact that, youths that get circumcised after 15 years are more aware of the health benefits of circumcision (protection against STIs) hence less likely to get involved in risky behaviours compared to those circumcised below the age of 5 who may not have undergone any form of counselling.

In terms of the reasons for circumcision, the study findings show that respondents that got circumcised for traditional reasons are 2.23 times more likely to engage in high levels of risky sexual behaviour than those that did not. However, young people that got circumcised as a way treating diseases showed to be 0.31 times less likely to engaged in high levels of risky sexual behaviour than those that did not. In addition, respondents that got circumcised as a way of preventing diseases, they were 0.58 times less likely to engage in high risky behaviour than those that did not get circumcised because they wanted to prevent a disease.

Lastly, the circumciser had an effect on risky sexual behaviours amongst circumcised youths. Young people circumcised by traditional circumcisers were 1.1 times much more likely to engage in high risky sexual behaviour than those circumcised by trained health personnel.

Table 4.7: Bivariate analysis of factors associated with Risky Sexual Behaviour

Factors	Sample Study N(%)	Proportional Odds Ratio (95% CI)	P-value
Age at circumcision in years			
0-4	168(15.3%)	1	
5-9	140(12.8%)	0.73(0.25-2.12)	0.569
10-14	261(23.8%)	0.59(0.24-1.42)	0.237
15-19	362(33.1%)	0.24(0.11-0.53)	<0.001*
20-24	164(15%)	0.24(0.09-0.61)	0.003*
Reason for circumcision			
<i>Traditional custom</i>			
No	704(64.2%)	1	
Yes	392(35.8%)	2.29(1.30-4.01)	0.004*
Treatment of disease			
No	1040(94.9%)	1	
Yes	54(5.1%)	0.31(0.10-0.92)	0.035*
Hygiene			
No	745(68%)	1	
Yes	351(32%)	0.63(0.35-1.13)	0.122
Prevention of disease			
No	380(34.6%)	1	
Yes	716(65.4%)	0.54(0.31-0.95)	0.031*
Increased sexual pleasure			
No	1085(99%)	1	
Yes	11(1%)	0.66(0.15-2.89)	0.583
Circumciser			
Health personnel	768(70%)	1	
Traditional	329(30%)	1.14(1.08-1.21)	<0.001*

***Significant at p<0.05**

The findings in table 4.8a shows the identifiable predictors of risky sexual behaviours amongst circumcised men. The model shows that age at circumcision is significantly associated with higher levels of risky sexual behaviour amongst young people. Based on the regression output, youths circumcised at the age 15 to 19 years old are 0.36 times less likely to engage in higher risky sexual behaviour compared to their counter parts circumcised below the age of 5 years. The researcher is 95% confident that the true population odds lies between 0.15 times to 0.87 times. Further, the study also shows that youths circumcised between the ages of 20 to 24 years old are 0.42 times less likely engage high risky sexual behaviour than their counterparts circumcised below the age of 5 years.

The study further found that youths circumcised in order to treat a disease were significantly associated with high levels of risky sexual behaviours. According to the findings, young people circumcised because of treatment of diseases were 0.3 times less likely to engage in higher risky behaviour than those that didn't not have treatment of diseases as a reason.

Lastly, the study also shows that the circumciser has a significant effect on risky behaviours amongst young people. According to the findings, Youths that were circumcised by the traditional circumcisers were 2.4 times much more likely to engage in high sexual risky behaviours compared to those circumcised by a health personnel.

Table 4.8a: Predictors of Risky Sexual behaviour

Factors	Sample Study N (%)	Proportional Odds Ratio (95% CI)	P-value
Age at circumcision			
0-4	168(15.3%)	1	
5-9	140(12.8%)	0.63(0.21-1.85)	0.569
10-14	261(23.8%)	0.67(0.27-1.65)	0.237
15-19	362(33.1%)	0.36(0.15-0.88)	0.025
20-24	164(15%)	0.42(0.14-1.22)	0.111
Reason for circumcision			
<i>Treatment of disease</i>			
No	1040(94.9%)	1	
Yes	54(5.1%)	0.29(0.10-0.89)	0.030
Circumciser			
Health personnel	768(70%)	1	
Traditional	329(30%)	2.42(1.18-4.94)	0.015

***Significant at p<0.05**

Table 4.8b is built on from table 4.8a with only two predictors of risky sexual behaviours amongst circumcised men. The findings still show that young people that were circumcised for the purpose treatment of diseases were 0.3 times less likely to engage in risky sexual behaviours than those that didn't not have treatment of disease as their reason.

In addition, risky sexual behaviours amongst circumcised youths was also significantly associated by who performed the circumcision. Young people that were circumcised by traditional circumcisers were 3.7 times much more likely to engage in higher risky behaviours than those circumcised by health personnel.

Table 4.8b: Predictors of Risky Sexual Behaviours amongst circumcised youths (final model)

Factors	Sample Study N (%)	Proportional Odds Ratio (95% CI)	P-value
Reason for circumcision			
<i>Treatment of disease</i>			
No	1040(94.9%)	1	
Yes	54(5.1%)	0.32(0.11-0.97)	0.04*
Circumciser			
Health personnel	768(70%)	1	
Traditional	329(30%)	3.7(2.06-6.75)	<0.001*

***Significant at p<0.05**

CHAPTER FIVE: DISCUSSION, CONCLUSIONS AND RECOMMENDATION

The chapter discusses the study findings on the effect of male circumcision on risky sexual behaviours amongst young people. The study mainly had four major objectives which focused on comparing risky sexual behaviours amongst circumcised and uncircumcised young persons aged 15 to 24 years old and further investigated the effect of age at circumcision, reason for circumcision and type of circumciser on risky sexual behaviour.

5.1 Discussion

5.1.1 Proportion of Risky Sexual Behaviour amongst Circumcised Youths

The study findings on circumcision status show that of the entire sampled population aged 15 to 24 years, only 25% of the population is circumcised. This was higher than the country's overall circumcision rate of 21.6% reported in the 2013/14 ZDHS even though it far falls short of the 80% circumcision rate targeted by the Voluntary Medical Male Circumcision initiative. Comparatively, there are more young people aged below 20 years that are circumcised than those in the age group 20 to 24 years. The circumcision rate is also largely skewed to young people that have at least attained a secondary education possibly because they are able to appreciate the importance of circumcision and respond to the circumcision campaigns promoted by the Ministry of Health.

In this study, the proportion of circumcised men in relation to sexual behaviours shows that majority of the youths in the age group from 15 to 24 years old have engaged in at least one form of risky sexual behaviour. Key study findings show that majority of the respondents have engaged in premarital sex and over 50% reported not having used a condom the last time they had sex. The indulgence into such risky sexual behaviours by circumcised can be related to studies that have attribute such unexpected sexual behaviour to behaviour risk compensation, where men change their sexual behaviours for the worse with the knowledge that their risk of infection is reduced (Kalichman et al. 2007; Eaton and Kalichman 2009; Riess et al. 2010). In a study by Riess and colleagues, some men stopped using condoms temporarily after undergoing male circumcision as part of the new program in Kisumu, Kenya, while others increased their number of sexual partners. This is consistent with findings from other studies which have shown that circumcision often gives circumcised men more leeway to have unprotected sex and to have many sexual partners. This is often the case

when men view circumcision as an HIV “vaccine” and thus believe that they are protected from acquiring HIV (Bailey et al. 1999; Differding 2007).

5.1.2 Risky Behaviour among Circumcised and Uncircumcised men

Risky Sexual Behaviours were compared amongst the circumcised and uncircumcised men, the study findings show that premarital sex and non-condom use were significantly associated with circumcision status. Majority of the circumcised youths have engaged in premarital sex and in terms of condom use, non-condom use was higher in uncircumcised youths than those that are circumcised even though in both population over 50% of the youths did not use condoms the last time they had sex. The evidence from the South African National Communication Survey on HIV/AIDS in 2009 found that 15% of adults across age groups “believe that circumcised men do not need to use condoms” (Johnson S, Kincaid et al, 2010). In this study it has been observed that regardless of the circumcision status, majority of the youths generally never used condoms the last time they had sex. Furthermore, the study findings differ from Westercamp (2012)’s study on the Kenyan population where approximately 20% of women and a similar proportion of uncircumcised men stated that condom use is less necessary and that HIV is a less serious threat now that MC was available, suggesting that behavioural risk compensation is a possibility as VMMC programs scale up.

5.1.3 Impact of age at circumcision on risky sexual behaviour

The study findings showed that, premarital sex, non-condom use and early sexual debut were significantly associated with age at circumcision. Majority of the young people in this study who were circumcised above the age of 12 years were more likely to engage in the listed risky sexual behaviours. This could be due to the fact that young people that are circumcised after the age of 12 years may have already been engaged in sexual activities and could be getting circumcised in order to protect themselves from STIs. According to the Zambia Demographic and Health Survey, among respondents aged 15-24, 16 percent have had sex below the age of 15 years. Given these findings, male circumcision, as an intervention aimed at reducing HIV/AIDS transmission, could be more effective if it were targeted at younger people that are below the age at first sexual intercourse. This is to ensure that circumcised is done before young people begin to engage in risky sexual behaviours. In addition, young people below 15 years are less aware of the health benefits of male circumcision (60%

protection against STIs) which otherwise would have some psychological effect on them if they did know.

Further the findings also showed that age at circumcision was significantly associated with higher levels of risky sexual behaviour amongst young people. Young people circumcised in the age group 15 to 19 years and 20-24 years were found to be 0.36 times and 0.42 times less likely to engage in high risky behaviour activities than those circumcised below the age of 5 years respectively. These findings are different from those found by Kabira in Uganda where circumcision status was not significantly associated with behaviour and age at circumcision was not significantly associated with risky sexual behaviours amongst circumcised men (Kabira et al., 2013). Nonetheless, the study was conducted on the population age 15-59 years which can be a reason for the different findings in comparison with this study that focuses mainly on young people.

5.1.4 Effect of reason for Circumcision and Risky Sexual Behaviours

The key study findings on the reasons for getting circumcised shows that the most common reason for getting circumcised is for prevention of diseases as. A study conducted in Kenya however found that improvement of penile hygiene (77.9%) was the major reason why people were getting circumcised. This shows some level of discrepancy on reasons for circumcision in countries that are more affected by HIV/AIDS VMMC which are primarily driven by the prevention of disease than hygiene (Kim et al, 2002).

This acts as one of the lee-ways for possible indulgence into risky sexual behaviours given that if young people do not comprehensively understand how male circumcision helps in preventing diseases, they might engage in risky sexual behaviour with the belief that they are protected from getting diseases. However this study found that young people who got circumcised because of treatment of diseases are significantly less likely to engage in higher risky behaviour than those that did not have treatment of diseases as a reason. Even though there has not been adequate literature linking reason for circumcision to risky sexual behaviour, certainly based on the study population, young people's reasons for circumcision especially on treatment of diseases can affect the effectiveness of male circumcision as an intervention to reduce spread of HIV/AIDS. Young people without a comprehensive understanding on Male Circumcision is used to prevent disease might engaged more in risky sexual behaviour than those that understand the health effect of male circumcision. Therefore, young people need more counselling to be made aware that circumcision doesn't offer full

protection from HIV/AIDS and other STIs hence they need to continuously practice safer sex despite the medical/health benefits of Male Circumcision.

5.1.5 Effect of the circumciser on risky sexual behaviour

Lastly, the study also found that the circumciser has an effect on risky sexual behaviour amongst young people. Non-condom use, paid sex and early sexual debut were significantly associated with the circumciser (person that conducted the circumcision).

Risky behaviour was in terms of none use of condoms was significantly higher in youths circumcised by health professionals compared to those circumcised by traditional circumcisers. The study also found that majority of those circumcised by trained health personal were likely to engaged in paid sex and had engaged in early sexual activities than those circumcised by traditional circumcisers at bivariate level.

However results at multivariate level showed that youths that were circumcised by the traditional circumcisers were twice more likely to engage in high sexual risky behaviours compared to those circumcised by a health personnel. This could indicate that young people receive different counselling messages before the circumcision depending on who is conducting the circumcision. Arguably, young people that are circumcised in health facilities obtain more counselling on HIV/AIDS and the need to continue using condoms that those circumcised by traditional circumcisers. The reasons for higher risky behaviours amongst men circumcised by traditional circumciser may be attributed to high levels of early marriage and sexual debut amongst young men in rural areas where traditional circumcision is more prevalent. In addition, rural areas are more affected by unmet contraceptive need which consequently affects access to condoms amongst circumcised men in rural areas.

5.2 Conclusions

The study acknowledges that the emerging innovations and medical procedures such as male circumcision do supply us with some promising new tools and strategies to prevent the spread of HIV. Nevertheless, the complexity nature of the HIV pandemic and its alignment to the behaviours of individuals presents challenges that far exceeding the promise of any single prevention approach. The potential for risk compensation highlighted in the study call for a renewed prioritisation and coordination of approaches to change sexual behaviours especially for young people. From a practical perspective, efforts to maximise the benefits of male circumcision should be extended to comprehensive counselling in order to prevent

indulgence in behaviours such as premarital sex and none use of condoms which were significantly associated with circumcision status.

5.3 Recommendations

Based on the study findings, the report wishes to make recommendations to the government of Zambia and relevant stakeholders. The following recommendations are made:

- ❖ With regards to study findings that premarital sex and condom use are significantly associated with circumcision status, there is need to scale up sensitization campaigns aimed at encouraging young people to practices safer sex regardless of the circumcision status. In other ways, a general call should be made for Zambia to repackage circumcision messages to account for risky sexual behaviors amongst circumcised men. Furthermore, the sensitization should be detailed enough to show that circumcision is part of the comprehensive HIV prevention package, and not a replacement of other intervention such as abstinence and condom use.
- ❖ As much as efforts have been made to collaborate with traditional circumcisers to conduct circumcision in a more hygienic way that will see no use of the same surgical blades on different men, traditional healers should also be trained in counselling to respond to the increased risky sexual behaviors amongst circumcised men.
- ❖ Based on these findings, messaging and counselling on medical male circumcision should not only be conducted at the beginning before circumcision, but there has to be a process of follow ups in communities after circumcision to help safe guard against “falsehood” which if not corrected would unintentionally expose men to a more heightened risk of getting infected with HIV contrary to intended objectives of circumcision. Further, there is need for proponents and advocates of medical male circumcision to reiterate that the procedure provides only partial protection against HIV infection and therefore specific additional ways to reduce the risk of HIV infection such as discouraging concurrent sexual relationships, encouraging correct and consistent condom use and avoiding transactional sex should be emphasized

5.4 Future Research

There is need for more comprehensive studies that will explore the differences in the types of counselling that young people receive before and after circumcision. That way we can account for the impact of the counselling services on sexual behaviour. Further, there is also

need to conduct a study that can measure sexual behaviours intentions for uncircumcised youths that way we can have additional information on risky behaviour so as the right counselling messages can be developed.

5.5 Limitations of the Study

The study is based on data from a cross-sectional survey design. Therefore, while the analysis shows associations, it is not possible to establish causality using such data. In addition, recall bias among respondents for some of the risky sexual behaviours may have affected the study results. Also, it is difficult to ascertain whether respondents engaged in risky behaviours before circumcision or after circumcision.

REFERENCES

- Antony Chikutsa (2014). "Male Circumcision and Risky Sexual Behavior in Zimbabwe: Evidence from the 2010-11 Zimbabwe Demographic and Health Survey". African Population Studies Vol 28 no 2 Supplement July 2014 <http://aps.journals.ac>.
- Central Statistical Office (CSO), Ministry of Health (Zambia), and ICF international (2015). Zambia Demographic and Health Survey (ZDHS) 2013/14. Rockville, Maryland, USA: Central Statistics Office, Ministry of Health, and IFC International.
- Paul C. Hewett, Timothy B. Hallett, Barbara S. Mensch and Petra E. Todd (2012). "Sex with stitches: the resumption of sexual activity during the post-circumcision wound healing period in Zimbabwe." AIDS 26, online edition. DOI: 10.1097/QAD.0b013e32835097ff, 2012 (click [here](#) for the free abstract).
- Paul C. Hewett, Timothy B. Hallett, Barbara S. Mensch and Petra E. Todd (2012). "Sex with stitches: Assessing the resumption of sexual activity during the post circumcision wound-healing period in Zambia". Accessed from www.popcouncil.org/research/zambia
- Johnson S, Kincaid L, Laurence S, Chikwava F, Delate R, and Mahlasela L (2010). "Second National HIV Communication Survey 2009". Pretoria: JHHESA.
- Kawango E. Agot, James N. Kiarie, Huong Q. Nguyen, Jacob O. Odhiambo, Tom M. Onyango, and Noel S. Weiss (2006), "Male Circumcision in Siaya and Bondo Districts, Kenya-Prospective Cohort Study to Assess Behavioural Disinhibition Following Circumcision". Kenya: Lippincott Williams & Wilkins Publisher.
- Kibira, P.S. Nansubuga, E. & Tumwesigye, N.M (2013). "Male Circumcision, Sexual Behaviour, and HIV Status in Uganda". A United States Agency for International Development Publication.
- Kim, Taehun, Seung June Oh, and Hwang Choi. "Knowledge and attitude toward circumcision in Korean: a questionnaire study for adult males stratified by age." *Korean Journal of Urology* 43.9 (2002): 786-794.
- Mattson CL, Campbell RT, Bailey RC, Agot K, Ndinya-Achola JO, Moses S (2008). "Risk Compensation Is Not Associated with Male Circumcision in Kisumu, Kenya: A Multi-Faceted Assessment of Men Enrolled in a Randomized Controlled Trial". PLoS ONE 3(6): e2443. doi:10.1371/journal.pone.0002443
- Piot, P., Bartos, M., Ghys, P.D., Walker, N. and Schwartländer, B., 2001. The global impact of HIV/AIDS. *Nature*, 410(6831), pp.968-973.

National Statistical Office (NSO) [Malawi], and ORC Macro. (2014). Malawi Demographic and Health Survey 2013. Calverton, Maryland: NSO and ORC Macro.

Szabo, R. & Short, R. (2000). "How does male circumcision protect against HIV infection". British Medical Journal, 320, 1592-1594.

Van Dam, J and M.C. Anastasi (2000). "Male Circumcision and HIV Prevention: Directions for Future Research". Washington, DC: Horizons Program.

APPENDICES

Appendix 7.1: Data Extraction Tool

The following will be data that will be extracted from the men’s questionnaire to answer the research question on the effects of male circumcision on risky sexual behaviour.

The men’s questionnaire from the ZDHS is an internationally validated data collection tool on demographic and health information of men.

Sn	Variables	Questions from ZDHS questionnaire	Response expected	Number of respondents
1.	Respondent’s Background			
	Age of the respondents	How old were you at your last birthday?	Age in years	
	Education background	Have you ever attended school?	Yes or No	
		What is the highest level of school you attended?	Primary, secondary, or higher?	
	Religion	What is your religion?	Catholic.....1 Protestant .2 Muslim.....3 Other.....4	
	Place of residence	Categorized in the dataset	Rural or urban	
2.	Sexual Activities			
	Sexual Debutant	How old were you when you had sexual intercourse for the very	AGE IN YEARS	

		first time?		
	Condom use	The last time you had sexual intercourse with this (second/third) person, was a female or male condom used?	Yes No Don't	
	Drunkenness during sex	The last time you had sexual intercourse with this (second/third) person did you or this person drink alcohol?	Yes No	
	Intergenerational sex	What was your relationship to this person with whom you had sexual intercourse?	Wife Live-In Partner Girlfriend Not Living With Acquaintance Sex Worker	

		How old is this person?	Age of partner	
	Multiple Sexual partners	Apart from (this person/these two people), have you had sexual intercourse with any other person in the last 12 months?	Yes No	
		In total, with how many different people have you had sexual intercourse in the last 12 months?	Stated number	
	Transactional sex	In the last 12 months, did you pay anyone in exchange for having sexual intercourse?	Yes No	
		The last time you paid someone in exchange for having sexual intercourse, was a female or male condom	Yes No	

		used?		
		Was a condom used during sexual intercourse every time you paid someone in exchange for having sexual intercourse in the last 12 months?	Yes No	
3.	Male circumcision			
	Circumcision status	Some men are circumcised, that is, the foreskin is completely removed from the penis. Are you circumcised?	Yes No Don't	
	Age at circumcision	How old were you when you got circumcised?	Age circumcised	
	Reason for circumcision	Why were you circumcised?	Traditional Custom Treatment For Disease Hygiene Prevention from a Disease	

			<p>Increase Sexual Pleasure</p> <p>Other</p> <p>Don't Know</p>	
	Place of circumcision	Where was it performed?	<p>HEALTH FACILITY</p> <p>HOME OF A HEALTH WORKER/ PROFESSIONAL</p> <p>CIRCUMCISION DONE AT HOME</p> <p>RITUAL SITE</p> <p>OTHER HOME/PLACE</p> <p>OTHER</p> <p>DON'T KNOW</p>	