Prevalence and factors associated with risky sexual behaviour after male circumcision among clients circumcised at Spilhaus Clinic in Harare

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Dissertation Submitted in Partial Fulfillment of

Master in Public Health Degree

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August 2012

Declaration

I certify that this dissertation is my original work and submitted for the Master in Public Health Programme. It has not been submitted in part or in full to any university and/or any publication.

Student:

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Tafadzwa Chirau

I, having supervised and read this dissertation. I am satisfied that this is the original work of the author in whose name it is being presented. I confirm that the work has been completed satisfactorily for presentation in the examination.

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ABSTRACT

Title: Prevalence and factors associated with risky sexual behaviour after male circumcision among clients circumcised at Spilhaus Clinic in Harare

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Introduction*:*

The main objective of this study was to determine whether men who were circumcised in adulthood have risky sexual behavior after being circumcised.

Methods:

A cross sectional study was conducted. Men aged18-49 years, residing in the city of Harare, who had voluntary medical MC from 1 July 2011 to 31 December 2011 were interviewed

Outcome Indicators

The main outcome indicators were sexual behaviors known to place men at increased risk of acquiring HIV (Sex with casual acquaintance, sex without condoms with girlfriend, transactional sex).

Results:

A total of 131 respondents were interviewed. Ninety four percent were Christian, and 60%were in union. For those reporting to be in union 86% was living with their partners. The prevalence of multiple unions was 9%. Ninety two percent (121/131) had ever had sexual intercourse. Overall use of condoms for those who last had sex within one month preceding the study was 10.5%. The prevalence of risky behavior at last sex encounter within one month of the study was 20% .The prevalence of multiple partners was 29%,

which is higher than national average of 10.65. The 30-34 years age group (chi square= 20.0, p=0.000) had significantly higher rates of multiple partnerships. 7.4% had paid for sexual intercourse in the 12 months preceding the study. This was significantly higher for those with than secondary education (Chi square 4.80, p=0.04) in the 12 months preceding the study.

There was 28.1%, early resumption of sex, and was higher for men in union (39.7%) (Chi square 14.61, p<0.0001).

Conclusion:

The prevalence for risky behavior was 20%. The prevalence for payment for sex and multiple partnerships was higher than national average suggesting risk compensation.

Key words: Circumcision, Risky behavior, risk compensation

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ACKNOWLEDGMENTS

I would like to acknowledge the support of executive director ZNFPC, Dr M.Murwira and his staff for their assistance throughout the project. I would also want to thank my academic supervisor Professor M. Tshimanga for his visionary guidance, support and patience throughout the course of the study. I would also want to express my gratitude to all my fellow students for their assistance and words of encouragement.

I would like to dedicate this work to my beloved wife, Letwin, and son Tafara, and thank them for the prayers and the support they gave me throughout this study

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ABBREVIATIONS

MC- Male Circumcision

STIs- Sexually Transmitted Infections

UNAIDS - Joint United Nations Programme on HIV/ AIDS

WHO - World Health Organization

ZDHS- Zimbabwe Demography and Health Survey

ZNFPC- Zimbabwe National Family Planning Council

CHAPTER 1

INTRODUCTION

1.1 Background Information

AIDS is a devastating epidemic and that affects mostly individuals who are at the peak of the productive periods of their lives. The disease has led to more than 25 million deaths across the globe, with sub-Saharan Africa remaining as the worst affected region[1].

There is no cure or vaccine for prevention of HIV, and control is focused on prevention, mainly risk reduction and practicing safer sex.

Ecological observations have revealed that in communities where male circumcision (MC) is prevalent there is relatively lower prevalence of HIV infection. This information led to the conduction of randomized controlled trials in South Africa, Kenya and Uganda. These showed that male circumcision reduced the risk of acquiring heterosexually transmitted HIV in circumcised males by up to 60%, preventing over six million new HIV infections and three million deaths over the next 20 years if all sexually active men in sub-Saharan Africa became circumcised[2].

MC involves removing the foreskin, a loose fold of skin that covers the head of the penis, and is practiced for religious, social and medical reasons. Approximately 30% of males are estimated to be circumcised globally, and in Africa, the figure is approximately 68%[3]. In Zimbabwe the prevalence of MC in men of reproductive age (15-49) is only 9%[4], and HIV prevalence is 15%.

Following the publication of the 3 trials the World Health Organization (WHO) and the Joint United Nations Programme on HIV/ AIDS (UNAIDS) recommended that countries

with generalized heterosexual HIV epidemics and low rates of MC should consider urgently scaling up access to MC services [5, 6].

According to WHO's guidelines, men undergoing circumcision need to abstain from all sexual activity for at least six weeks after the procedure. The wound needs time to heal in order to withstand the physical stress of sexual intercourse. Taking part in sexual activity prior to six weeks, especially without a condom, may increase the likelihood for contracting HIV through the surgical wound. After undergoing the procedure, clients are scheduled to come for at least 3 review visits; at day 2, at day 7 and at day 42. The review visits are for detecting adverse events, counseling on condom use, and on risk reduction.

Zimbabwe adopted the WHO recommendation on MC, and launched the MC program in 2009. The aim was to circumcise 1.2 million men of reproductive age by the year 2015. The service delivery strategy involves offering services at freestanding sites, in mobile services and integration with public health clinics.

Spilhaus is a family planning services clinic run by the Zimbabwe National Family Planning Council (ZNFPC). It was one of the first sites to offer MC in 2009 after the launch of the programme, and is also one of the two training centers. It serves clients from all over Harare and Zimbabwe.

With the planned and anticipated rapid increase in the uptake of MC, a new concern is emerging that men who are circumcised may subsequently adopt more risky sexual behaviors(risk compensation) thereby offsetting the potential gains from circumcision. Risk compensation is defined as "an effect whereby individual people may tend to adjust their behavior in response to perceived changes in risk". Individuals will tend to behave in a more cautious manner if their perception of risk or danger increases and conversely will behave less cautiously in situations where they feel "safer" or more protected[7].

Working definition: For purposes of this study risky sexual behavior was define as sex with multiple partners, sex with non-marital/regular partner, and sex without a condom with non-regular partner, transactional sex

1.2 Statement of the problem

Zimbabwe which has an HIV prevalence of 15%, launched mass male circumcision in 2009 following the WHO and UNAIDS recommendation. Current figures ZDHS2010/11 have shown that the prevalence of HIV is higher in circumcised men when compared to uncircumcised man (14% vs12 %), and concerns have been raised following publication of these results. In addition service delivery statistics have shown that there is default of follow-up visits where counseling on risk reduction should be reinforced. Uptake of follow-up visits in the Zimbabwe MC program were as follows; Day 2: 98%, Day 7: 94%, Day 42: 62%. This study was aimed to determine if men who have undergone adulthood circumcision are engaging in riskier sexual behavior, which may offset the potential benefits of the procedure.

1.3 Justification

With the planned and anticipated rapid increase in the uptake of MC, there is concern, that men may subsequently adopt more risky sexual behaviors (risk compensation). There have been very few studies that evaluated risk compensation outside clinical trials, where counseling may be less intensive. There has been no such study published in Zimbabwe. There is a need to better determine sexual behavior change following MC in non-experimental settings. This area of research is critical, given the continued concern that risk compensation could negate the protective benefits of MC

1.4 Research question

Do men take part in risky sexual behavior after being circumcised?

CHAPTER 2

LITERATURE REVIEW

The literature discussed looked at risk compensation, and satisfaction with the procedure mainly from a clinical trial setting, and risk compensation in other non-medical fields.

Studies in other fields have showed that individuals may tend to change their behavior when their risk perception changes as seen in Bangladesh, were after receiving information about arsenic contamination in their wells, the residents appeared to switch water sources (Madajewicz et al., 2007), and in several studies on use of protective gear in sports (Walker, 2007; Braun and Fouts, 1998; Williams-Avery, 1996). On the other hand, other research has not found evidence supporting the theory of behavioral risk compensation. For example, mandatory seat belt laws in the United States were not found to be associated with increased careless driving (Cohen and Einav, 2003) as cited by Godlonton (2011) [8].

In Denmark (5% circumcised), a national survey revealed that circumcised men reported more partners and were more likely to report frequent orgasm difficulties after adjustment for potential confounding factors [9].

Gray et al. used stochastic simulation models to estimate HIV transmission probabilities under various assumptions. They used empirical data from the Rakai trial, and estimated that if newly circumcised men were to increase the number of sexual partners by an average of more than 25% the beneficial effect of MC may be lost, even assuming a high efficacy of 60% [10].

In the South African trial, there was increased sexual activity post circumcision, but the numbers of new partners reported was not significantly higher among circumcised when

compared to uncircumcised men, suggesting that, although sexual activity increased following circumcision, it was not with new partners[11].

This was similar to what was reported by Westercamp et al in Nyanza province, Kenya where; after comparing circumcised men to themselves before and after circumcision, the level of sexual activity increased (59% were sexually active in the past 6 months at baseline vs. 65% at 6-month follow-up, $p< 0.001$). They reported having sex more often (1.5 vs. 2.0 sexual encounters in the past 30 days; $p=0.01$), but with the same number of partners (1.5 vs. 1.6 partners in the past 6 months; $p=0.11$) and with increased condom use (49% vs. 53% used condoms at last sex; $p=0.03$). No statistically significant differences in behavior between circumcised and uncircumcised men over time on all variables 6 months post-surgery were found[12].

In a study done at Siya and Bongo districts in Kenya the circumcised men reported more risky behaviour in the three months before study entry compared with men who chose to remain uncircumcised (for example, 34% vs. 26% reported risky sex acts in the preceding three months; $P = 0.03$), but during the 12-month follow-up period, after the first 3 months (confounded by the recommended 6 weeks abstinence) the difference disappeared. The researchers concluded that any protective effect of male circumcision on HIV acquisition is unlikely to be offset by an adverse behavioral impact[13].

Mattson and others (2008) reported a significant reduction in sexual risk behavior among both circumcised and uncircumcised men from baseline to 6 ($p<0.01$) and 12 ($p = 0.05$) months post-enrollment in their clinical trial. Longitudinal analyses showed no statistically significant differences between sexual risk propensity scores or in incident infections of gonorrhea, chlamydia, and trichomoniasis between circumcised and uncircumcised men [14].

Using experimental data from Kisumu, Kenya, Xiong et al (2011) noted that contrary to the presumption of risk compensation the response due to the perceived reduction in HIV transmission appears to have been a reduction in risky sexual behavior. They suggested that circumcision reduces fatalism about acquiring HIV and changes the tradeoff between engaging in additional risky behavior and living longer[15].

In a qualitative study on sexually active circumcised men in Kisumu, Kenya (2008) most respondents reported no behavior change, or an increase in protective sexual behaviors including increasing condom use and reducing the number of sexual partners. A minority of men reported engaging in higher risk behaviors either not using condoms or increasing the number of sex partners. Circumcised respondents described being able to perform more rounds of sex, easier condom use, and fewer cuts on the penis during sex[16].

After random dissemination of information about HIV risk and male circumcision in a study done in Malawi behavioral responses to learning this information was measured. The researchers reported no evidence of risk compensation among circumcised men in the treatment group immediately after the information campaign or one year later as measured by condom purchases and self-reported sexual behavior. Uncircumcised men in the treatment group, however, significantly increase the likelihood of purchasing condoms immediately after the information intervention and after one year and report decreased risky sexual behavior one year after the information campaign[17].

In a qualitative study done Swaziland men reported greater sexual responsibility and sexual satisfaction after the MC procedure[18].

A study which produced contrasting results was done in Zambia, in which they used audio-computer assisted self-interview for sensitive questions. About 1 out of 4 men had sex prior to 6-weeks. Of the men who had sex before 6-weeks post-MC; about 1 in 5 had

sex in the first week, about 1 in 3 had sex with multiple partners and few used condoms consistently. However despite extra HIV infections due to sex during wound healing, a net impact of MC in first year was reported to be a large net reduction in HIV infections. For women, the net impact of the intervention in the first year was sensitive to the prevalence of sex during wound healing[18]. The randomized controlled trials reported early resumption of sex as: 4%in Kisumu, Kenya, 5%in Rakai, Uganda and 23%in Orange Farm, South Africa [19].

Current data from the Zimbabwe Demographic and Health Survey(ZDHS 2010/11) on self-reporting circumcised men age 15-49 who were tested for HIV shows that circumcised men had a slightly higher infection rate than uncircumcised men (14% and 12 %, respectively) [4].

A cohort study done by Marie Stopes in Nyanza and Western Provinces in Kenya, at first follow-up visit 5.8% of individuals were lost to follow-up. The retention rate at the second follow-up visit was 91.3% and 84.6% for the third follow up visit (30 days post-operative). Over 99% of the study participants reported being satisfied with the procedure and level of counseling and information[5]

Most of the researchers concluded that MC accompanied by counseling and HIV testing can foster positive behavior change and maintain sexual behavior. Continued monitoring and evaluation of risk compensation associated with circumcision is needed as MC is widely rolled out for HIV prevention.

2.1 Public health significance

If people perceive that they are now protected after circumcision, they may engage in more high-risk sexual behaviour. Men who have been circumcised might stop using condoms. Women might find it harder to insist on condom use by circumcised partners. It is even possible that, in areas where circumcision is already widespread, publicity of the scientific findings could increase transmission of HIV. Therefore this study was important so as to direct public policy

2.2 Prevalence and Associated Factors

Prevalence of multiple partnerships has been reported as 10.6%, in the ZDHS, and that of ever paying for sex was 17%, while that of paying in the preceding year was 3%.In the South African trial risky behavior has been associated with being married or living as married[11].

CHAPTER 3

OBJECTIVES AND HYPOTHESES

3.1 Broad Objective

To determine whether men are taking part in risky sexual behaviour after being circumcised

3.2 Specific objectives

- To describe the demographic characteristics of men coming for circumcision from Harare.
- To determine the current and prior sexual behavior among men who have undergone MC in the past 6-12 months.
- To find out the prevalence of risky sexual behavior after circumcision in the clients
- To determine whether men are resuming sexual activity prior to the recommended 6-week period of post-MC.
- To find out if there is a difference in sexual behaviours in those who come for reviews and those who do not.
- To determine the men`s satisfaction with the procedure.

3.3 The hypotheses

Null hypothesis*:*

***H_0*:** Men who are circumcised in adulthood do not take up more risky sexual behavior

Alternative hypothesis*:*

***H_1*:** Men who are circumcised in adulthood take up more risky sexual behaviour

CHAPTER 4

METHODS AND MATERIALS

4.1 Introduction

This chapter will describe the research methods used in this study. It will look at study design, study setting, study population, sample size and sampling plan, clinical examination, the research instruments, study variables, permission to proceed and ethical considerations and data capturing and analysis.

4.2 Study design

A cross sectional study was conducted. We wanted to measure the prevalence of risky sexual behavior after circumcision. This study allows us to measure the prevalence as well as the factors associated.

4.3 Study setting

The study was conducted in Harare on clients who were circumcised at Spilhaus clinic. Spilhaus is only static public MC site in Harare. It is also a training center

4.4 Study population

The target population for this study was men aged18-49 years residing in the city of Harare, who had voluntary medical MC from 1 July 2011 to 31 December 2011.Six - 12 months post circumcision was chosen as the timeframe, as this allowed sufficient time for participants to establish new patterns of sexual behavior or to resume their old sexual behavior. It also allows sufficient recall of behaviors prior and post circumcision[18]

4.5 Sample size and sampling plan

The prevalence of 2 or more sexual partners in the preceding 12 months among males 15-49 years was 10.6% according to the 2010/11 ZDHS. In the study done in Zambia 32% of the circumcised who had early resumption of sex had multiple partners[19]. In the

Kisumu trial the prevalence of 2 or more sexual partnerships in the preceding 6 months, at 12 months post circumcision was 29%[14] .Using stat calc at 95% level of confidence, 80% power and, assuming the rate of multiple partnerships in the general population to be 10.6%, and that the worst expected prevalence of 2 or more in circumcised males to be 32%, a minimum sample size of 130 clients was calculated.

Spilhaus male circumcision client registers were used as the sampling frame. Clients were then selected by systematic random sampling, then contacted and followed up. The interviews were conducted by the public health officer. Participants were given the option of conducting the interviews in the language in which they were most comfortable conversing in (English or Shona). Participants were given the option of having the interviews at their homes, workplaces, or of coming to the clinic for the interviews. Participants who came for the interviews were given $2 as bus fare reimbursement.

4.6 Data collection instruments

Interviewer administered questionnaires adapted from the ZDHS that had both closed and open-ended questions that explored personal accounts of sensitive information on sexual behavior were used. The questionnaire was pretested at Chitungwiza MC Site and questions modified for clarity.

4.7 Study variables

4.7.1 Outcome variable

The primary 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, transactional sex, use of condoms with non-regular partners, total number of partners,

Secondary outcome indicators were incidence of STIs, satisfaction with the male circumcision procedure, attendance for review visits.

4.7.2 Independent variables

Age, Employment status, marital status, education level, previous history of paying for sex, age at sexual debut. These will be assessed through interviews.

4.8 Permission to proceed and ethical considerations

Ethical approval to conduct the study was obtained from the Medical Research Council, and the Joint Parirenyatwa Research Ethics Committee. Written consent was obtained from all participants involved in the study. The choice of whether to participate or not was respected. Confidentiality was assured and maintained by holding interviews in private places and omitting names of participants on the questionnaires.

Permission to conduct study was sought and obtained from the Health Studies Office and ZNFPC, and Ministry of Health and Child Welfare.

4.9 Data Capturing and Analysis

Quantitative data was entered into Epi-info version 3.5.3 and Microsoft excel, frequencies and proportions were generated. Differences between proportions were tested using chi-square test or Fisher's exact test (for tables with an expected value in any cell < 5). Qualitative data was organized into recurring themes and analyzed manually.

4.10 Study limitations

The study involved asking the men sensitive information on their sexual behaviors, therefore there was potential for Hawthorne effect. To limit this effect the interviews were conducted in privacy, by male interviewer using the respondents preferred language.

CHAPTER 5

RESULTS

A total of 131 respondents were interviewed. Most of the respondents had attained higher than secondary education, were Christian, and were in union. The background characteristics are summarized in table 1.

Table1: Background Characteristics of the respondents

Characteristic		Number	Percent (%)
Age			
	Median 29 years, Q1=24, Q3=36		
Area of residence	High density	94	71.7
	Low density and Medium density	37	28.2
Level of education	Primary	1	0.8
	Secondary	58	44.6
	Higher	71	54.6
Marital Status	Married/Cohabiting	78	59.5
	Not in union	53	40.5
Religion	Traditional	4	3.1
	Christian	123	93.9
	Other	4	3.1
Employment Status	Employed	105	80.2
	Unemployed	26	19.8

For those reporting to be in union 86% (67/78) were living with their partners. Eleven percent (6/53) of the respondents who were not in union were previously married. Fourteen percent of the sexually experienced had been married or cohabited more than once. The prevalence of multiple unions was as shown below.

Table2: Number of wives/live in partners for the clients in union

Number of partners	N=78	Percent
1	71	91
2	6	7.7
3	1	1

Sexual Behaviours

Ninety two percent (121/131) had ever had sexual intercourse. The median age at sexual debut was 20 years, with a Q1 =18, Q3=22. For those who had ever had sex only16.5% (20/121) had first had sex with first wife/ live in partner. The median number of life time partners of the respondents was 4, with Q1 =2 and Q3=7. The table below shows the shows the description of the participant's last sexual partners

Table 3: Type of partner at last sexual encounter

Description	Frequency (N=121)	Percent
Wife	67	55.4
Live in partner	6	5.0
Girlfriend not living with Respondent	37	30.6
Casual acquaintance	7	3.3
Prostitute	3	2.5
Other	1	0.8

The table below shows the description of partners at last sexual act in the month preceding the study, and the corresponding condom usage.

Table 4: Type of partner at last sexual encounter within one month of interview, and use of condoms

Partner description	Frequency, N=95(Percent)	Use of condoms (%)
Wife	67(70.5)	1.5
Live in Partner	3(3.16)	0
Girlfriend not living	17(17.9)	35
With respondent		
Casual acquaintance	4(4.21)	0
Prostitute	3(3.16)	100
Other	1(1.05)	0

Overall use of condoms for those who last had sex within one month was 10.5% (10/95). The prevalence of risky behavior (Sex with friends, sex without condoms with girlfriend, transactional sex) at last sex encounter within one month of the study was 20% (19/95).

Multiple sexual partnerships

The prevalence of multiple partners was 29%. It was significantly higher for those in the 30-34 years age group (chi square= 20.0, p=0.000).) There was more use of condoms with second partner for those who were not in union and this was statistically significant (Fisher exact 0.04). The mean number of sexual partners in the 12 months that preceded the study was 1.34 (standard deviation = 0.7355).

Table 5: Multiple sexual partnerships

Characteristic		Percentage who reported 2 or more partners	
		Percent	Number of men
Age	<20 years	100	3
	20-29	22.2	54
	30-39	35.4	48
	40+	12.8	39
Marital/union	In union	28.2	78
	Not in union	30.2	43
	Polygamous union	31.8	22
Education	Primary	*	1
	Secondary	20	50
	Tertiary	33.3	69
Employment status	Employed	28.7	101
	Unemployed	30.0	20
All men		28.9	121

**Only one responded*

Table 6: Multiple sexual partnerships and use of condoms.

Characteristic		Among men with 2+ partners, percentage who reported using condom at last intercourse	
		Percent	Number of men
Age	<20 years	66.7	3
	20-29	75	12
	30-39	6.25	16
	40+	0	3
Marital/union	In union	0	22
	Not in union	92.3	13
	Polygamous union	0	7
Education	Primary	*	1
	Secondary	30.0	10
	Tertiary	39.1	23
Employment status	Employed	24.1	29
	Unemployed	83.3	6

**Only one responded*

Payment for sex

The table below shows the characteristics in relation to payment for sex.

Table 7. Percentage who paid for sex in 12 months preceding interview

Characteristic		Percentage	Number of men
Marital Status	Married/in union	6.4	78
	Not in union	9.3	43
	Polygamous union	0	11
	Non polygamous union	7.5	67
Age	<25	0	31
	25-49	9.9	90
Employment status	Employed	8.9	101
	Unemployed	0	20
Education	primary	*	1
	Secondary	0	50
	Higher	13	69
All participants		7.4	121

Twenty seven percent of the 121 circumcised men who were sexually active reported having ever paid for sex. 7.4% had paid for sexual intercourse in the 12 months preceding the study. Condom usage at last payment for sex was 97%.

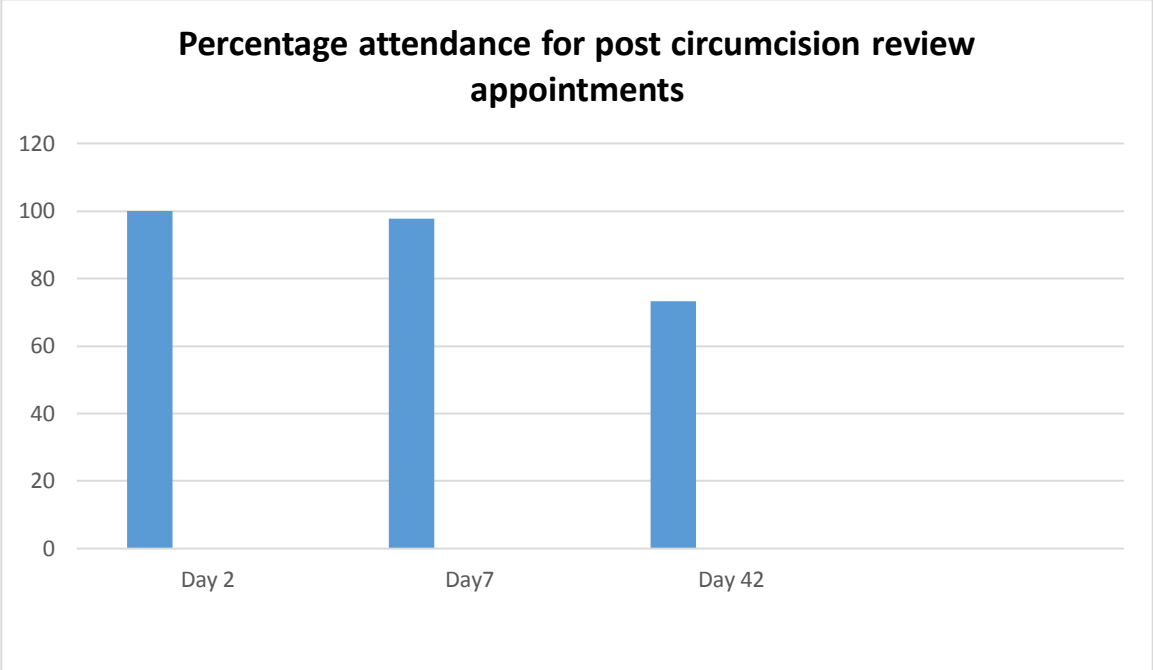
Resumption of Sex

The clients resumed sexual activity as shown in the table 8 below. 28% had resumed sexual activity before the recommended 6 weeks. Early resumption was significantly more common for those in union (chi square 14.61, $p<0.0001$)

Table 8: Resumption of sex within 6 weeks in men who ever had sex

	Frequency, N=121	Percent
Among men ever having sex	34	28.1
Among men in union	31(n=78)	39.7
Among men not in union	3(n=43)	7.0
Within 2 weeks	2	1.7
Within 3 weeks	11	9.1
Within 1 month	21	17.4
More than 6 weeks	87	71.9
Multiple partners	0	0

Figure 1: Attendance of post circumcision reviews



There was 100% attendance of day 2, 97.7% for day 7, and 73.3% for day 42. Only 2 clients (1.52%) came for extra visits, and these were for hemorrhage. There was no significant relationship between not coming for day 42 review and early resumption of sex (chi square=2.38, p=0.07), there was also no significant relationship with having two or more partners (chi square= 0.93, p=0.34).

Prevalence of STIs

Only 1(0.8%) client self-reported abnormal discharge in the preceding 12 months and this was more than 6 months after circumcision. 2.3% reported having had ulcers, and these were after the healing period.

How the clients found MC.

Ninety one percent of the clients expressed satisfaction with the procedure. Concerns that were raised were to do with control of pain during and after the procedure, as well as the recent press reports that refuted the effectiveness of circumcision. There were mixed responses in relation to sexual performance, some saying it increased libido, and some saying their libido had decreased. For example one client said *madzimai angu ari kufara, rave damba refu chairo,* while another complained that 'now he only has 1 round instead of the 4 he was used to'. 'We were duped said another', another said 'It's now easier for partners to consent to oral sex'

CHAPTER 6

DISCUSSION

The demographic characteristics of the participants were comparable to those in the general population in Zimbabwe, and in the other studies in Africa. The mean age at sexual debut was slightly below the national average 20.6 years, but the mean number of life time partners 5.6 which is significantly lower than the corresponding figure for Harare (6.5).The mean number of sexual partners (1.34) in 12 months preceding the study was lower than that obtained at Nyanza province, Kenya (1.5), and even lower than at Orange Farm South Africa (7.5). The prevalence of polygamous unions was higher the in the general population at 9% compared to 5%[4].

In this study the prevalence of risky sexual behavior in one month preceding the study was 20%. The prevalence of two or more partners in the 12 months preceding the study was 28.9% .This was higher than in the general population (10.6%) as reported in the ZDHS 2010/11. This increase is concerning as it has been modeled that an increase in multiple partners by up to 25% may result in loss of the beneficial effect[10]. Multiple partnerships increased with level of education, employment status, and age group. A similar trend has been reported in the ZDHS. This may be related to availability of disposable income.

Prevalence of ever paying for sex (27%) was much higher than national average of 17%, as was the prevalence for payment in the preceding 12 months (7.4% vs. 3%) [4]. Men age 25-49(34%), and those with higher than secondary education (35%) were more likely to have ever paid for sex, as well as pay for sex in the preceding 12 months (10 and 13% respectively), which was in contrast to results found in Swaziland by Grund and Hennink (2011), which showed results that men report greater sexual responsibility and sexual satisfaction after the procedure [18].

The three randomized controlled studies had resumption rate of 4%, 5%, and 23%, and in Zambian there was 32% early resumption[19]. As expected early resumption was significantly associated with being in union (chi square 14.61, $p<0.0001$).All who resumed sex within 6 weeks reported having it with one partner, which was in contrast to findings in Zambia were 32% resumed sex before 6 weeks, and one in three had multiple partners[19]. The attendance for review visits was above national average, but lower than reported at Nyanza[5]. This is encouraging since these review visits offer the programme implementers an opportunity for continued counselling and reinforcement of messages on MC and HIV.

The prevalence of self-reported abnormal discharge (0.8%), and genital ulcers (2.3%) were below the general prevalence of discharge and genital ulcers which were reported as 2.9, and 3.8% respectively, probably showing the protective effect of circumcision against STIs. This is consistent with Mattson et al who reported no statistically significant difference in incident infections of gonorrhea, Chlamydia, and trichomoniasis between circumcised and uncircumcised men [14].

Most clients were satisfied with the procedure which was similar to what Grund and Hennink reported[5, 18]. However there were mixed feelings on the effect of MC on sexual performance. There were concerns on the effectiveness of the procedure, which were triggered by negative press reports which doubted the effect of MC on HIV transmission.

CHAPTER 7

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

The prevalence for risky behavior was 20%. The prevalence for payment for sex and multiple partnerships was higher than national average, suggesting that there is risk compensation. There was reduced prevalence of STI among the circumcised clients. Attendance for review visits was higher than national average. Clients were generally satisfied with the circumcision procedure, and there were contrasting opinions on its effect on sexual performance.

RECOMMENDATIONS

We recommend that the ministry of health and VMMC implementing partners should put emphasis of the partial nature of the protection from MC, in view of the higher rate of transactional sex, and multiple partnerships.

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APPENDICES

Appendix 1: Questionnaire

Questionnaire No_____ Date_____ Residential

Suburb_____

DEMOGRAPHIC DETAILS

1) In what month and year were you born? _____

2) How old were you at your last birthday?_____

3) Have you ever attended school? YES/NO

4)If yes what is the highest level of school you attended: primary, secondary, or higher?

PRIMARY 1

SECONDARY 2

HIGHER 3

5) What is your religion?

TRADITIONAL 1

CHRISTIAN 2

MUSLIM 3

NONE 4

OTHER _____(specify)

6) Have you done any work in the last 12 months? YES/NO

7) If yes to 6 ,what is your occupation, that is, what kind of work do you mainly do?

_____

MARRIAGE AND SEXUAL ACTIVITY

8) Are you currently married or living together with a woman as if married?

YES, CURRENTLY MARRIED ……..1

YES, LIVING WITH A WOMAN . . . . . ……2

NO, NOT IN UNION . . . . . …….. 3

9) If no to 8 have you ever been married or lived together with a woman as if married?

YES, FORMERLY MARRIED 1

YES, LIVED WITH A WOMAN 2

NO . . . . . ….3

10) What is your marital status now: are you widowed, divorced, or separated?

WIDOWED 1

DIVORCED …….....2

SEPARATED……3

SINGLE……..4

MARRIED……..5

11) Is your (wife/partner) living with you now or is she staying elsewhere?

LIVING WITH HIM 1

STAYING ELSEWHERE 2

12) Do you have other wives or do you live with other women as if married?

YES (MORE THAN ONE) 1

NO (ONLY ONE) 2

13) Altogether, how many wives or live-in partners do you have?

TOTAL NUMBER OF WIVES AND LIVE-IN PARTNERS _____

14) Have you been married or lived with a woman only once or more than once?

ONLY ONCE 1

MORE THAN ONCE 2

Now I would like to ask you some questions about your recent sexual activity. Let me assure you again that your answers are completely confidential and will not be told to anyone. If we should come to any question that you don't want to answer, just let me know and we will go to the next question

15) How old were you when you had sexual intercourse for the very first time?

Ever had sexual intercourse YES/NO

Age in years _____

16) First had sex when started living with (first) wife/partner? YES/NO

17) When was the last time you had sexual intercourse?

DAYS AGO 1

WEEKS AGO 2

MONTHS AGO 3

YEARS AGO 4

	LAST SEXUAL PARTNER	SECOND-TO-LAST SEXUAL PARTNER	THIRD-TO-LAST SEXUAL PARTNER
18)When was the last time you had sexual intercourse with this person?	As in 17	Days ago ……1 Weeks ago ….2 Months ago …3	Days ago ….1 Weeks ago …2 Months ago… 3
19)The last time you had sexual intercourse (with this second/third person), was a condom used?	Yes . . . . 1 No . . . . . 2 (if no skip to next question)	Yes . . . . 1 No . . . . . 2 (if no skip to next question	Yes . . . . . .1 No . . . . . 2 (if no skip to next question
20)Was a	Yes 1	Yes 1	Yes 1

condom used every time you had sexual intercourse with this person in the last 12 months?	No 2	No 2	No 2
21)What was your relationship to this person with whom you had sexual intercourse?	Wife . . . . . 1 Live-in partner ……2 Girlfriend not living with respondent . . . . ……..3 Casual acquaintance. . ….. 4 Prostitute . . . . 5 Other (specify)_____6	Wife . . . . . 1 Live-in partner . . . . 2 Girlfriend not Living with respondent . . . . 3 Casual Acquaintance . . . 4 Prostitute . . . . 5 Other (specify)_____6	Wife . . . . . 1 Live-in partner . . . . 2 Girlfriend not Living with respondent . . . . 3 Casual Acquaintance . . . 4 Prostitute . . . . 5 Other (specify)_____6
22)How long ago did you first have sexual intercourse with this (second/third)	Days ago ……1 Weeks ago ……..2 Months ago …….3 Years ago……..4	Days ago ……1 Weeks ago …..2 Months ago……3 Years ago …….4	Days ago ……1 Weeks ago …….2 Months ago ……3. Years ago ……..4

person?			
23)How many times during the last 12 months did you have sexual intercourse with this person? IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE. IF NUMBER OF TIMES IS 95 OR MORE, WRITE '95	Number of times……..	Number of times……..	Number of times……..
24) How old is this person?	Age of partner…… Don't know……...	Age of partner…… Don't know……...	Age of partner…… Don't know……...
25) Apart from (this person/these	Yes . . . . 1 (go back to top question	Yes . . . . 1 (go back to top question	

two people), have you had sexual Intercourse with any other person in the last 12 months?	In next column) No 2	In next column). No 2	
26) In total, with how many people have you had sexual intercourse in the last 12 months? IF NON- NUMERIC ANSWER, PROBE TO GET AN ESTIMATE. IF NUMBER OF PARTNERS	NUMBER OF PARTNERS LAST 12 MONTHS……. DON'T KNOW. . …		

IS 95 OR MORE, WRITE '95'.	
CHECK (ALL COLUMNS): AT LEAST ONE PARTNER IS PROSTITUTE	
NO PARTNERS ARE PROSTITUTES…	
CONDOM USED WITH EVERY PROSTITUTE……	
OTHER PARTNERS….. YES/NO__(SPECIFY)_____	
27)In the last 12 months, did you pay anyone in exchange for having Sexual intercourse?	Yes . . . . . 1 No 2
28Have you ever paid anyone in exchange for having sexual intercourse?	Yes . . . . . 1 No 2
29The last time you paid someone in exchange for having sexual Intercourse, was a condom used?	Yes . . . . . 1 No 2
30)Was a condom used during sexual intercourse every time you paid Someone in exchange for having sexual intercourse in the last 12 Months?	Yes . . . . . 1 No . . . . . 2 Don't know 3

31In total, with how many people have you had sexual intercourse in your lifetime? IF NON-NUMERIC ANSWERS, PROBE TO GET AN ESTIMATE.	Number of partners In lifetime . . . . . . Don't know. . …

32) When were you circumcised (Date)_____

33) Did you attend review sessions?

Day 2 ……1

Day 7…….2

Day42…….3

Extra

visits……..4(Specify)_____

34) When did you start having sex after circumcision_____

Days……..1

1 week……..2

2 weeks…….3

3weeks…….4

1 month……5

More than six weeks

35) How may partners did you have during the healing (six weeks) period?.....

36) How did you find the procedure?

_____

_____

_____

Now I would like to ask you some questions about your health in the last 12 months.

37) During the last 12 months, have you had a disease which you got through sexual contact?

YES 1

NO 2

DON'T KNOW 3

38) Sometimes men experience an abnormal discharge from their penis.

During the last 12 months, have you had an abnormal discharge from your penis?

YES 1

NO 2

DON'T KNOW 3

If yes when? .....

39) Sometimes men have a sore or ulcer near their penis.

During the last12 months, have you had a sore or ulcer near your penis?

YES 1

NO 2

DON'T KNOW 3

If yes when? ……..

40) Any other comments on circumcision

_____

_____

_____

Appendix 2 Information and Consent Form

ZNFPC
ZIMBABW

Zimbabwe National Family Planning Council

P.O. Box ST 220, SOUTHERTION, HARARE, ZIMBABWE,TELEPHONE 620281/2/3/4/5;

661962/3/4

CONSENT FORM

INTRODUCTION

Good day. My name is Tafadzwa Chirau I am a student with the University of Zimbabwe, Department of Community Medicine, studying for the Masters of Public Health. I am currently attached to the Zimbabwe National Family Planning Council (ZNFPC). I am conducting a study on post circumcision sexual behaviour.. For any further information please contact me on 0774100341, or Dr. M. Murwira Executive Director ZNFPC,Box ST 220 Southerton Harare - ZimbabweTel :- +263-4-621909 Cell:- +263-777 796 784 e-mail:- ed@znfpc.org.zw.

What you should know about this research study:

- We give you this consent so that you may read about the purpose, risks, and benefits of this research study.

- Routine care is based upon the best known treatment and is provided with the main goal of helping the individual patient. The main goal of research studies is to gain knowledge that may help future patients.
- We cannot promise that this research will benefit you. Just like regular care, this research can have side effects that can be serious or minor.
- You have the right to refuse to take part, or agree to take part now and change your mind later.
- Whatever you decide, it will not affect your regular care.
- Please review this consent form carefully. Ask any questions before you make a decision.
- Your participation is voluntary.

PURPOSE

You are being asked to participate in the study on sexual behaviour after male circumcision. You were selected as a possible participant in this study because you were circumcised The study will be conducted on 130 people who were circumcised at Spilhaus clinic

PROCEDURES AND DURATION

If you decide to participate, you will undergo an interview using a questionnaire. We will ask you questions, and review your treatment records to verify some of the information. The interview will take approximately twenty minutes, and will be done once.

RISKS AND DISCOMFORTS

The study is not expected to cause any physical harm. However, some questions we may ask about your social and sexual life, some of which you may not be comfortable to reveal. You are free to skip the questions if the question makes you uncomfortable.

BENEFITS AND/OR COMPENSATION

We cannot and do not guarantee or promise that you will receive any benefits from this study. Being in this study may give you an opportunity to learn and understand more about male circumcision. If you travel to the clinic for this study you will be reimbursed your bus fare ($2).

CONFIDENTIALITY

If you indicate your willingness to participate in this study by signing this document, we will not include your name on the plan to disclose. Any information that is obtained in connection with this study that can be identified with you will remain confidential and will be disclosed only with your permission.

VOLUNTARY PARTICIPATION

Participation in this study is voluntary. If you decide not to participate in this study, your decision will not affect your future relations with the ZNFPC and the Ministry of Health and Child Welfare, its personnel, and associated hospitals and clinics. If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time without penalty.

OFFER TO ANSWER QUESTIONS

Before you sign this form, please ask any questions on any aspect of this study that is unclear to you. You may take as much time as necessary to think it over.

AUTHORIZATION

You are making a decision whether or not to participate in this study. Your signature indicates that you have read and understood the information provided above, have had all your questions answered, and have decided to participate.

_____ _____

Name of Research Participant (please print) Date

_____ _____

Signature of Participant Time

YOU WILL BE GIVEN A COPY OF THIS CONSENT FORM TO KEEP.

If you have any questions concerning this study or consent form beyond those answered by the investigator, including questions about the research, your rights as a research participant or research-related injuries; or if you feel that you have been treated unfairly and would like to talk to someone other than a member of the research team, please feel free to contact the Medical Research Council of Zimbabwe on telephone **04-791792 or 04-791193**.