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# Swazi Males' Knowledge and Practices of Voluntary Medical Male Circumcision in one of the Communities in the Hhohho Region, Swaziland

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## Abstract

**Background:** The high rate of HIV in Swaziland led to the introduction of adult voluntary medical male circumcision in 2008 as per recommendation by WHO and UNAIDS with the main goal of reducing the HIV prevalence and incidence.HIV is associated with poverty, increased morbidity and mortality, and reduced life expectancy.

**Purpose:** The study assessed Swazi males' knowledge and practices regarding voluntary medical male circumcision. The association between knowledge and practices on voluntary medical male circumcision was also examined.

**Methodology:** A quantitative descriptive correlational design was used. For data collection, a questionnaire was adapted and was used to collect data from a random sample of 45 males aged 18 years and older. Data were analyzed using descriptive statistics and Pearson's correlation.

**Findings:** All the participants (100%; N = 45) knew that voluntary medical male circumcision reduced the risk of HIV infection. On average, the participants had good knowledge regarding voluntary medical male circumcision, benefits and risks of the procedure. Data did not reveal a relationship between knowledge and practices. A majority (57.8%; n = 26) of the participants reported that they were uncircumcised and 42.2% (n = 19) were circumcised.

**Conclusion:** There was no association between knowledge and practice. The participants demonstrated good knowledge on the benefits of voluntary medical male circumcision. However, the participants showed reservations over the rationale for undertaking voluntary medical male circumcision. Consequently, a majority of the participants were not circumcised and they cited various reasons which included fear of pain and complications that may arise from the procedure.

**Recommendations:** Based on the study findings it is recommended that information regarding medical male circumcision should be made available, accessible and culturally sensitive. More studies need to be conducted to explore the effects of male circumcision on sexual practices.

**Keywords:** circumcision; knowledge; practices; men; HIV; AIDS.

## Introduction

Male circumcision is the surgical removal of the foreskin, the tissue covering the glans of the penis which is usually done within the first or second day after birth [1]. In ancient times, male circumcision was practiced for religious purposes, even today some religions still practice male circumcision but it is mostly performed for medical reasons.

## History of circumcision

The origins of circumcision are lost in antiquity. Male circumcision was portrayed among Egyptians 5000 years ago, even though others argue that male circumcision has origins before this prehistory up to 15000 years ago as a sacrificial rite [2]. Male circumcision was carried out as an initiation ordeal at about the time of puberty, but there was a tendency for the age at which it was performed to shift to earlier years, such that the Jewish ritual circumcision has been carried out on the eighth day of life since biblical times. Circumcision originates way back in Abraham's time in the bible where it was a minor ritual procedure and was called a "Milah" [2]. Routine infant circumcision was introduced around the 1800s based on the pretext that male circumcision offered health and hygiene benefits [2]. It was believed that male circumcision would stop the habit of masturbation, and proffered an endless list of presumed cures for a variety of ailments and diseases.

However, male circumcision changed from being a ritual procedure to a medical practice that started in the United States of America in New York around 1870 [3]. The main indications then were mainly cancerous lesions and phimosis. In addition, it was reported that male circumcision prevented masturbation, the retention of sebaceous secretion, and consequent balanitis [3]. Other benefits included were that male circumcision promoted continence by diminishing the prurience of the sexual appetite. In Africa, male circumcision is practiced by the Xhosa people for religious purposes. Male circumcision was performed between the ages of 18 to 20 years as a way of introducing boys to manhood. There is limited documentation on religious beliefs governing the practice among the Zulus and Swazis [4].

### Knowledge of medical male circumcision

A study conducted in Rwanda by the Ministry of Health, to assess knowledge, attitudes and practices regarding male circumcision in the general population revealed that the prevalence of circumcision was 16.5% (95% CI, 14.3 - 18.7) in the study population [5]. This proportion was the highest in the city of Kigali (52.5%) and in the Western Province (25.9%). The study demonstrated that male circumcision prevalence in Rwanda was low although it was known and an acceptable practice among the study participants. Major barriers to male circumcision acceptability could be removed by effective interventions like education and social mobilization [5]. The literature on the practices among Swazi males on medical circumcision is limited.

In a study conducted among university students in Zimbabwe to determine their attitude and knowledge about male circumcision and prevention of HIV infection, only 18.2% had read about male circumcision from posters and flyers [6]. Less than half of the respondents were aware of the importance of male circumcision. Only 33.8% reported that male circumcision reduced the risk of sexually transmitted infections (STIs) and HIV transmission, while 0.04% felt that it was just a religious practice or just to keep clean 0.08%. The majority of the respondents (49.4%) were sure that men were being circumcised, 36.7% were not sure. Although the majority of students were aware of the importance of being circumcised, only 0.05% were willing to go for the surgery, while the majority (50.6%) had reservations about undergoing the procedure. The study found out that knowledge deficit was cited as the major reason for not being circumcised by female students while a negative attitude was noted among male students. Both male and female students had the opinion that some men did not opt for this method of reducing the risk of contracting HIV because the surgery was painful.

In a study that was conducted in Swaziland about the beliefs among Swazi men on male circumcision and HIV mitigation, the findings showed that most participants had knowledge about the benefits of circumcision [7]. Seventy percent (70%) reported that medical male circumcision reduced the risk of penile cancer, 60% reported that the procedure reduced cervical cancer, and 90% of the participants reported that it reduced the risk of contracting STIs. Seventy-five percent (75%) of the participants who had primary and secondary education reported that they were not sure of the benefits of male circumcision, whilst 67% of those that had gone through high school and college were knowledgeable of the benefits of male circumcision [7]. These findings reveal that the level of education had a great influence on the knowledge of male circumcision.

### Practices on male circumcision

In 2014, A third of males aged 15 years and over were circumcised globally, with 70% of them being Muslims [4]. The overall prevalence of circumcision was reported to be 6.9% in Colombia, and 7.4% in Brazil, with most of those being circumcised due to medical issues later in life. The prevalence of circumcision in

Mexico was estimated to be from 10% to 31%. According to the World Health Organization, fewer than 20% of males were circumcised in New Zealand [4]. In New Zealand routine circumcision for which there was no medical indication was uncommon and no longer publicly funded within the public hospital system. In Germany, the German Health Interview and Examination Survey for Children and Adolescents found that 10.9% of boys aged 0–17 years were circumcised [4]. In France, according to a telephone survey, 14% of men were circumcised. The overall prevalence of circumcision in Spain was reported to be 1.8%. The prevalence of circumcision in Australia was roughly 58%. Circumcision status was more common with males over 30 years than males under 30 years and more common with males who were born in Australia. About 66% of males born in Australia were circumcised and less than a third of males below 30 years were circumcised. There has been a decline in the rate of infant circumcision in Australia [4].

The World Health Organization further reported that about 62% of African males were circumcised [4]. However, the rate varied widely between different regions, and among ethnic and religious groups, with Muslim North Africans practicing it for religious reasons, Central Africans as part of tribal rituals or local custom and some traditionally non-circumcising populations in the South recently adopting the practice due to measures by the World Health Organization to prevent HIV transmission. A national study in South Africa, from 2014 revealed an overall prevalence of 42.8% self-reported medical male circumcision. About 48.2% of black Africans were circumcised, with 32.1% of those traditionally circumcised and 13.4% circumcised for medical reasons [4]. While the prevalence of male circumcision in Swaziland remains low, it has doubled in the past five (5) years from 8% to 16% [4]. In accordance with the World Health Organization, circumcised men in Swaziland did not report riskier sexual behavior and were more likely to have been tested for HIV, compared to uncircumcised men [4]. HIV prevalence was significantly lower in circumcised men, reinforcing the evidence for a protective effect of male circumcision provided as a population-level intervention [4]. Circumcised men seem to be concerned about their sexual and reproductive health.

Swaziland is one of the countries with the highest prevalence of adults infected with HIV among developing countries, about 26% of the population is infected [8]. HIV infection has contributed to a delay in the economic, social and political progress of the country [4]. When a male is uncircumcised, moisture can get trapped between his penis and his foreskin creating an ideal environment for micro-organism to incubate [9]. If the uncircumcised individual engages in unprotected sexual activity, the moisture increases the risk of contracting sexually transmitted infections (STIs) including HIV [1]. STIs may impel the individual away from work due to clinical visits; reducing the country's economy. The individual's salary may decrease hence family income is reduced interfering with the provision of basic needs. The lack of basic needs may result in the health of the individuals being compromised hence more money will be redirected to obtaining health services to treat health disorders. This may reduce the chance of children in obtaining education thus increasing the level of poverty in the country. The study assessed Swazi males' knowledge and practices regarding medical male circumcision. In addition, the association between knowledge and practices on medical male circumcision was examined.

## Methodology

The research used a quantitative descriptive-correlational design. The study was conducted in a natural setting in one of the semi-urban communities in the Hhohho region, the Mangwaneni community. Potential participants were called in a meeting where the purpose of the study was explained. The simple random sampling method was used to obtain the sample where the names of all potential participants were written and put in a container. Thereafter, the names were picked randomly until the sample size was reached. Included in the study were males: aged 18 years and above; who spoke either siSwati or English; and who consented to participate in the study. The sample size of 45 participants was calculated based on parameters given by Lipsey, Hofer, Dong, Farran, and Bilbrey, method of sample size estimation [10]. A power size of 80%, significance level (alpha) of 5% and an effect size of 0.6 were used.

A questionnaire adapted from Ngodji was used to solicit information from the participants [11]. The tool was reviewed by content experts to determine content validity. The questionnaire consisted of socio-demographic information; knowledge of male circumcision; the practice of male circumcision; and male circumcision status. The data collection tool was pre-tested on 10 participants that met the inclusion criterion in another community. Following pre-testing modifications were made as necessary. Data were entered into the Statistical Package of Social Sciences (version 20). Descriptive statistics and Pearson's Correlation were used to analyze the data. Approval to conduct the study was sought and obtained from the National Health Research Review Board and the study participants.

## Findings

**Objective1:** To describe the socio-demographic characteristics of males in one of the communities in the Hhohho region, Swaziland.

**Age:** The age of the participants ranged between 19 – 49 years, with a mean of 32.8 years and a standard deviation of 8.2 years.

**Marital status:** Most (35.6%; n = 16) of the participants reported that they were single, 22.2% (n = 10) were cohabiting and only 2.2% (n = 1) were divorced.

**Educational level:** A majority (33.3%; n = 15) of the participants reported that they had a high school, 26% (n = 12) had a college education and an equivalent 13.3% (n = 6) had no formal, had primary and secondary education respectively.

**Employment status:** More than half (60%; n = 27) of the participants were employed, 24.4% (n=11) were self-employed and 15.6% (n=7) were unemployed.

**Religion:** More than half (51.1%; n = 23) of the participants belonged to the Christian denomination, 24.4%(n=11) believed in ancestors, 13.3% (n=6) did not have a specific religion and 11.1% (n=5) reported that they were Muslims. The sample socio-demographic data are summarized in *Table 1*.

**Objective 2:** To describe knowledge about medical male circumcision of males in one of the communities in the Hhohho region.

*Does male circumcision reduce the risk of HIV contraction?* All (100%, n = 45) the participant reported that male circumcision reduced the risk of contracting HIV.

*Does male circumcision reduce the risk of contracting STIs?* A majority (97.8%; n = 44) of the participants reported that male circumcision reduced the risk of contracting sexually transmitted infections and only 2.2% (n = 1) reported that male circumcision did not reduce the risk of contracting sexually transmitted infections.

*Does male circumcision improve penile hygiene?* Most (84.3%; n = 38) participants reported that male circumcision improved and 15.6% (n = 7) reported that male circumcision did not improve penile hygiene.

*Does male circumcision reduce the risk of penile cancer?* More than half (51.1%; n = 23) of the participants reported that male circumcision reduced the risk and 48.9% (n = 22) reported that male circumcision did not reduce the risk of developing penile cancer.

*Can male circumcision have complications?* A majority (97.8%; n = 44) of the participants reported that there were complications while 2.2% (n = 1) reported that there were no complications that arose from male circumcision.

*What complications can arise from male circumcision?* Sixty percent (60%, n = 27) of the participants reported more than one complication (e.g. impotence and infection) of male circumcision procedure, 28.9% (n = 13) reported impotence, and 8.9% (n = 4) reported bleeding as a complication of male circumcision.

**Objective 3:** To identify practices towards medical male circumcision amongst males in one of the communities in the Hhohho region.

*Would choose to be circumcised if circumcision reduced HIV infection, was offered free of charge and given that it had no or minimal complications?* Forty percent (40%, n = 18) reported that they would definitely choose to be circumcised and the remaining 17.8% (n = 8) of the participants reported that they would not choose to be circumcised.

*Would you recommend male circumcision for a son or a young male?* Most of the participants (73.3%; n = 33), reported that they would recommend circumcision and 26.7% (n = 12) reported that they would not recommend circumcision for their son or any young male.

*What is the ideal age of performing male circumcision?* A majority (44.4%; n = 20) of the participants reported that the ideal age for performing male circumcision was 20 years and greater (adult), 42.2% (n = 19) reported to prefer that male circumcision be done during the infant stage (less than a year old), 11.1% (n = 5) reported that they preferred to be performed male circumcision during childhood stage (1-13 years) and 2.2% (n = 1) reported that the preferred ideal age was between 14 and 19 years (during adolescence).

*Who is the ideal person and place for performing male circumcision?* The majority (98.8%; n = 44) of the participants reported that they preferred that male circumcision be done by medical doctors in a health facility and 2.2% (n = 1) reported that they preferred that male circumcision be done by traditional circumcisers at home.

*What is (are) the reason for not choosing male circumcision?* Amongst those who chose not to be circumcised, a majority (13.3%; n = 6) reported that it was due to the fear of complications and 4.4% (n = 2) reported that it was due to the fact that it was a painful procedure.

**Table1:** Socio-demographic characteristics of the participants (N = 45).

| Variable | Frequency (n)/ mean | Percent (%)/ Standard deviation |
|---|---|---|
| **Age** | 32.8 | 8.2 |
| **Marital status :** | | |
| Single | 16.0 | 35.6 |
| Married | 8.0 | 17.8 |
| Cohabiting | 10.0 | 22.2 |
| Divorced | 1.0 | 2.2 |
| Separated | 7.0 | 15.6 |
| Widowed | 3.0 | 6.7 |
| **Educational level :** | | |
| Did not attend formal education | 6.0 | 13.3 |
| Primary | 6.0 | 13.3 |
| Secondary | 6.0 | 13.3 |
| High school | 15.0 | 33.3 |
| Tertiary level and above | 12.0 | 26.7 |
| **Religion :** | | |
| Christianity | 23.0 | 51.1 |
| Muslim | 5.0 | 11.1 |
| Ancestors | 11.0 | 24.4 |
| No religion | 6.0 | 13.3 |
| **Employment status :** | | |
| Unemployed | 7.0 | 15.6 |
| Employed | 27.0 | 60.0 |
| Self-employed | 11.0 | 24.4 |

*What is your circumcision status?* More than half (57.8%; n = 26) of the participants reported to not have been circumcised and 42.2% (n = 19) were circumcised.

*At what age were you circumcised?* Amongst those that had reported being circumcised, a majority (15.6%; n = 7) reported to have been circumcised during the adolescent stage (14 – 19 years), 11.1% (n = 5) had the circumcision done during adulthood (20 years and above), 8.9% (n = 4) reported to have been circumcised during the infant stage (< a year) and 6.7% (n = 3) reported to have been circumcised during childhood stage (1-13 years).

*What was (were) your reason for circumcision?* A majority (35.6%; n = 16) of the participants reported to have circumcised for medical reasons and 6.7% (n = 3) reported to have been circumcised for traditional purposes.

*Where were you and who performed the circumcision?* Most (37.8%; n = 17) participants reported to have been circumcised by medical staff in a health facility and 4.4% (n = 2) reported to have been circumcised by traditional circumcisers at home.

**Objective 4:** To examine the relationship between knowledge and practices on medical male circumcision among males in one of the communities in the Hhohho Region?

There was a relationship between knowledge and education (r = 0.674; p = 0.001) which means that as the participants' level of education increased the knowledge about male circumcision increased as well. The results also revealed a relationship between age and marital status (r = 0.699; p = 0.001) which means that participants that were older in age were more likely to be single. Data revealed a relationship between age and employment status (r = 0.575; p = 0.001). The older participants were more likely to be employed. The data did not support any association between knowledge and practices on medical male circumcision. The associations between the variables are summarized in Table 2.

Table 2: Relationship between the variables

| Variable | r | p-value |
|---|---|---|
| Knowledge and education | 0.674 | 0.001 |
| Age and marital status | 0.699 | 0.001 |
| Age and employment status | 0.575 | 0.001 |

## Discussion

Consistent with research, the current study revealed that participants were knowledgeable about circumcision as a way of reducing the risk of contracting HIV, STIs, prevention of penile cancer as well as a method to improve penile hygiene [12, 13]. Knowledge is power [14, 15], the assumption is that if people are knowledgeable regarding male circumcision, they are more likely to get circumcised and reduce the risk of contracting STIs including HIV. When more males are circumcised the incidence and prevalence of HIV in Swaziland is likely to reduce, increasing the country's economy.

Similarly to previous research [11], the current study revealed that most participants were eager to choose to be circumcised. It has been over five (5) years that circumcision campaigns such as *SokaUncobe* (Circumcise and Conquer) which was initiated in 2008 [16], have been ongoing in Swaziland. It is possible that most males in the country have been exposed to education from the campaigns. Moreover, the participants resided in the peri-urban area where they are likely to have increased access to health care facilities which provide the services of male circumcision. Having increased accessibility to health facilities make it easier for them to reach out to these facilities and utilize the services provided. Another contributing factor is that male circumcision is being offered free of charge to all males which make it affordable for everyone.

Having a higher proportion of males that would choose to be circumcised is encouraging because their risk of contracting HIV will be reduced once they are circumcised [17]. The future generation is therefore likely to be HIV-free [18, 19]. Circumcision exposes the tender skin making it tougher over-time and less susceptible to be damaged during sexual intercourse. Intact skin reduces the transmission of HIV to both women and men who are HIV negative in case one of the partners is infected. Circumcision removes certain cells within the foreskin that act as an entry point for HIV [16]. In addition to the reduction of HIV transmission, circumcision also reduces the risk of other sexually transmitted infections (STIs) such as chancroid, syphilis, genital warts, and herpes. When one is circumcised, their penile hygiene is improved since it is easier to keep the head of the penis clean. Moreover, circumcision tends to lower the risk of penile cancer and reduces the female partner's risk of cervical cancer which is caused by persistent infection with high-risk oncogenic types of human papillomavirus [4].

Studies have revealed that there are other health benefits associated with male circumcision [20]. These studies reported that men who are circumcised do not suffer health problems associated with the foreskin such as phimosis or paraphimosis. The studies have found lower rates of urinary tract infections in male infants who are circumcised. Moreover, circumcision acts as a method of prevention of inflammation of the glans (balanitis) and the foreskin (posthitis) [20].

Correspondingly to research [12], the results of the current study revealed that a majority of the participants preferred that the circumcision procedure be conducted by a medical doctor in a health facility. Having circumcision conducted by a professional in a health facility reduces the possible risks associated with the procedure. Sterility and surgical cleanliness are better observed in a health facility than in a home-based setting. Health facilities provide quality care in the sense that the procedure is performed by trained personnel hence there are minimal chances of sustaining complications. In the case where complications arise, the facility is able to detect them earlier during follow-up visits and early interventions are provided. During circumcision, there is a likelihood of developing hemorrhage especially in a child [21]. Hemorrhage is an emergency hence can be easily attended to if the person is in the health facility rather than when they are at home.

However, similarly to previous research, the findings in the current study showed that more than half of the participants were not circumcised [11]. Being not circumcised increases the risk of acquiring HIV as well as increasing the incidence and prevalence of herpes simplex virus 2 [22]. This might be an indication that intensive health education campaigns on male circumcision need to continue.

## Conclusion

The participants revealed good knowledge on the benefits of male circumcision. They were aware of the effects of male circumcision on penile hygiene, STIs including HIV, and cancer. Only a few participants indicated that they would not opt to be circumcised so as to prevent acquiring HIV infection. Overall, a majority of the participants were not circumcised and they cited various reasons which included fear of pain and other complications that could arise from the procedure.

## Recommendations

- There is a need for the pre-service and in-service curriculum to be strengthened on voluntary medical male circumcision.
- .There need to also design programs or incorporate male circumcision under the existing wellness programs at the workplace that will provide specific services and information on male circumcision.
- There is a need to conduct campaigns to incorporate issues on pain related to voluntary medical male circumcision
- There should be in-service training to foster effective pain management following voluntary medical male circumcision.
- There is a need to involve traditional and religious leaders to ensure the adoption of the procedure in both traditional and religious communities.
- More studies need to be conducted to establish evidence-base on the relationship between male circumcision and sexuality.
- The study could be replicated on a larger scale for inference to the Swazi populace.
- The Swaziland Ministry of Health may need to consider expanding voluntary medical male circumcision services to increase access.

### Strengths of the study

The strength of the study lied in its rigor, sample size and statistical analysis performed. The sample was obtained using random probability sampling to ascertain the representativeness of the participants.

### Study Limitations

Even though the study was successful, it had some limitations. Data were collected in only one community hence findings can be generalized to other communities with caution.

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## Appendix 1

**DATA COLLECTION TOOL**

Participant's Questionnaire and Answer sheet - English

**Study Title: Swazi males' knowledge and practices of male circumcision.**

Interview Number ……

Date of the interview (DD-MM-YY) ……..

Start time: (24-hour clock, e.g. 16:30)…….

(After the participant's information sheet and signed consent from the participant start the interview.)

**Demographic Information**

Q1. How old were you on your last birthday?

Age ……. years

(If younger than 18 years at his last birthday, please thank the participant for their time and do not continue the interview. Keep the questionnaire even if it is not complete.)

Q2. What is your marital status?

1. Single
2. Married
3. Cohabitating
4. Divorced
5. Separated
6. Widowed

Q3. What is the highest level of education you have completed?

1. Did not attend any formal education
2. Sebenta Adult Literacy
3. Primary level
4. Secondary level
5. High school level
6. Tertiary level and above

Q4. What is your religion?

1. Christianity
2. Muslim
3. Ancestors
4. No religion
5. Other (specify)

Q5. Employment status

1. Unemployed
2. Employed
3. Self – employed
4. Retired

**Knowledge of male circumcision**

Now I am going to ask you some questions about your knowledge of MC and its associated risks and benefits.

Q6. Does MC reduce the risk of contracting HIV infection?

1. Yes

0. No

Q7. Does MC reduce the risk of contracting other STIs?

1. Yes

0. No

Q8. Does MC help to improve penile hygiene?

1. Yes

0. No

Q9. Does MC reduce the risk of penile cancer?

1. Yes

0. No

Q10. Are there any complications that arise from MC?

1. Yes

0. No

Q11. Mention any complications of MC procedures (Do NOT read list. Choose ALL that are mentioned.)

1. Bleeding
2. Infection
3. Incomplete circumcision

4. Urinary retention
5. Tissue loss
6. Impotence
7. Mentioned more than one

**Practices of male circumcision**

**Please read the following statement to the respondent:**

Studies conducted in Africa demonstrated that that MC is an important and effective means of reducing the risk of HIV infection. In March 2007, in the international consultation held from 6-8 March 2007 in Montreaux, Switzerland, the World Health Organization (WHO) and UNAIDS officially recognized MC as an additional important intervention to reduce the risk of heterosexually acquired HIV infection. Based on the recommendation by WHO and UNAIDS, the government of Swaziland recommended that males be offered circumcision free of charge to reduce the chances of the men becoming infected with HIV and other STIs.

I would like to get your opinions regarding the acceptability and the challenges that would have to be addressed to promote MC and make it available to a large number of males in the country.

Q12. Based on the statement above, will you choose to be circumcised, if it said to be reducing the risk of HIV infection?

2. Yes, I will definitely do
1. No, I will remain uncircumcised
0. Already circumcised

Q13. Since it is offered free of charge, will you choose to be circumcised?

2. Yes, I will definitely do
1. No, I will remain uncircumcised
0. Already circumcised

Q14. Given that, there is no or minimal complications, will you choose to be circumcised?

2. Yes, I will definitely do
1. No, I will remain uncircumcised
0. Already circumcised

Q15. Will you recommend circumcision for your son or any young male you know?

1. Yes, I will definitely do
0. No

Q16. In your opinion, what is the ideal age of performing MC?

4. Infant <1 year
3. Child (1– 13 years)
2. Adolescent (14-19 years)
1. Adult >20 years

Q17. In your opinion, who is the ideal person to perform MC?

3. Medical doctors
2. Nurses
1. Traditional circumcisers

Q18. In your opinion, what is the ideal place for performing MC?

2. Health facilities (state/private)
1. At home

**Barriers to MC**

Now, I would like to get your opinion on what you think are the barriers to MC. If you don't know, just indicate that to me.

Q19. For all the participants who choose not to be circumcised, ask this question: You choose not to be circumcised, what is your primary reason?

1. It is against my religion
2. It is against my tradition
3. Fear of complications
4. It is painful
5. Other(specify)

**Circumcision Status**

Lastly, I would like to ask you about your circumcision status.

Q20. If you noted the circumcision status from the previous questions, don't ask the question again but rather just confirm with the participant. Are you circumcised?

2. Yes
1. No (end the interview)

Q21. If yes, at what age were you circumcised?

4. Infant (<1 year)

3. Child (1– 13 years)

2. Adolescent (14-19 years)

1. Adult (>20 years)

Q22. What was the reason for circumcision?

3. Medical

2. Traditional

1. Religious

Q23. Who performed the circumcision procedure?

2. Medical staff (Nurse/Doctor/other)

1. Traditional circumciser

Q24. Where did the circumcision take place?

2. Health facility (state/private)

1. At home

Is there any other information you want to share with me with regards to MC ……
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Thank you for your participation in this study. Do you have any questions about the survey or any comments you would like to make?