SITUATION ANALYSIS FOR MALE CIRCUMCISION IN TANZANIA

FINAL REPORT

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EXECUTIVE SUMMARY

HIV and AIDS remains the most important public health problem in Tanzania and sub-Saharan Africa. Promoting effective interventions that prevent new infections and controls the epidemic is a priority. Circumcision is an effective intervention for HIV prevention in men. This report describes the results of the situation analysis study conducted in rural and urban areas of Mara, Kagera and Mbeya Regions of Tanzania. The main objective of the study was to investigate the context, extent and pattern of male circumcision practices in selected areas of Tanzania and to provide recommendations to the government of Tanzania on the effective roll-out of male circumcision services in the country.

Prior to the study, an initial visit was done to explain the rationale and objectives of the survey to regional, district and community authorities. During this visit, list of districts that traditionally circumcise in Mara Region and those that traditionally do not circumcise in Kagera and Mbeya Regions were generated. From the list, one district was selected randomly in each region to participate in the study. In each selected district, Health facilities were then stratified by residence (rural, roadside, and urban). To assess health facility readiness to scale-up male circumcision services; all hospitals, heath Centres and 30% of the dispensaries in each stratum were surveyed. To assess community attitudes towards male circumcision, in each stratum, one health centre was randomly selected. A list of sub-villages located in the service area of the health centre was compiled and 3 sub-villages (27 in total for all 3 regions) were randomly selected into the study with probability proportional to the sub-village size. For each selected sub-village, a list of all household heads was compiled by the sub-village leader and one household was selected randomly and 9 other households were selected on the basis of being nearest to the household under survey. Eligible participants were all *defacto* household members aged 18-44 years, in charge of health facilities, health practitioners working with the surveyed health facilities (even if absent on the survey day). Key informants were individuals who could influence the policy environment, the delivery of male circumcision services and uptake of the services.

The study was cross-sectional, descriptive and used quantitative and qualitative data collection techniques. Two questionnaires were used, a face-to-face questionnaire administered to men and women to solicit the community attitudes towards male

circumcision; and, service availability questionnaire administered to heads of the health facilities and health practitioners to assess the health facility readiness to provide safe male circumcision services. Two qualitative tools were used, the focus group discussion (FGDs) and key informant interviews (KIIs). These tools explored social characteristics and cultural circumcision practices in the study areas. The tools also explored in detail some of the issues collected in the face-to-face questionnaires.

In the quantitative questionnaire, 1110 respondents (504 males, 606 females) were interviewed. The response rate was 93% in males and 120%[1] in females. The male population in the study districts differed significantly in terms of age structure, years of education, marital status, religion, tribe and place of birth. Compared to males in Tarime District in Mara Region, males interviewed in Ileje District in Mbeya Region were younger, had a higher proportion of those who were single, Christians, belonged to *Ndali* or *Lambya* ethnic groups, residents of an urban area with at least primary school education. Males in Bukoba rural District in Kagera Region were older, had a higher proportion of those who belonged to *Haya* ethnic group, residents of the roadside centre, with a primary school education and a high proportion of Moslems compared to males in Tarime District.

Similarly, the female population in the study districts also differed significantly in terms of age structure, years of education, marital status, religion, tribe, and place of birth. Compared to females in Tarime district, females in Ileje and Bukoba Rural district tended to be older and with a higher proportion of single (never married or separated, divorced or widowed). A higher proportion of females in Ileje district were Christians, residents of roadside centre or urban areas, had at least primary school education and belonged to *Ndali* or *Lambya* ethnic groups; while females in Bukoba Rural district belonged to *Haya* ethnic group, were residents of the roadside centre, mostly had primary school education and had a high proportion of Muslims compared to those in Tarime district.

[1] During the study design, 540 women aged between 18 and 44 were expected to be interviewed (it was assumed that there are 2 eligible women aged 18-44 years in a household; 270 households were registered for the entire study). These households had 606 women. Therefore, the study recruited 20% more women than initially designed.

Overall, 55% of the males reported being circumcised and 48% of the males were assessed by the clinician as being fully circumcised. Male circumcision was most common in Tarime district, moderately practised in Bukoba rural and rarely practised in Ileje. Of those men who self-reported being circumcised, 98% were assessed by a clinician as being circumcised (sensitivity of self-reporting was 98%). Similarly, of those who self-reported of being non-circumcised, 91% were assessed by the clinician as being non-circumcised (specificity of self-reporting was 91%).

Using the clinician assessment of circumcision status, males who were circumcised were more likely to be either Muslims or belonged to *Kurya* or other ethnic groups and were both born and resident of the rural areas. Non-circumcised men were more likely to be residents in the roadside communities and were either born in the rural areas or roadside communities and mostly tended to belong to *Ndali* ethnic group. Muslims were ten times more likely to be circumcised compared to Christians. Adjusted for the effect of district under study, men with above primary school education were 3.1 times more likely to circumcise (95% CI: 1.3-7.5) while those with incomplete primary school education were 1.3 times more likely (95% CI: 0.6-2.5) to be circumcised compared to those with primary school education adjusted for the effect of the district.

This study has shown that there is a high level of acceptability for circumcision among men and women in both traditionally circumcising and non-circumcising populations. Almost 76% of the non-circumcised males would like to be circumcised if the services were provided. About 93% and 98% of non-circumcised and circumcised males, respectively, would like their sons to be circumcised. Similarly, 89% of the women supported their sons to be circumcised. Almost 90% and 60% of the males in the traditionally non-circumcising and circumcising populations, correspondingly, would like their sons' to be circumcised at the health facility. The major reasons for accepting circumcision services are tradition and reduction of the risks for acquiring STIs including HIV in traditionally circumcising population and reduction of the risks of acquiring STIs in non-circumcising population.

Overall, 80% of the non-circumcised males reported that there was no problem or consequence following circumcision. However, 20% of the non-circumcised males reported

problems or negative consequences for circumcision such as males being unproductive for several weeks while nursing the wound, possibility of penile dysfunctions, excessive bleeding, fear of pain and infections from contaminated circumcision instruments.

Despite of practising traditional circumcision, this study found that 38% of those circumcised in Tarime District were circumcised in the health facilities. The study also showed that, the majority of participants in study area preferred child circumcision (those aged less than 10 years) compared to adult circumcision (above 10 years of age). However, in Tarime and Ileje Districts, male circumcision is done during adolescence while in Bukoba Rural it is done during childhood.

Of the 606 females who were interviewed, 89% preferred sex with a circumcised man. A circumcised man was preferred because he gives pleasure during sex, is at reduced risk of acquiring STIs, and his penis is cleaner.

Circumcisions done by providers at the health facilities were more costly than circumcisions done by traditional circumcisers in Tarime District [$p=0.003$]. In Bukoba rural District, traditional circumcision service providers tended to charge more than health facility based providers though the difference was not significant due to smaller numbers [$p=0.60$].

Among circumcised males in the study districts, young males aged 18-24 years, those who were never married, belonged to *Kurya* or *Ndali* ethnic groups and residents of Tarime or Ileje Districts were likely to have paid Tshs. 5,000 or more for circumcision services. Males aged 25-44 years, married or residents of Bukoba Rural District were significantly less likely to pay Tshs. 5,000 or more for male circumcision procedure. Conversely among non-circumcising population, young age was significantly associated with the willingness to pay Tshs. 4000 for circumcision.

There was mixed responses regarding the cost for circumcision. Males suggested that circumcision services should be provided for a fee amounting to Tshs. 2,000 while women in Tarime and Bukoba Rural Districts suggested Tshs. 4000. Women in Ileje suggested free

circumcision services. Health care providers on the other hand suggested a fee amounting to Tshs. 5000.

From the qualitative tools, it was found that traditional circumcision was practiced among the *Kurya* ethnic group. Clan leaders and traditional circumcisers (*omusari*) are central to organising and carrying out traditional circumcising ceremonies. In Tarime, traditional circumcising is normally done in December and January for every 2 even years unless permission was not granted by the ancestral spirits. Initiates are not expected to show agony or fear during the procedure as these are interpreted as lack of bravery. Hence among traditionally circumcising *Kurya* ethnic group, circumcision is an important rite of passage into adulthood. In traditionally circumcising communities, stigma and labelling is more likely to be experienced by non-circumcised males or males circumcised in the health facilities. In Bukoba rural, traditional circumcision was practiced by Muslims. Islamic *Ngaribas* perform the procedures. Key informants (KIs) and FGDs participants reported that circumcision is practiced for penile hygiene, protection from STIs, religious and cultural practices.

National, regional and district KIs recommended improvement of the health systems in order to meet the demand for circumcision services. They also stressed the need to involve all stakeholders including traditional leaders and circumcisers in the community sensitization and mobilisation campaigns.

Sixty nine out of 93 facilities were visited in this study. The health facilities surveyed were mostly dispensaries although all the hospitals and health centres were surveyed. Overall, two-thirds of the facilities were government owned.

Of the facilities visited; almost 9% had an operating main theatre, 64% had an operating outpatient minor theatre, 91% had operating essential surgical equipment and only 22% had functioning emergency equipment available. However, facilities with sterilizing equipment were less than one-third though most facilities were well supplied with facilities needed for basic infection prevention. Only one-third of the facilities surveyed reported reliable electrical power, less than one-half had adequate water supply and almost all health facilities provided STIs and VCT services.

Fifty nine percent of the facilities provided male circumcision services. More facilities in Tarime District (82%) provided the services compared to facilities in Bukoba Rural (36%) and Ileje (55%) Districts. This study observed that less than one-third of the facilities providing circumcision services documented circumcision procedures.

To improve the circumcision services, more than 80% of the heads of the health facilities recommended reliable electrical power, medicines, recruitment and training of staff, surgical protective gears, procedure room, sterilizer, surgical bed and adequate water supply. Most of health facilities (84%) suggested that circumcision should be included into the National Insurance Fund.

For the health practitioners survey, 203 (53 males, 150 females) were interviewed from the 3 study districts. Practitioners in Tarime had significantly performed more circumcisions than those in Ileje and Bukoba Rural ($p<0.001$).

In Bukoba Rural and Ileje Districts, circumcision was mainly done by medical officers, assistant medical officers, clinical officers and nurses. In Tarime, circumcision was done by all health practitioners including medical attendants, lab technicians and anaesthesiologists most of whom had no formal training but learned through observation.

Complications which have been observed by health practitioners were excessive bleeding, infections, disfigurement and impotence. The three districts differed significantly in terms of magnitude and type of complications observed by health practitioners ($P<0.001$). Most of the complications observed were reported by practitioners from Tarime. This could be attributed to traditional circumcision practices. Complications reported in clinical based circumcision were very few. Only 50 (25%) of the 203 respondents have received training on circumcision surgical procedures and 41 of those are from Tarime District. Of those trained, 22 (45%) were trained while in college and 55% received in-service training by observing other practitioners. Overall, 94% of all the practitioners interviewed reported that they will benefit from additional circumcision training.

Almost all practitioners interviewed supported clinical and medical officers to circumcise. About 90% supported male nurses while 70% supported female nurses. Almost 90% of all practitioners interviewed were not in favour of allowing traditional circumcisers and other cadres to perform circumcision procedures. Most practitioners interviewed preferred children aged between 5 and 10 years to be circumcised. The age preference was similar to the preference of male and females in the community.

In conclusion, it appears that circumcision will be acceptable by communities in Tanzania with similar characteristics like those in Tarime, Bukoba rural and Ileje. These findings are encouraging given that there have been fears that circumcision may not be readily acceptable among traditionally non-circumcising communities. However, it seems that non-circumcising communities are more likely to accept health facility based circumcision than the traditionally circumcising communities. However, there is an opportunity to promote health based circumcision in traditionally circumcising communities as 38% of the males were circumcised in the health facilities. Moreover, 60% indicated that they would prefer their sons to be circumcised in the health facility.

There are reports of complications and deaths during traditional circumcision activities. Health facility workers in the study sites manage many complications resulting from traditional circumcision. Therefore another engagement strategy might be to organise health workers within the proximity of the traditional circumcision camps to provide outreach services for managing adverse effects and immediate complications from traditional circumcision. Since circumcision seasons in these communities are known (e.g. after every two years in Tarime), it is possible to organise and coordinate these activities with the clan leaders and traditional circumcisers before hand.

In all three districts, respondents suggested a uniform circumcision model in which children (aged less than 10 years) are to be circumcised in the health facilities for a user fee. The fee was suggested to be Tshs 2000 by males and Tshs 4,000 by females though females in Ileje districts suggested free circumcision services.

Health facilities should be strengthened particularly in areas of training more practitioners, providing adequate equipment, supplies and medication for circumcision services.

Circumcision should always be considered as part of comprehensive HIV prevention package. Advocacy should play a crucial role from the very early outset of any programme to introduce or scale–up circumcision, building support for key decisions, encourage high level leadership, and building broad-based support for circumcision activities.

CHAPTER 1

INTRODUCTION

There is compelling evidence that circumcision reduces men's risk of becoming infected with HIV through heterosexual intercourse by at least one-half, and possibly as much as two-thirds. Three randomized clinical trials have shown that men who are circumcised were less than half as likely to become infected with HIV within the trial periods (Auvert et al. 2005, Bailey et al. 2007, Gray et al. 2007). This finding is supported by over 40 sociological and epidemiological studies which show a strong link between circumcision and reduced HIV prevalence (Nagerkerke NJD 2007, Siegfried et al. 2003, Weiss, Quigley, and Hayes 2000). There are also biological studies of the foreskin which show a high concentration of cells very susceptible to HIV infection (Patterson et al. 2002), which is one of the potential biological explanation as to why circumcision may reduce HIV acquisition (the other two being a reduction in Sexually Transmitted Infections and a reduction in the likelihood of micro tears and trauma to the foreskin during sex).

Based on the data from the clinical trials, models have estimated that routine circumcision across sub-Saharan Africa could prevent up to six million new HIV infections and three million deaths in the next two decades (Williams et al. 2006). Given this strong evidence, the World Health Organisation (WHO) and Joint United Nations Programme on HIV/AIDS (UNAIDS) recommended that male circumcision should be considered as an important and additional intervention for HIV prevention (WHO 2007). As a result, different countries in the sub-Saharan Africa are at different stages of introducing and scaling-up circumcision services.

To this effect, Tanzania conducted a country stakeholders' consultation meeting on the 14th - 15th of September 2006 with aims of: reviewing and discussing the latest evidence on the protective effect of circumcision on HIV infection at Global, Africa and Country levels; discussing the issues around circumcision within the country (acceptability, risks and

barriers, health service delivery, traditional practices, counselling and consent, human rights, ethical and regulatory issues; and discussing the strategies for follow up for programming.

The meeting identified that although several surveys had been conducted in Tanzania with respect to the situation of male circumcision, there was still a dearth of information regarding the cultural attitudes and practices towards circumcision, the safety of the procedure, techniques used in both clinical and traditional settings and the capability of the existing health service infrastructure to deliver safe circumcision services. This meeting resolved that there is a need to conduct more research to collect detailed information which will provide the basis for the formulation of strategies for effective programming and scaling up of safe circumcision services in Tanzania.

The Tanzanian Ministry of Health and Social Welfare (MOHSW) commissioned the National Institute for Medical Research (NIMR), Mwanza Centre to conduct a situation analysis study to investigate the acceptability and feasibility of carrying out safe circumcision services in the health facilities. The findings from the situation analysis will inform planned scaling up of circumcision services in Tanzania.

The main objective of the study was to investigate the context, extent and pattern of circumcision practices in selected areas of Tanzania and to provide recommendations to the government of Tanzania on the effective roll-out of circumcision services in the country.

Specifically the study intended to:

- Assess the structural, social and cultural factors influencing current circumcision practices in Tanzania (contextual assessment);
- Assess complications and barriers to circumcision practices (problem assessment) for both infants and adolescents in clinical settings;
- Evaluate the availability and competence of personnel and other resources essential for circumcision practices in clinical settings (Resource assessments);
- Assess the prevalence of circumcision and document the socio-demographic profile of circumcision service recipients (e.g. age, marital status, education etc.)

In this report, we present the cultural circumcision practices in traditionally circumcising population, current attitudes of traditionally circumcising and non-circumcising population towards circumcision, current capacities and needs of the health system to deliver safe circumcision services. Chapter 2 presents the review of HIV epidemic in Tanzania and also reviews the determinants of circumcision in Tanzania and current capacities of the Health care system in Tanzania. Chapter 3 presents the methodology of the situation analysis survey.

Chapter 4 presents the prevalence of circumcision in the selected districts, opinion of the community regarding circumcision, circumcision practices and the preferred circumcision model. Cultural aspects of circumcision, policy environment and opinion of the community and political leaders are discussed in chapter 5; while Chapter 6 presents what is needed by the heath facilities in order to deliver safe circumcision services in Tanzania. Discussion of the findings, conclusion and recommendations are presented in Chapters 7 and 8, respectively.

CHAPTER 2

LITERATURE REVIEW

2.0 HIV Epidemic in Tanzania

HIV/AIDS was first reported in Tanzania in 1983 in Kagera Region (Kapiga and Lugalla 2002). UNAIDS estimated that, by the end of 2005, as many as 1.4 million (95% CI: 1.3-1.6 million) adults and children out of Tanzania's population of 35 million were infected with HIV and that 140,000 (95% CI: 110,000 – 180,000) people died of AIDS in 2005 alone (UNAIDS 2006). The overall prevalence in Tanzania by the end of 2007 was 5.7% (4.6% males, 6.6% females). This prevalence masks huge variation of prevalence of HIV infection between regions. For instance, the prevalence of HIV infection was high in Iringa (15.7%), Dar -es-Salaam (9.3%), Mbeya (9.2%), Mara (7.7%) and Shinyanga (7.4%) while it was low in Manyara (1.5%), Kigoma (1.8%) and Kilimanjaro (1.9%) (Tanzania commission for AIDS (TACAIDS) et al. 2008).

2.1 Risk Factors for Transmission of HIV in Tanzania

HIV infection is acquired through unprotected sexual contacts (heterosexual or homosexual), parenteral (injection drug use, receipt of blood or blood products), perinatal/vertical transmission (UNAIDS 2004). The primary mode of transmission (about 80%-90%) of HIV in Tanzania is through unprotected heterosexual intercourse (UNAIDS 2004).

Potential risk factors for transmission of HIV virus have been identified in a large number of studies. While this is not a comprehensive review of all risk factors for HIV infection in Tanzania, the ones we have looked at are: age, residence and sexual debut. These risk factors are discussed because they are likely to affect implementation strategies of circumcision programs in terms of target areas and age-groups.

2.1.1 Age

Of the 20 million males in Tanzania by the end of 2008, 45% were aged less than 15 years. The proportion was 20% among males aged 15-24 years, 13% among those aged 25-34 years, 10% among those aged 35-44 years and 12% among those aged above 45 years (National Bureau of Statistics (NBS) and Macro International Inc. 2007). The prevalence of HIV infection in 2007/08 was 1.1% among males aged 15-24 years. The prevalence increased gradually to 6.2% among those aged 24-34 years and peaked among males aged 35-44 years before declining to 6.0% among males aged 45-49 years (Tanzania commission for AIDS (TACAIDS) et al. 2008).

2.1.2 Residence

Almost 26% of the male population in Tanzania were residents of urban areas by the end of 2008 (National Bureau of Statistics (NBS) and Macro International Inc. 2007). The prevalence of HIV was 6.4% in urban areas and 4.0% in rural areas in 2007/08 survey (Tanzania commission for AIDS (TACAIDS) et al. 2008). HIV sero-prevalence is higher in urban areas because of risky sexual behaviour and high mobility compared to rural areas (Boerma et al. 1999). In rural areas, social control is stronger thus it reduces the risk of HIV infection (Barongo LR, Borgdorff W, and Mosha FF 1992, Carpenter et al. 2002, Decosas et al. 1995).

2.1.3 Sexual Debut

Almost 64% of the males aged 15-19 reported to have never had sex in 2007/2008 (THMIS, 2008). This proportion is reduced to 18% among males aged 20-24 years (Tanzania commission for AIDS (TACAIDS) et al. 2008). Starting sexual activity increases both the probability of sexual intercourse with an HIV infected person and the risk of contracting the disease (Carpenter et al. 2002, Kapiga et al. 2002) (Malamba et al. 1994)(Ray et al. 1998, Serwadda et al. 1992).

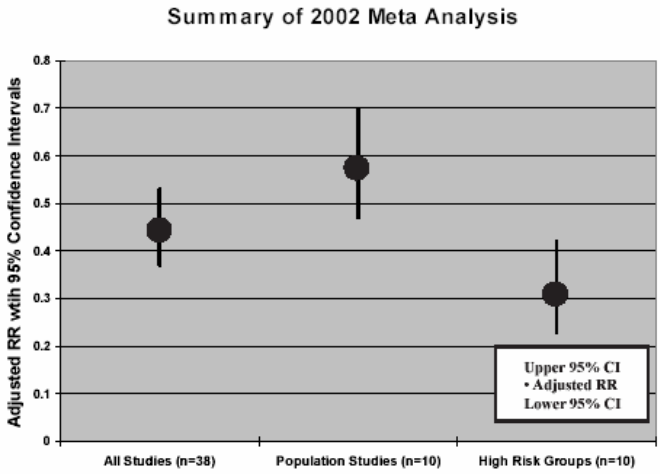
2.2 Male Circumcision and HIV Infection

As discussed in the introduction chapter, male circumcision has been shown to considerably reduce the risk of sexually acquired HIV infection. Male circumcision is defined as the

complete removal of the entire foreskin (the skin that can be rolled forward or back over the head of the penis) (WHO 2007).. Three randomized controlled trials have been performed, in which men with a foreskin were randomly assigned to either receive circumcision or not, and then followed over time to see if one group had a higher rate of acquiring HIV infection. The risk reduction was about 60%, i.e., 6 of 10 infections among circumcised men were prevented because of circumcision (Auvert et al. 2005, Bailey et al. 2007, Gray et al. 2007). As a result, circumcision must be considered a potential intervention, everywhere, in the prevention of sexually transmitted HIV infection – even though this procedure has important cultural and service provision implications (WHO 2007).

These data are reinforced by 20 years' of other data from sub-Saharan Africa. In a systematic review and meta-analysis of 28 published studies, circumcised men were less than half as likely to be infected by HIV as uncircumcised men. A sub-analysis of 10 African studies found a 71% reduction among higher-risk men (Weiss, Quigley, and Hayes 2000). A 2002 update considered the results of these 28 studies plus an additional 10 studies and, after controlling for various potentially confounding factors such as religious, cultural, behavioural, and other factors, had similarly robust findings (USAID and AIDSMark. 2003) (Figure 1).

Figure 1: Summary of 2002 Meta-Analysis of Male Circumcision Studies



Population based observational studies conducted in Tanzania have also reported that circumcision was significantly associated with a reduced risk of HIV infection (Barongo et al.

1994, Wambura 2007). Findings from these studies confirmed findings from ecological studies conducted earlier which showed that areas with high prevalence of circumcision tended to have lower HIV prevalence (Caldwell and Caldwell 1996). This pattern was also observed in the HIV and Circumcision prevalence data in Tanzania (Tanzania commission for AIDS (TACAIDS) et al. 2004). However, ecological studies are affected by ecological fallacy.

Another study in Rakai, Uganda (Quinn et al. 2000), analyzed risk factors for HIV infection in married couples whereby only one partner was initially infected. Higher viral load in the infected partner was strongly associated with risk of HIV transmission. Among 137 uncircumcised, uninfected men at baseline, 40 seroconverted during the two-year study. Among the 50 circumcised men (including 14 non-Muslims), none became infected during the same period - regardless of their female partners' viral load levels. Circumcised men are less likely to contract HIV for biological, not behavioural reasons (Reynolds et al. 2004).

2.3 Determinants of Circumcision in Tanzania

Several studies suggest that, circumcision in Tanzania is performed at the beginning of adolescence (teen ages or early twenties) as a rite of passage into adulthood, religious or hygiene reasons (Barongo LR, Borgdorff W, and Mosha FF 1992, Borgdorff et al. 1994, Grosskurth et al. 1995, Nnko et al. 2001, Obasi et al. 1999, Tanzania commission for AIDS (TACAIDS) et al. 2004, Urassa et al. 1997, Wambura 2007).

2.3.1 Religion

Muslims are the largest religious group to practice circumcision in Tanzania. The 2003/04 DHS data in Tanzania showed that 96.8% of Muslim, 60-70% Christians and 25% of men with indigenous beliefs were circumcised. Muslims practice circumcision as a confirmation of their relationship with God. A man has to be circumcised to lawfully make the *Hajj* to Mecca, one of the five pillars of Islamic belief (Rizvi *et al.,* 1999). However, not all Muslims are circumcised. For instance, in Mwanza Region, a traditionally non-circumcising population, circumcision was not universal among Muslim *Sukuma* men (74%) suggesting a continuing influence of the non-circumcising culture among Muslims in this setting (Nnko et al. 2001).

There is no clearly prescribed age for circumcision in Islam, although prophet Muhammad recommended it to be carried out at an early age and reportedly circumcised his sons on the seventh day after birth (Rizvi et al. 1999). Many Muslims in Tanzania may be circumcised at any age between birth and puberty.

With the major exceptions of Islam, other religions in Tanzania tend not to be a major determinant of circumcision. Christianity in Tanzania appears to have a neutral stance towards it.

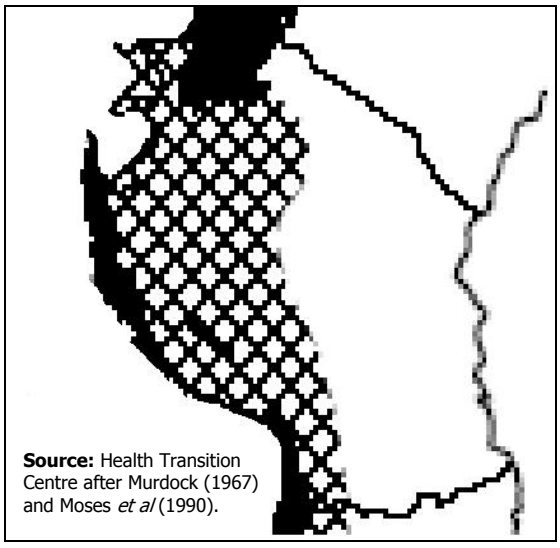
2.3.2 Ethnicity

Historically, circumcision appears to have been a general traditional practice in most parts of Tanzania with exception of the continuous area of the West and Southern parts of Lake Victoria running through inland Central Tanzania to the South West Tanzania (Figure 2).

In the majority of the circumcising cultures, circumcision is an integral part of a rite-of-passage to manhood, although originally it may have been a test of bravery and endurance (Nnko et al. 2001). Circumcision is also associated with factors such as masculinity, social cohesion with boys of the same age who become circumcised at the same time, self-identity and spirituality (Niang 2006). In the traditionally circumcising populations, there is stigmatisation of non-circumcised men. In some cultures such as the *Gogo* in Dodoma Region or the *Kurya* in Mara Region, it is unacceptable for a man of the circumcising culture to remain uncircumcised.

The non-circumcising region in dark shade is inhabited by Bantu some of whom gradually stopped the practice many centuries ago and the Nilotic subgroup who are traditionally non-circumcising (Marck 1997).

Figure 2: Geographical distribution of male circumcision in Tanzania



Source: Health Transition Centre after Murdock (1967) and Moses *et al* (1990).

Demographic and health survey (DHS) data showed that the prevalence of circumcision in Tanzania in 2003/04 among males aged 15-49 years was 70% with rates varying considerably between regions, depending on whether the region lies in the traditionally circumcising or non-circumcising belt (Tanzania commission for AIDS (TACAIDS) et al. 2004). The prevalence of male circumcision was above 80% in the regions that lie in the traditionally circumcising population while it ranged between 26% and 69% in the traditionally non-circumcising populations.

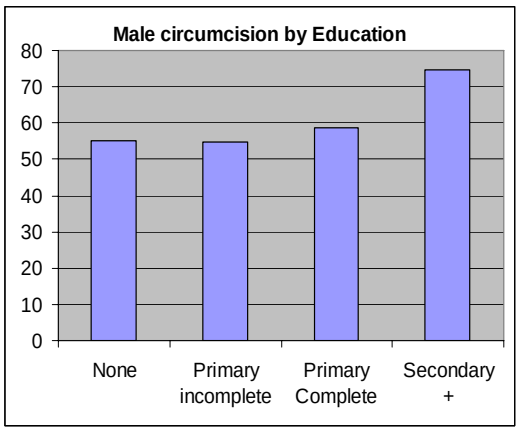
2.3.3 Social Desirability

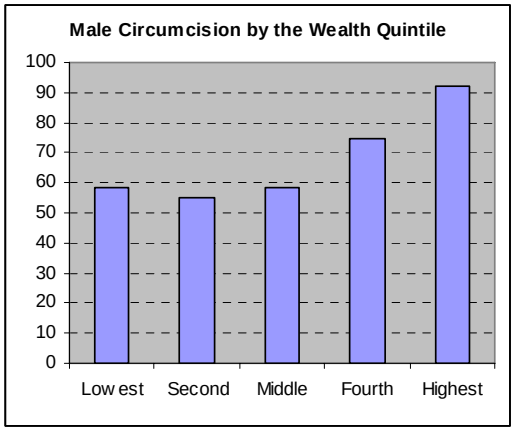
Today, circumcision is performed for a range of reasons, mainly social or health-related, in addition to religion and ethnicity. The desire to conform is an important motivation for circumcision in places where there is an interaction between two cultural circumcision practices. For instance, in Mwanza City, which is in a traditionally non-circumcising area, there are changing practices regarding circumcision (Nnko et al. 2001). Now that boys mix with circumcising ethnic groups at school, the practice is more acceptable, with an estimated prevalence of 17-21% (Nnko et al. 2001, Weiss et al. 2008).

2.3.4 Social-Economic Status

The 2003/04 DHS data in Tanzania shows that socio-economic factors influence circumcision in Tanzania (Figure 3). Higher rates of circumcision are seen among men with higher levels of education, and higher socio-economic status, and those living in urban areas. However the association of education and living in urban areas may be confounded by social mixing. The prevalence of male circumcision was 90.8% in urban areas and 60.6% in rural areas.

Figure 3: Circumcision Prevalence by Education and Wealth Quintile in Tanzania





2.4 Benefits and Risks of Circumcision

One of the driving determinants in the spread of circumcision practices in Tanzania especially in traditionally non-circumcising areas has been the perception that it improves penile hygiene and lower risk of infections. Other documented benefits for circumcision included: a decreased risk of urinary tract infections in children (Wiswell and Hachey 1993); a reduced risk of some sexually transmitted diseases in men (especially ulcerative diseases like chancroid and syphilis (Cook, Koutsky, and Holmes 1994, Nasio et al. 1996); furthermore, randomised controlled trials have shown that male circumcision reduces the risk of HIV transmission from women to men (Auvert et al. 2005, Barclay. L. 2006); protection against penile cancer, if the circumcision is done in the neonatal period (American Academy of Pediatrics 1989, Dodge and Kaviti 1965); and a reduced risk of cervical cancer in female sex partners (Agarwal et al. 1993). Other benefits for circumcision has included prevention of inflammation of the glans and the foreskin (balanitis) and the prevention of scar tissue causing an inability to retract the foreskin (*phimosis)* and prevention of *paraphimosis* (swelling of the retracted foreskin causing an inability to return it to the un-retracted position). However, circumcision has not been shown to directly protect females from acquiring HIV from infected male partners (Wawer et al. 2009).

Like any surgical procedure, there are risks associated with circumcision. Risks have been found to be as low as one in fifty in circumcision trials and in areas where the surgery is performed by well trained, adequately equipped, experienced personnel (Auvert et al. 2005, Barclay. L. 2006). Complications that can occur include: pain and bleeding; blood clot formation causing swelling of the penis (haematoma); infection at the site of the circumcision; irritation of the glans; oversensitivity of the glans penis for the first few months after the operation. Using a condom helps to alleviate this problem and is important to reduce the risk of acquiring HIV infection even further; increased risk of meatitis (inflammation of the opening of the penis) and risk of injury to the penis.

2.5 Male Circumcision Acceptability in Tanzania

Several observational studies have shown that the traditional patterns of circumcision in Tanzania are changing (Nnko et al. 2001, TACAIDS 2004, Urassa et al. 1997, Wambura

2007). In these studies, a substantial number of men belonging to traditionally non-circumcising tribes have been circumcised. For instance, the prevalence of male circumcision increased from 19% in 1991 (Grosskurth et al. 1995) to 30% in 2004 (Wambura 2007) in the traditionally non-circumcising populations in Mwanza Region. Other studies have suggested that the prevalence of male circumcision was 21% in selected communities of Mwanza Region in 1994 (Nnko et al. 2001) and 54% in the 2003/04 DHS data of the Mwanza Region (TACAIDS 2004).

The changes in the pattern of circumcision may be due to health reasons, social mixing between circumcising and non-circumcising cultures, desire for sexual pleasure and the widespread of Muslim faith (Nnko et al. 2001, Weiss et al. 2008). With regard to health reasons, circumcised men are believed to be less susceptible to STDs because the foreskin secretes dirty fluid which is a favourable medium for the growth of disease causing agents and may be a source of bad smell and also circumcised men heal genital ulcers much faster compared to uncircumcised men.

The urbanisation in Tanzania and the establishment of district capitals with government officials from all over the country has led to increased mixing of circumcising and non-circumcising ethnic groups. The mix of ethnic groups is most obvious in secondary schools, and has led to increased acceptance of male circumcision.

Circumcision is believed to enhance the sexual pleasure of both partners by reducing the friction during sexual intercourse and increasing the woman's sexual pleasure. The presence of a foreskin is likened to wearing a condom (Nnko et al. 2001).

2.6 Capacities of Health Facilities to Provide Safe Circumcision Services

In Tanzania, health services are provided through a number of hierarchical levels. These levels are dispensaries, health centres, district/regional hospitals and referral hospitals.

Dispensaries are staffed by enrolled nurses/maternal and child health aides and health orderlies (Table 1). Clinical officers provide care to outpatients and they are normally the in charge of health facilities at this level. The enrolled nurses provide maternal and child

health care (MCH), treat simple medical problem during pregnancy, conduct normal deliveries and provide outpatient curative care (National Bureau of Statistics (NBS) and Macro International Inc. 2007).

Supporting the dispensaries are health centres. These provide both preventive and curative services for common diseases. Health centres have a room for minor surgery and provide 20-30 beds for in-patients including maternity cases. A health centre is run by a Clinical Officer (CO) with a secondary school education and an elaborate education of 3 years in diagnosis and treatment as well as training in minor surgery. The CO is usually assisted by nurses/midwives with one or two maternal and child health aid and a health assistant.

Above the health centre, there is a district hospital. It is the base for staffing and supplying all lower level facilities. It is to the district hospital that any difficult or serious case is referred. Generally, there is one district hospital per administrative district but in certain cases a district may have more than one hospital. The district hospitals are provided with medical doctors (one or more according to size), assistant medical officers (CO with 2 more years of training), stores for drugs and equipment, a diagnostic laboratory, x-ray, operation facilities and beds for referred patients.

Table 1. Number of Health Facilities and Personnel in Tanzania Mainland in 2006

Health facilities in 2006	**Total**	**Beds**
Number of Hospitals	219	28,701
Number of Health Centres	481	7047
Number of Dispensary	4679	1480
Total	**5379**	**37,228**
Medical Personnel in 2006	**Total**	**Density‡**
Medical Doctors	1286	0.3
Assistant Medical Officers	1373	0.4
Clinical Officers	6701	1.8

‡ Number of medical personnel per 10,000 populations.

Source: Tanzania Service Provision Assessment Survey 2007.

The regional hospitals are in most cases similar to the district hospitals except that the regional hospitals are larger, have more facilities and are staffed by between 5-10

doctors including one or two specialists. At the top, there are four referral sophisticated consultant and teaching hospitals which serve the whole country.

CHAPTER 3

METHODOLOGY

3.0 Study Area

The United Republic of Tanzania is situated in East Africa just below the Equator. The country is divided into 26 regions, twenty-one on the mainland and five on Zanzibar Island (three on Unguja, two on Pemba). The regions are further sub-divided into districts administratively, of which, there are 119 in total.

The situation analysis study was conducted in rural and urban areas of Mara, Kagera and Mbeya Regions in Tanzania. The study was conducted in those regions in order to assess cultural issues associated with circumcision in a traditionally circumcising population (Mara Region) and to assess attitudes of traditionally non-circumcising populations towards circumcision (in Mbeya and Kagera Regions). The study also aimed to investigate circumcision procedures (any preoperative care, surgical procedures, and postoperative care) in clinical set-up, availability and acceptability of circumcision services, costs of the procedure, logistical issues (competencies and training needs; inventory of instruments, supplies and consumables for safe circumcision) in traditionally circumcising and non-circumcising areas.

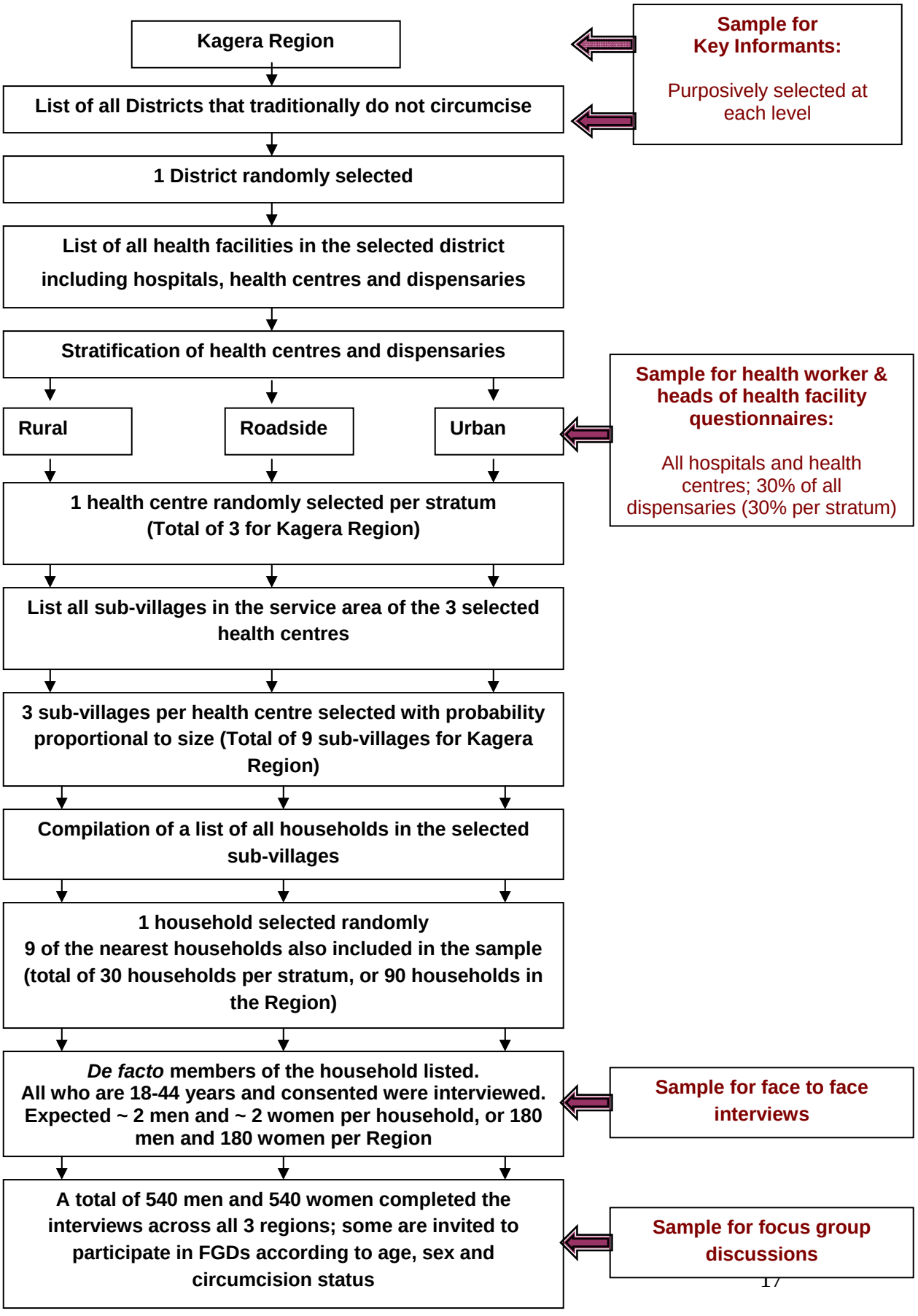
Prior to the survey, a preliminary visit was conducted by the leaders of the study team in each region to explain the objectives and the rationale for the study. The meetings involved the Regional Medical Officer (RMO) and the Regional Community Development Officer (RCDO) at the Regional level. At the district level, the meetings involved District Medical Officer (DMO), District Planning Officer (DPLO) and District Community Development Officer (DCDO). Other meetings were conducted at the community level where village and community leaders were informed of the objectives and rationale of the study.

3.1 Selection of the Study Sites and Recruitment of Participants

A list of districts that traditionally practice circumcision in Mara Region and another list of districts that traditionally do not practice circumcision in Mbeya and Kagera Regions were compiled. One district was randomly selected from each list. In each selected district, a list of all health facilities was generated by a member of the Council Health Management Team (CHMT) of the respective district through the DMO's office. Health centers were then stratified by residence (rural, roadside, and urban). In each stratum, one health centre was randomly selected and included in the study. A list of all sub-villages within the service area of the selected health centre was generated and 3 sub-villages per health centre (27 in total for all 3 regions) were selected with probability proportional to the sub-village size (Figure 4).

Lists of all household heads in the selected sub-villages were then compiled by their sub-village leaders. From the list, 10 households (HHs) were surveyed (a household has an average of 2 males and 2 female aged 18-44 years (National Bureau of Statistics (NBS) and Macro International Inc. 2007). The first study household was selected randomly and 9 other study households were selected on the basis of being nearest to the household being surveyed. At the household level, the head of the household was asked to list all *de facto* members (individuals who slept in the household the night before the survey day) of his/her household. Demographic data was then collected by the interviewer using the census form. Each individual within the study household was assigned a unique eight digit identification number (IDNO), of which the first six digits were unique to that particular study household and the last two for an individual within the household. Men and women were eligible to be included in the study if they were aged between 18-44 years, are *de facto* household members, and consented to participate in the study.

Figure 4: Example: Site and Survey Patient Selection for Kagera Region



3.2 Surveys Tools

The study used both quantitative and qualitative techniques in data collection. Two questionnaires were used, a face-to-face questionnaire for men and women and service availability questionnaire that was administered to heads of the health facilities and health care workers. Two qualitative tools were used in this study, the focus group discussion (FGDs) and key informant interviews (KIIs). Prior to the main survey, all the tools were pre-tested and piloted to assess the validity and reliability of the data collection tools.

3.2.1 Population Surveys Tools

Trained interviewers administered a face-to-face questionnaire, using one tool for male and another for female study participants. The male questionnaire was administered to 540 men and contained questions on socio-demographic characteristics, circumcision status, barriers to circumcision and factors influencing circumcision, client satisfaction (for those circumcised), complications, and the beliefs surrounding the practice. Other questions included were the preferred age for circumcision. The female questionnaire was administered to 540 women and contained questions about the participant's opinions on sexual pleasure, their attitudes towards circumcision, preferred age for circumcision. The questionnaires were written in Swahili and interviews were conducted in Swahili (the national language).

The circumcision status of all male participants was ascertained via targeted physical examination, conducted by a medical doctor from the research team. Male participants who reported symptoms suggestive of sexually transmitted infections (STIs) were examined by a medical doctor and offered free STI treatment using a syndromic approach according to the national guidelines (National AIDS Control Programme (NACP) and Reproductive and Child Health Services (RCHS) 2007). Physical examination for STIs of female participants was not feasible in field conditions, therefore female participants were offered free STI treatment based on reported syndrome approach (National AIDS Control Programme (NACP) and Reproductive and Child Health Services (RCHS) 2007) and where necessary referred for care to the nearest health facility.

3.2.2 Key Informant Interviews

In this study, key informants (KIs) are people who have a special position and are looked upon as representatives of the opinions and experience of the community, are likely to have knowledge or experience that is relevant to or important to a circumcision programme or represent important stakeholders (those who are able to affect the programme and those who will be affected by it). The KIs were from community, district, regional and national levels as follows:

- Regional/District Commissioner (Alternate)
- Regional AIDS Control Coordinator (RACC)/District AIDS Control Coordinator (DACC) (Alternate)
- Catholic Padre/Sheikh/Anglican/Lutheran (Tanzanian Christian Council) Pastor (depending on the dominant religion in the region (Alternate)
- City/Municipal Mayor/Chairperson of District Council (Alternate)
- Councillor from one ward in one of the districts
- Regional Community Development Officer/District Community Development Officer (Alternate)
- Traditional male circumciser/ethnic leader (Alternate)
- Director of local NGO dealing with HIV prevention
- One leader of a non-political and nonreligious, youth group/women's group in the area (Alternate)
- One leader of PLWAs/member of the group in the area (Alternate).

Key informants were alternated, for instance if in the first region Regional Commissioner was interviewed as a key informant; in the next one District Commissioner was interviewed.

At the national level, KIs included Permanent Secretary (MOHSW); Director of Hospital Services (MOHSW); Chief Medical Officer (MOHSW); Programme Manager of the National AIDS Control Programme (NACP); Director of the National Information Services; and Director of Customer Services & Sales, Medical Stores Department (MSD).

Prior to data collection, investigators visited all the study sites and made appointments for interviews. The purpose of the interviews was to obtain detailed information on

circumcision cultural beliefs, practices and policy environment from the perspective of the informants. KIIs were conducted using a semi-structured interview schedule. Topics and issues to be covered were specified in advance.

Four trained research assistants, (two females and two males), were involved in conducting the same sex interviews in *Kiswahili.* The interviews were tape-recorded as well as noted down.

3.2.3 Focus Group Discussions

FGDs participants were obtained from a list of respondents who took part in the questionnaire survey. The FGDs were stratified by sex (men, women); circumcision status for men (circumcised, non-circumcised); and age (18-24 years, 25-44 years). In each district, FGDs were held in the last two days of research activities hence it was possible to screen participants based on the set criteria. Thereafter participants were invited through the *vitongoji* or *mitaa* leaders. The FGDs were conducted in a sheltered, enclosed space. Two research assistants were involved in FGDs; One person facilitated the group discussions while another took notes in addition to tape recording.

These series of FGDs explored a wide range of issues such as the community perceptions and circumcision practices, the decision making process, preferred ages and costs for circumcision. All FGDs were conducted in Swahili (the National language). On average the discussion lasted from 45 to 90 minutes and the number of participants in each group ranged from 6 to 12.

3.2.4 Health Care Worker Questionnaires

All hospitals and health centres were selected for the health care worker interviews. The dispensaries were stratified by residence (rural, roadside, and urban, see Figure 4) and a total of 30% selected: 30% of the dispensaries in the rural, 30% in the urban and 30% of the dispensaries in roadside were selected randomly into the study. Health care workers were defined as: Doctors, assistant medical officers, clinical officers, nursing officers, enrolled nurses, counsellors, anaesthetists, medical attendants working at the study health facilities. Every health worker who was practicing at the time of the survey

at the selected health facility was eligible to participate in the study even if he/she was not working on that particular day. The health care worker questionnaire collected information about the health care workers' knowledge and opinions about circumcision practices at the local health facility.

Up to 5 health practitioners were interviewed per cadre per site for rare medical personnel in the study areas (ratio of 1 health practitioner to 50,000 people). Such cadres include physicians, assistant medical officers, clinical officers, counsellors and anaesthetists while up 3 health practitioners per cadre were interviewed for the rest of the medical personnel such as nursing officers, enrolled nurses, and medical attendants.

3.2.5 Heads of Health Facility Questionnaires

The heads of facilities interviewed were from the health facilities mentioned above. The heads of health facilities questionnaire collected information on the number of circumcisions carried out by the health facility per year, age at circumcision, availability of working equipment, supplies and skills required for the operation, cost of the service and the ability to recoup costs, ability to meet an increased demand for services. Number, level of skills and competencies of the health service providers to perform circumcision were measured using a performance checklist which included among others: infection prevention (use of sterile disposable equipment and protective gears for providers), pre and postoperative counselling/care, pain management and optimal circumcision techniques.

3.3 Sample Size

During the design of the study, considerations in terms of resources (timing and funds), professional experience and objectives of the study guided the decision making process regarding the number of regions to be studied, the number of focus group discussions and key informant interviews to be conducted (Table 2). The aim was to understand factors that may influence male circumcision practices in both traditionally circumcising and non-circumcising regions from the communities and from the opinion leaders.

Table 2: Sample Sizes for Each Set of Activities

Group	Eligibility criteria	Method of Selection	Assumptions	Sample size (Total # of participants)
Face to face interviews	- Aged 18-44 years - *de facto* household member	All eligible household members	- A total of 2 million adult men in the 3 regions, 50% (45-55%) prevalence of MC, 95% CI: - Each household will have 2 male & 2 female adults (Figure 4): 2 males x 10 households x 3 sub-villages x 3 strata x 3 regions = 540 men; 2 females x 10 households x 3 sub-villages x 3 strata x 3 regions = 540 women	540 men 540 women
FGDs	- Participated in face to face interviews - Fits in pre-defined age, sex, and circumcision status categories	Purposive selection according to pre-defined categories.	After about 10 FGDs in the region, there will be no new themes emerging (data saturation). Ten people per FGD is sufficient to allow a variety of opinions with opportunities for every participant to contribute	300
Health care worker interviews	-Health care workers at all hospitals and health centres, and 30% of dispensaries	Stratification by cadre: -up to 5 for rare cadre, -up to 3 for the rest, random selection	The true number of health care workers at the selected health was unknown and varied with level of health facility. If 5 of the rare cadre were interviewed at the 10 hospitals & health centres= 50 and 3 of the common cadres at 10 sites = 30, and assuming that some rare cadres will also be at dispensaries, the total sample size was rounded off to 200	200
Heads of health facilities	Head of facilities at all hospitals, all health centres and 30% of dispensaries	All	Each facility has 1 facility head	60
Key informants	Pre-defined list from the National Technical Working Group on Circumcision	Purposive selection as per predetermined list. Variation with alternatives to get broader scope of views	10-15 interviews per region are sufficient to reflect opinions of key community leaders.	35

However, for the quantitative survey, the investigators aimed to accurately determine the prevalence of circumcision and the socio-demographic profiles of circumcised and uncircumcised men. The prevalence of circumcision in our study was expected to be 50% (Tanzania commission for AIDS (TACAIDS) et al. 2004). Allowing 5% error (i.e. 45-55%) and if the total population of adult men in the 3 regions is estimated at 2 million, a sample size of 384 for this survey would be sufficient to determine circumcision prevalence at the 95% confidence level. To obtain a representative sample from the study communities, respondents were sampled from rural, roadside and urban communities. We estimated an intra-cluster correlation of 30% and so increased the minimum sample size to 500 men.

3.4 Data Processing and Analysis

Face-to-face and service availability questionnaires were double entered using Census and Surveys processing System (US Census Bureau and Macro International, 2006) and comparison was done to check for consistency. Data cleaning involved range and consistency checks. The data was then cleaned and analyzed using the STATA data analysis software (STATA Corp 2003).

There were several measures in place to ensure the integrity of data and its management in the study. Two levels of quality control (QC) were employed. During data collection, subsets of questions were asked to 10% of the study respondents by an independent interviewer, the two responses were then compared and clarifications sought in the event of discrepancies. Lists of identification numbers (IDNO) to be interviewed for the 10% QC were kept by the Clinicians. The second level of QC was done during the data entry phase. Data was entered by two independent data entry clerks, their entry was then compared and any discrepancies verified.

Quantitative data were examined for missing values, consistency and were then coded. For instance, age was grouped into three age groups (18-24, 25-34 and 35-44 years). Respondents with missing values were excluded in all analyses that involved the variable of interest and are reported where appropriate.

Data are presented separately by sex and chi-square tests were used to compare the similarity of the study districts with respect to age, education, marital status, religion, ethnic group (tribe), present place of residence and place of birth. For categorical factors with ordered categories, we tested for the linearity of the log odds using a chi-square statistic. The chi-square statistic with its *P* value is reported where appropriate.

Logistic regression model was used to investigate the association between socio-demographic factors and outcome variables (circumcision status as assessed by the clinician, willingness of circumcised men to pay ≥ Tshs 5000, willingness of non-circumcised men to pay ≥ Tshs 4000 and acceptability of circumcision services among non-circumcised males and their sons). Confidence intervals were given as 95%. All *P* values were derived from two-sided tests. The log likelihood ratio test was used to investigate whether an exposure variable was significantly associated with an outcome variable and to investigate the confounding effect of various variables.

This study used probability-proportional-to-size at the first stage of sample selection and selects a fixed number of households (n=10) from each cluster at the second stage. The end result of this sampling strategy was a self-weighted sample. This design is not only efficient in terms of sampling precision but also it eliminated the need to weight the data during analysis.

Key informant interviews and focus group discussions were transcribed and then translated into English. Then content and context analysis was performed by two independent investigators. A list of categories was drawn by two investigators and inter-coder variation was very minimal. Then NVIVO 2.0 qualitative software (Pty Ltd, Sidney, Australia) was used to aid analysis. Transcripts were reviewed repeatedly and interpretation of data was done and verified by two independent investigators. Investigators assigned more or less the same meaning to the data. Analysis used explicit, systematic and reproducible methods. Hence, validation and trustworthiness of the findings was established (Greenhalgh and Taylor 1997).

3.5 Ethical Considerations

The key ethical consideration was the confidentiality and anonymity of all the information emanating from the survey data. Community participation in entire research process was sought and enhanced through mobilisation campaigns which were held before undertaking the study. This study maintained a favourable risk/benefit ratio and preservation of social values of the study communities. Fair selection of study participants was adhered to for the sake of maintaining professional and scientific integrity.

All participants were asked to give an informed consent prior to enrolment. An information sheet describing the study procedures and objectives was given or read to the study participants before they signed or thumb printed the consent forms to assent their voluntary participation. Code lists for all social science tools' study participants were prepared and codes were used instead of names on the study forms. Throughout the research process there was ongoing respect for dignity of study population and this safeguarded scientific validity and integrity of the study.

Focus group discussions and key informant interviews were audio-taped and noted down. Permission to audiotape was included in the consent forms. Individual names and other identifying information, such as addresses and contact information were not recorded.

All paper copies are stored in a locked file cabinet at the NIMR Mwanza Centre for a period of up to 5 years after the completion of this study. Because of the sensitivity of data collected, all data collection forms were assigned IDNOs. The IDNO was then used rather than the individual's name when collecting, editing and analyzing data. A master list that links the name of the individual to their IDNO was stored securely in a separate locked cabinet at NIMR offices accessed by only a few senior study staff. Lastly, all study staff signed a confidentiality agreement.

The information gathered was recorded on data collection forms and entered into a password-protected and encrypted database at the NIMR Mwanza offices. All electronic

data will be kept securely under a locked fire proof room for 5 years before being destroyed. During dissemination, no individual identities will be used.

The ethical clearance for the study was obtained from NIMR, Mwanza Centre Scientific Committee and Medical Research Coordination Committee (MRCC) of the National Institute for Medical Research, Tanzania. This protocol was also approved by Columbia University ethics Committee and the ethics committee of the Centres for Disease Control and Prevention (CDC) and Global AIDS Program Associate Director of Science (GAP/ADS).

CHAPTER 4

RESULTS FOR THE COMMUNITY SURVEY

4.1 Introduction

This chapter presents the results from the community survey. The findings presented include socio-demographic characteristics of the circumcised males, non-circumcised males and women who took part in the study.

4.2 Description of the Study Population

In the study, 1110 respondents [504 (45.4%) males, 606 (54.6%) females] were seen and interviewed. Tables 3 and 4 present the socio-demographic characteristics of the study population by district among males and females, respectively. The age pattern of the male respondents varied significantly between the districts (χ^2=19.6, P=0.001). Compared to males in Tarime district, males interviewed in Ileje Districts were younger while those in Bukoba rural district were older.

Among males, the study districts also differed significantly in terms of years of education (χ^2=14.0, P=0.007), marital status (χ^2=11.9, P=0.018), religion (χ^2=52.0, P<0.001), tribe (χ^2=821.8, P<0.001) and place of birth (χ^2=22.7, P<0.001). Compared to males in Tarime district, males in Ileje district had a higher proportion of those who were single, Christians, belonged to *Ndali* or *Lambya* ethnic groups, residents of an urban area with at least primary school education. Males in Bukoba Rural had a higher proportion of those who belonged to *Haya* ethnic group, residents of the roadside centre, with a primary school education and a high proportion of Moslems.

Table 3. Socio-demographic Characteristics of Male Respondents by District

Factor	Tarime n=170 (%)	Bukoba Rural n=175 (%)	Ileje n=159 (%)	χ^2 (P value for the association)
Age group ¥				
18-24 years	50 (29.4)	33 (18.9)	62 (39.2)	
25-34 years	76 (44.7)	80 (45.7)	50 (31.7)	19.6 *(P=0.001)*
35-44 years	44 (25.9)	62 (35.4)	46 (29.1)	
Education ‡				
None or Incomplete Primary	29 (17.1)	26 (15.0)	9 (5.7)	
Primary School	115 (67.7)	131 (75.7)	125 (79.1)	14.0 *(P=0.007)*
Above Primary School	26 (15.3)	16 (9.3)	24 (15.2)	
Marital status *∂*				
Never married	41 (24.1)	46 (26.6)	64 (40.3)	
Married	127 (74.7)	124 (71.7)	93 (58.5)	11.9 *(P=0.018)*
Separated/Divorced/Widowed	2 (1.2)	3 (1.7)	2 (1.3)	
Religion †				
Christians	153 (90.5)	140 (80.0)	156 (98.1)	
Moslems	9 (5.3)	35 (20.0)	0 (-)	52.0 *(P<0.001)*
Others	7 (4.1)	0 (-)	3 (1.9)	
Tribe				
Mhaya	2 (1.2)	165 (94.3)	0 (-)	
Mkurya	130 (76.5)	1 (0.6)	0 (-)	821.8 *(P<0.001)*
Mndali	0 (-)	0 (-)	109 (68.6)	
Others	38 (22.4)	9 (5.1)	50 (31.5)	
Present place of Residence †				
Rural	70 (41.4)	64 (36.6)	60 (37.7)	
Roadside	47 (27.8)	52 (29.7)	51 (32.1)	1.4 *(P=0.84)*
Urban	52 (30.8)	59 (33.7)	48 (30.2)	
Place of Birth ¶				
Rural	116 (69.1)	96 (55.2)	81 (51.6)	
Roadside	19 (11.3)	46 (26.4)	27 (17.2)	22.7 *(P<0.001)*
Urban	33 (19.6)	32 (18.4)	49 (31.2)	

¥ 1 male in Ileje had missing data. ‡ 2 males in Bukoba and 1 in Ileje had missing data. ∂ 2 males in Bukoba had missing data. † 1 male in Tarime District had missing data. ¶ 2 males in Tarime, 1 in Bukoba Rural and 2 in Ileje Districts had missing data.

Among females, the study districts also differed significantly in terms of age patterns of the respondents interviewed (χ^2=15.1, P=0.004), years of education (χ^2=22.4, P<0.001), marital status (χ^2=47.0, P<0.001), religion (χ^2=87.5, P<0.001), tribe (χ^2=946.2, P<0.001) and place of birth (χ^2=21.1, P<0.001). Compared to females in Tarime district, females in Ileje and Bukoba Rural district tended to be older and with a

higher proportion of single (never married or separated, divorced or widowed). A higher proportion of females in Ileje district were Christians, residents of roadside centre or urban areas, had at least primary school education and belonged to *Ndali* or *Lambya* ethnic groups while females in Bukoba Rural district belonged to *Haya* ethnic group, were residents of the roadside centre, mostly had primary school education and had a high proportion of Muslims compared to those in Tarime district.

Table 4. Socio-demographic Characteristics of Female Respondents by District

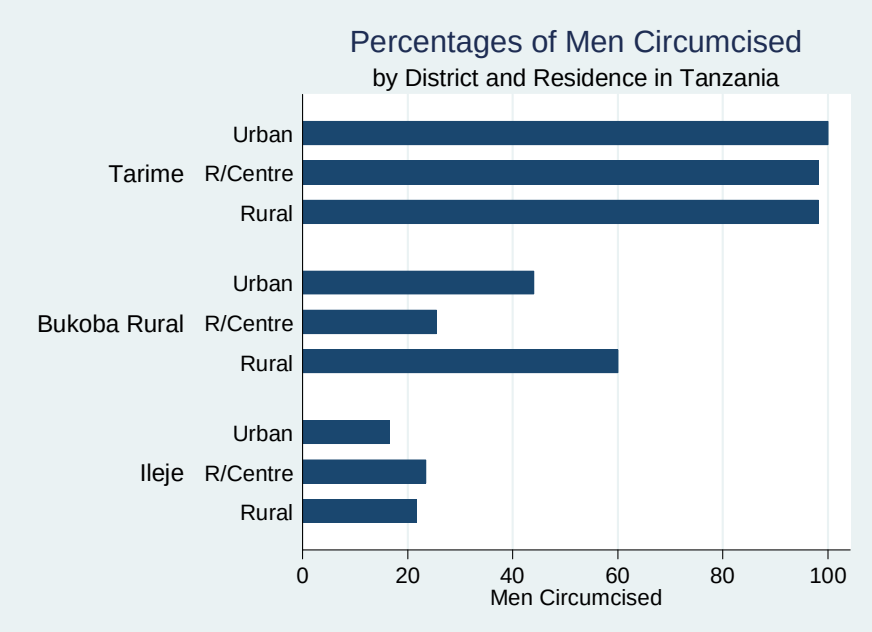
Factor	Tarime n=191 (%)	Bukoba Rural n=209 (%)	Ileje n=206 (%)	χ^2 (P value for the association)
Age				
18-24 years	80 (41.9)	59 (28.2)	81 (39.3)	
25-34 years	75 (39.3)	84 (40.2)	65 (31.6)	15.1 *(P=0.004)*
35-44 years	36 (18.9)	66 (31.6)	60 (29.1)	
Education				
None or Incomplete Primary	49 (25.7)	44 (21.1)	21 (10.2)	
Primary School	130 (68.1)	159 (76.1)	166 (80.6)	22.4 *(P<0.001)*
Above Primary School	12 (6.3)	6 (2.9)	19 (9.2)	
Marital status ∂				
Never married	15 (7.9)	20 (9.7)	47 (22.8)	
Married	171 (89.5)	152 (73.4)	136 (66.0)	47.0 *(P<0.001)*
Separated/Divorced/Widowed	5 (2.6)	35 (16.9)	23 (11.2)	
Religion †				
Christians	181 (95.3)	157 (75.1)	202 (98.1)	
Moslems	7 (3.7)	52 (24.9)	0 (-)	87.5 *(P<0.001)*
Others	2 (1.1)	0 (-)	4 (1.9)	
Tribe				
Mhaya	0 (-)	189 (90.4)	0 (-)	
Mkurya	129 (67.5)	0 (-)	0 (-)	946.2 *(P<0.001)*
Mndali	0 (-)	0 (-)	144 (69.9)	
Others	62 (32.5)	20 (9.6)	62 (30.1)	
Place of Residence ¥				
Rural	64 (33.5)	74 (35.9)	66 (32.2)	
Roadside	61 (31.9)	66 (32.0)	72 (35.1)	1.0 *(P=0.90)*
Urban	66 (34.6)	66 (32.0)	67 (32.7)	
Place of Birth ¶				
Rural	131 (69.0)	126 (60.3)	117 (57.1)	
Roadside	25 (13.2)	56 (26.8)	36 (17.6)	21.1 (*P<0.001*)
Urban	34 (17.9)	27 (12.9)	52 (25.4)	

∂ 2 Females in Bukoba had missing data. † 1 Female in Tarime District had missing data. ¥ 1 Female in Ileje had missing data. ¶ 1 Female in Tarime and 1 in Ileje Districts had missing data.

4.3 Prevalence of Male Circumcision

Of the males who were interviewed, 279 (55.0%) reported being circumcised. Figure 5 presents the prevalence of reported circumcision in the study area. Circumcision was more common among males in Tarime District while non-circumcision was more common among males in Ileje District. In Bukoba Rural, approximately 44% of males were circumcised. The prevalence of circumcision in Bukoba Rural District was higher in Katoro (rural community) because of a higher proportion of Muslims compared to Kemondo bay (urban community) and Kashozi (roadside community).

Figure 5: Prevalence of Circumcision by District and Residence Strata



Males who participated in the study were also examined by the clinician to validate their reported circumcision status. Table 5 presents the agreement between the self-reported circumcision status and clinician assessed status.

Table 5. Self-reported versus Clinician Assessment of Circumcision Status

Self-Reported Status	Clinician Assessment				
	Circumcised	Not Circumcised	Partially Circumcised	Refused Examination	Total
Circumcised	228 (97.9%)	21 (8.8%)	6 (100.0%)	24 (92.3%)	279 (55.4%)
Not Circumcised	5 (2.1%)	218 (91.2%)	0 (-)	2 (7.7%)	225 (44.6%)
Total	233 (100.0%)	239 (100.0%)	6 (100.0%)	26 (100.0%)	504 (100.0%)

Of those who were circumcised based on the clinician assessment, 98% correctly reported that they were circumcised. Similarly, of those who were not circumcised based on the clinician assessment, 91% correctly reported that they were not circumcised. Six males were assessed by the clinician as have been partially circumcised. Of these, four were from Tarime district (1 circumcised traditionally, 3 circumcised at the health facility) and 2 were from Ileje district (both circumcised at the health facility).

Of the 5 people who reported that they were not circumcised while they were circumcised, all 5 were from Bukoba Rural district. Twenty-one males reported that they were circumcised while they were not, of these 2 were from Tarime district, 15 were from Bukoba rural and 4 were from Ileje district.

4.4 Predictors for Male Circumcision

To assess the predictors for male circumcision, the clinician assessed status was used as an outcome variable and demographic variables considered as predictors.

Age and marital status were not important predictors for circumcision among males (Table 6). Religion, tribe, place of residence and place of birth were significantly associated with clinician assessed circumcision status. Circumcised men were either Muslims or belonged to *Kurya* or other ethnic groups and were both born and resident of the rural areas. Non-circumcised men were more likely to be residents in the roadside communities and were either born in the rural areas or roadside communities and mostly tended to belong to *Ndali* ethnic group. Muslims were ten times more likely to be circumcised compared to Christians.

Table 6. Predictors for Male Circumcision in the Study Area

Factor	Total N=504 (%)	Circumcised (Clinician assessment) N=239 (%)	Crude OR (95% CI) *(P values for heterogeneity)*
Age group †			
18-24 years	145 (28.8)	72 (49.7)	1 *(P=0.75)*
25-34 years	206 (41.0)	94 (45.6)	0.85 (0.56-1.30)
35-44 years	152 (30.2)	73 (48.0)	0.94 (0.59-1.48)
Education §			
Primary School	371 (74.1)	164 (44.2)	1 *(P=0.021)*
None or Incomplete Primary	64 (12.8)	33 (51.6)	1.34 (0.79-2.29)
Above Primary School	66 (13.2)	41 (62.1)	2.07 (1.21-3.54)
Marital status à			
Never married	151 (30.1)	67 (44.4)	1 *(P=0.60)*
Married	344 (68.5)	169 (49.1)	1.21 (0.82-1.78)
Separated/Divorced/Widowed	7 (1.4)	3 (42.9)	0.94 (0.20-4.35)
Religion †			
Christians	449 (89.3)	195 (43.3)	1 *(P<0.001)*
Moslems	44 (8.8)	39 (88.6)	10.2 (3.93-26.26)
Others	10 (2.0)	5 (5.0)	1.30 (0.37-4.56)
Tribe			
Mhaya	167 (33.1)	57 (34.1)	1 *(P<0.001)*
Mkurya	131 (26.0)	115 (87.8)	13.9 (7.51-26.61)
Mndali	109 (21.6)	20 (18.4)	0.43 (0.24-0.78)
Others	97 (19.3)	47 (48.5)	1.81 (1.09-3.02)
Present place of Residence †			
Rural	194 (38.6)	103 (53.1)	1 *(P=0.002)*
Roadside	150 (29.8)	53 (35.3)	0.48 (0.31-0.75)
Urban	159 (31.6)	83 (52.2)	0.96 (0.63-1.47)
Place of Birth ¶			
Rural	293 (58.7)	163 (55.6)	1 *(P<0.001)*
Roadside	92 (18.4)	24 (26.1)	0.28 (0.17-0.47)
Urban	114 (22.9)	49 (43.0)	0.60 (0.39-0.93)

† 1 male had missing data. § 3 males had missing data. à 2 had missing data. ¶ 5 males had missing data.

Study district confounded the association between clinician assessed circumcision status and education. After adjusting for the effect of study district, the effect of education on clinician assessed circumcision status remained significant (Log likelihood ratio test = 8.3, P=0.016). Males with above primary school education were 3.1 times more likely to circumcise (95% CI: 1.3-7.5) while those with incomplete primary school education were 1.3 times more likely (95% CI: 0.6-2.5) to be circumcised compared to those with primary school education, adjusted for the effect of district. However, adjusted for

education, males in Bukoba rural were 92% less likely (95% CI: 86%-95%) and Ileje District were 97% less likely (95% CI: 94%-98%) to be circumcised compared to males in Tarime District.

4.5 Attitudes towards Circumcision

Male circumcision was reported to be universal in Tarime district with 99% of the males circumcised; only 45% and 21% of the males reported to be circumcised in Bukoba Rural and Ileje Districts, respectively. This section explores the opinion of non-circumcised men regarding circumcision in the study areas (Table 7).

Almost 76% (75% urban, 78% roadside centre and 76% rural) of the non-circumcised males would like to be circumcised if the services were provided. This proportion increased to 93% (90% urban, 94% roadside centre and 95% rural) when asked if the non-circumcised males would like their sons to be circumcised. Almost 90% (88% urban, 92% roadside centre and 89% rural) would like their sons' to be circumcised at the health facility.

During the interview, respondents were told that studies have shown that circumcision done by trained professionals reduced the risk of HIV infection by 60%. Of those who responded either they wouldn't like themselves or their sons to be circumcised or were undecided about it, 6% of 53 non-circumcised men wanted circumcision for themselves and 19% of 16 non-circumcised men wanted circumcision for their sons.

The benefits for circumcision mentioned were reduction of the risks of acquiring sexually transmitted infections including HIV (68%), hygiene (18%), enhancement of sexual pleasure (4%) and the easiness to wear condoms (1%).

Table 7. Opinion of Non-circumcised Males Regarding Circumcision

Details	Urban n=73 (%)	Roadside Centre n=78 (%)	Rural n=74 (%)	Total n=225 (%)
Would you like to be circumcised?				
No	17 (23.0)	15 (19.2)	16 (21.3)	48 (21.3)
Undecided	1 (1.4)	2 (2.6)	2 (2.7)	5 (2.2)
Yes	55 (75.3)	61 (78.2)	56 (75.7)	172 (76.4)
Of those who responded No or Undecided, they were told Circumcision reduces the risk of HIV infection and asked if they like to be circumcised?				
No	14 (77.8)	12 (70.6)	17 (94.4)	43 (81.1)
Undecided	2 (11.1)	4 (23.5)	1 (5.6)	7 (13.2)
Yes	2 (11.1)	1 (5.9)	0 (-)	3 (5.7)
Would you like your son to be circumcised?				
No	7 (9.6)	5 (6.4)	3 (4.1)	15 (6.7)
Undecided	0 (-)	0 (-)	1 (1.3)	1 (0.4)
Yes	66 (90.4)	73 (93.6)	70 (94.6)	209 (92.9)
Of those who responded No or Undecided, they were told Circumcision reduces the risk of HIV infection, and asked if they like to be circumcised?				
No	6 (85.7)	4 (80.0)	3 (75.0)	13 (81.3)
Yes	1 (14.3)	1 (20.0)	1 (25.0)	3 (18.8)
Where would you like your sons' to be circumcised				
At a traditional circumciser	1 (1.4)	0 (-)	2 (2.7)	3 (1.3)
At the health facility	65 (87.7)	72 (92.3)	66 (89.2)	202 (89.8)
At other places	8 (11.0)	6 (7.7)	6 (8.1)	20 (8.9)
Benefits of Male Circumcision				
Reduce risks of STIs	59 (80.8)	49 (62.8)	46 (62.2)	154 (68.4)
Hygiene	13 (17.8)	15 (19.2)	12 (16.2)	40 (17.8)
Enhance Sexual Pleasure	0 (-)	3 (3.8)	5 (6.8)	8 (3.6)
Easy to wear condoms	0 (-)	0 (-)	2 (2.7)	2 (0.9)
Don't know	1 (1.4)	11 (14.1)	9 (12.2)	21 (9.3)
Problems or negative consequences of circumcision				
None	60 (82.2)	59 (75.6)	61 (82.4)	180 (80.0)
Sexual promiscuity	0 (-)	1 (1.3)	1(1.4)	2 (0.9)
Very painful	4 (5.5)	1 (1.3)	2 (2.7)	7 (3.1)
Excessive bleeding	1 (1.4)	3 (3.8)	4 (5.4)	8 (3.6)
STIs if single knife is used for Circumcision	1 (1.4)	1 (1.3)	0 (-)	2 (0.9)
Un-productivity due to wound	3(4.1)	8 (10.3)	3 (4.1)	14 (6.2)
Could cause penile dysfunctions	2 (2.7)	4 (5.1)	2 (2.7)	8 (3.6)
It's scaring	1 (1.4)	0 (-)	0 (-)	1 (0.4)
Other adverse events	1 (1.4)	1 (1.3)	1 (1.4)	3 (1.3)

Overall, 80% of the non-circumcised males reported that there was no problem or consequence following circumcision. However, 20% of the non-circumcised males reported problems or negative consequences for circumcision, which were males being unproductive for several weeks while nursing the wound (6%), could cause penile dysfunctions (4%), may cause excessive bleeding (4%), it is painful even when anaesthesia is used (3%), causes men to be sexually promiscuous (1%) and could cause STIs if a single knife used for the operation (1%).

Of those who were circumcised (Table 8), reasons for circumcision were to prevent STIs (25%), tradition (24%), hygiene (17%), pressure from peers (7%) and religion (2%). Almost half of those who were circumcised, the procedure was performed by the traditional circumciser.

Table 8. Opinion amongst the Circumcised Males regarding Circumcision

Details	Urban n=89 (%)	Roadside Centre n=81 (%)	Rural n=109 (%)	Total n=279 (%)
Why were you circumcised?				
Peer pressure	6 (6.7)	4 (4.9)	8 (7.3)	18 (6.5)
To prevent STIs	28 (31.5)	21 (25.9)	22 (20.2)	71 (25.4)
Hygiene reasons	17 (19.1)	16 (19.8)	15 (13.8)	48 (17.2)
Tradition reasons	10 (11.2)	28 (34.6)	29 (26.6)	67 (24.0)
Religious reasons	2 (2.2)	0 (-)	4 (3.7)	6 (2.2)
Other reasons	23 (25.8)	5 (6.2)	25 (22.9)	53 (19.0)
Don't Know	3 (3.4)	7 (8.6)	6 (5.5)	16 (5.7)
Where were you circumcised				
At a traditional circumciser	39 (43.8)	40 (49.4)	64 (58.7)	143 (51.3)
At the health facility	45 (50.6)	36 (44.4)	39 (35.8)	120 (43.0)
At other places	1 (1.1)	1 (1.2)	0 (-)	2 (0.7)
Don't know	4 (4.5)	4 (4.9)	6 (5.5)	14 (5.0)
Would you like your son to be circumcised				
No	5 (5.6)	2 (2.5)	0 (-)	7 (2.5)
Undecided	0 (-)	0 (-)	0 (-)	0 (-)
Yes	84 (94.4)	79 (97.5)	109 (100.0)	272 (97.5)
Are you pleased that you were circumcised				
No	3 (3.4)	6 (7.4)	8 (7.3)	17 (6.1)
Undecided	0 (-)	0 (-)	0 (-)	0 (-)
Yes	86 (96.6)	79 (92.6)	101 (92.7)	262 (93.9)

Almost 98% of the males who were circumcised (94% urban, 98% roadside centre and 100% rural) supported their sons to be circumcised. However, not all circumcised men were pleased that they were circumcised recalling the pain they endured during the procedure and some perceived the benefits of circumcision as inadequate.

Table 9. Opinion of Women Regarding Male Circumcision

Details	Tarime N=191 (%)	Bukoba Rural n=209 (%)	Ileje N=206 (%)	Total n=606 (%)
Would you prefer to have sex with †				
Circumcised	184 (96.8)	191 (91.4)	162 (79.4)	537 (89.1)
Uncircumcised	2 (1.1)	15 (7.2)	39 (19.1)	56 (9.3)
Undecided	4 (2.1)	3 (1.4)	3 (1.5)	10 (1.7)
Reason for the preference §				
Hygiene	33 (17.3)	28 (13.4)	21 (10.3)	82 (13.6)
Pleasurable	78 (40.8)	75 (35.9)	47 (23.0)	200 (33.1)
Reduce STIs	35 (18.3)	90 (43.1)	96 (47.1)	221 (36.6)
Others reasons	45 (23.6)	16 (7.7)	40 (19.6)	101 (16.7)
Would you like your son to be circumcised? §				
No	11 (5.8)	11 (5.3)	35 (17.2)	57 (9.4)
Undecided	2 (1.1)	0 (-)	7 (3.4)	9 (1.5)
Yes	178 (93.2)	198 (94.7)	162 (79.4)	538 (89.1)
Of those who responded No or Undecided, they were told Circumcision reduces the risk of HIV infection and asked if they would like their son to be circumcised?				
No	13 (100.0)	5 (45.5)	21 (50.0)	39 (59.1)
Undecided	0 (-)	0 (-)	1 (2.4)	1 (1.5)
Yes	0 (-)	6 (54.6)	20 (47.6)	26 (39.4)

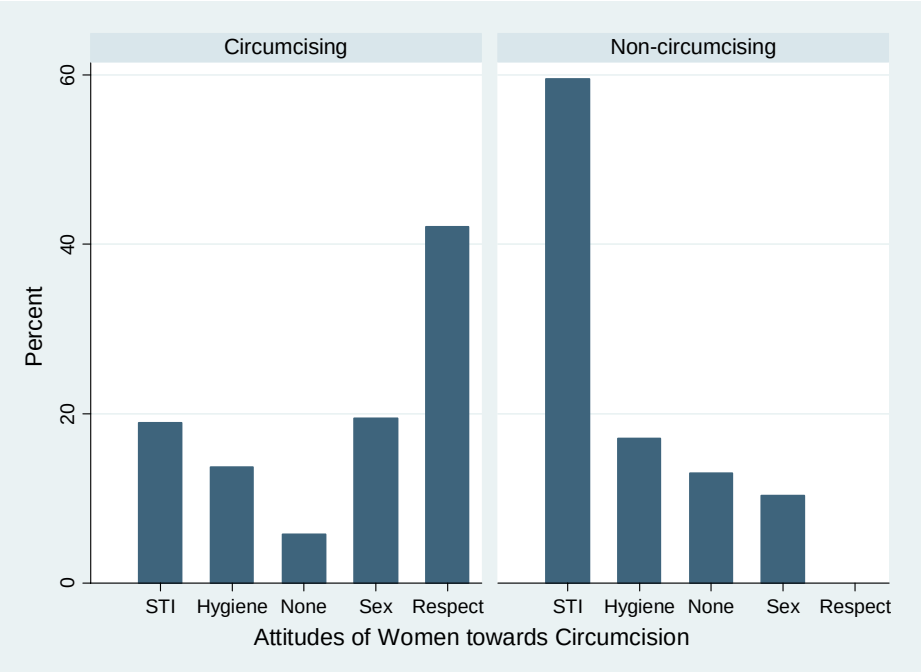
† 3 people (1 Tarime and 2 Ileje) and § 2 people in Ileje District had missing responses

Of the 606 females who were interviewed, 89% preferred sex with a circumcised man compared to a non-circumcised man (97% Tarime, 91% in Bukoba Rural, 79% in Ileje). A circumcised man was preferred because his penis is cleaner (14%), gives pleasure during sex (33%) and is at reduced risk of acquiring STIs (37%). Overall, 89% of the women (93% Tarime, 95% Bukoba Rural, 79% Ileje) interviewed supported their sons to be circumcised (Table 9).

Females were also asked of what they thought about circumcised men. In the analysis, females in non-circumcising population were grouped together and their responses were

compared to the responses of the females in the circumcising population (Figure 6). Majority of the females (41%) in the circumcising population considered circumcised men to be respectable because they are courageous, responsible because they are ready to marry and good follower of tradition or their religion, other females thought circumcised men are at a reduced risk for acquiring STIs and their penis look very attractive, cleaner and give pleasure during sex.

Figure 6: Women's Attitudes towards Male Circumcision



Majority of the females (58%) in the non-circumcising population considered circumcised men to be at a reduced risk for acquiring STIs. Other females thought a circumcised penis is cleaner, attractive and gives pleasure during sex.

4.6 Circumcision Practices in the Study Area

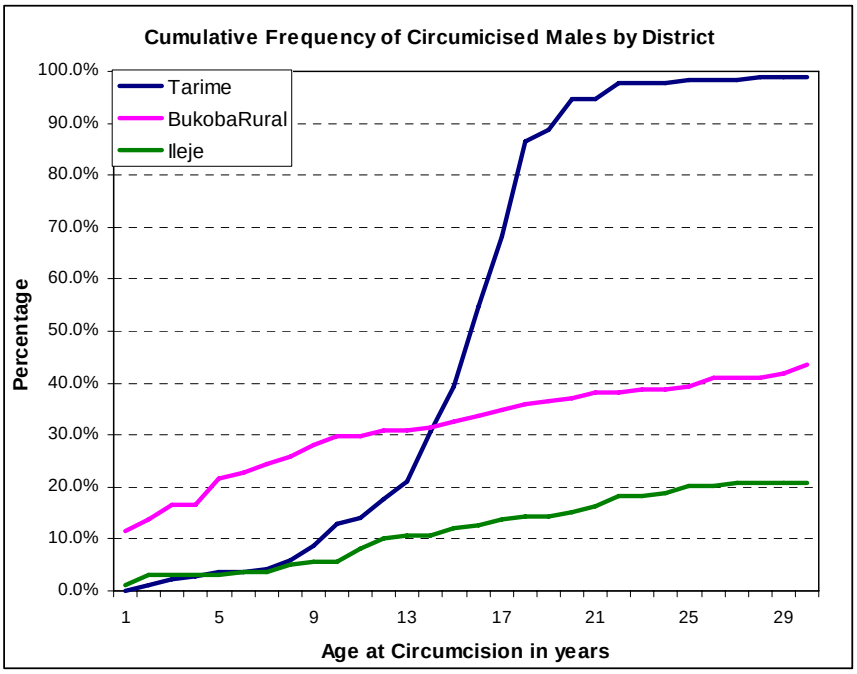
The study communities had contrasting practices regarding circumcision. The age at circumcision, meaning attached to circumcision, service providers and cost for circumcision differed between sites. In Bukoba rural, 22% of all males were circumcised by the time they were 5 years, whilst in Tarime and Ileje districts, only 4% and 3% respectively had been circumcised (Table 10). The early circumcision in Bukoba Rural

unlike other districts was due to the presence of Muslim population in the district. Most males in Tarime district were circumcised in their teenage years.

Table 10. Cumulative Percentage of Age at Circumcision

District	By 5 years	By 15 years	By 18 years
Tarime	3.5%	39.4%	86.5%
Bukoba Rural	21.7%	32.6%	36.0%
Ileje	3.1%	11.9%	14.5%
Total	9.7%	28.4%	46.2%

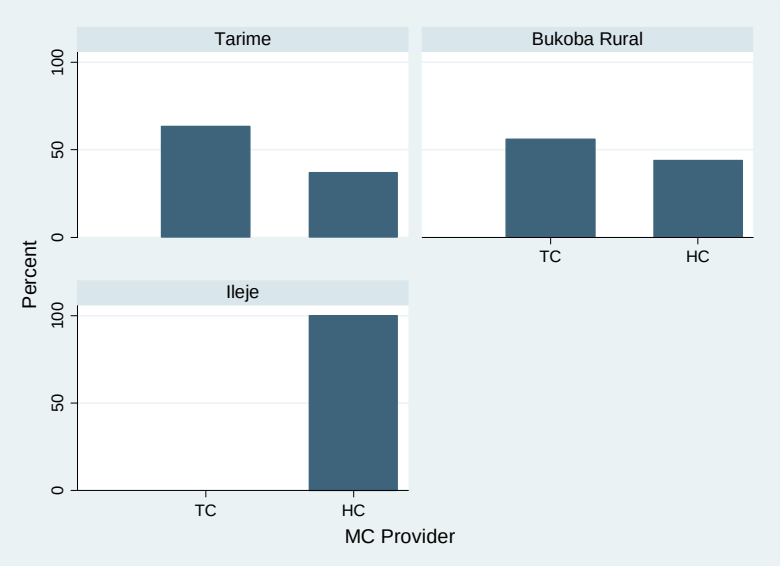
Figure 7: Cumulative Percentage of Age at Circumcision by District



About 87% of those circumcised in Tarime District were circumcised before their 18th birthday unlike in Bokoba and Ileje districts where only 36% and 15% had been circumcised (Figure 7). Circumcision in Tarime district is done as a rite of passage from childhood to manhood. The curve for Ileje district portrays the rate for circumcision among non-circumcising and predominantly Christian population.

Almost 37% of those circumcised in Tarime District, 44% in Bukoba Rural and 100% in Ileje district were circumcised in the health facility by health service providers (Figure 8).

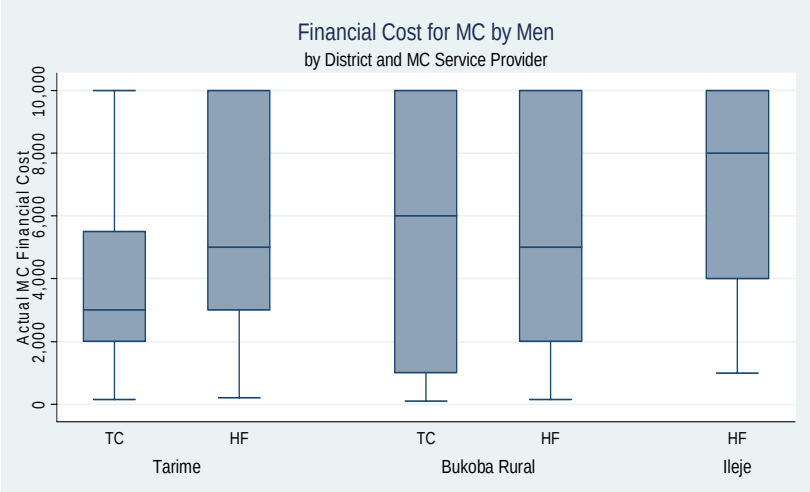
Figure 8: Circumcision by Service Provider and District



4.6.1 Cost for Circumcision

Regarding cost for circumcision (Figure 9), circumcisions done by providers at the health facility were more costly than circumcisions done by traditional circumcisers in Tarime District [Wilcoxon rank sum test = 2.9, P=0.003]. In Bukoba rural District, traditional circumcision service providers tended to charge more than health facility based providers though the difference was not significant due to smaller numbers [Wilcoxon rank sum test = 0.52, P=0.60].

Figure 9: Financial Cost for Circumcision by Service Provider and District



Note: TC =Traditional Circumciser; HF= Health Facility;

4.6.2 Predictors for Higher Costs for Circumcision

Of the 279 males who reported being circumcised, 68 (24%) paid 5000 Tshs or more for the circumcision procedure (Table 11). Age, marital status, tribe and study district significantly predicted males who paid 5000 Tshs or more for circumcision. The likelihood of males paying 5,000 Tshs or more for circumcision decreased with an increasing age (Test for trend of odds χ^2=28.0, P<0.001).

Table 11. Predictors for Higher Costs for Circumcision among Circumcised Men

Factor	Total N=279	Paid ≥ 5000 Tshs N=68 (%)	Crude OR (95% CI) *(P values for heterogeneity)*
Age group			
18-24 years	79 (28.3)	34 (43.0)	1 *(P<0.001)*
25-34 years	117 (41.9)	28 (23.9)	0.42 (0.23-0.77)
35-44 years	83 (29.8)	7 (7.2)	0.10 (0.04-0.26)
Education†			
Primary School	36 (13.0)	10 (27.8)	1 *(P=0.57)*
None or Incomplete Primary	198 (71.2)	45 (22.7)	0.76 (0.34-1.70)
Above Primary School	44 (15.8)	13 (29.6)	1.09 (0.41-2.89)
Marital status †			
Never married	75 (27.0)	32 (42.7)	1 *(P<0.001)*
Married	199 (71.6)	36 (18.1)	0.30 (0.17-0.53)
Separated/Divorced/Widowed	4 (1.4)	0 (-)	-
Religion †			
Christians	227 (81.7)	60 (26.4)	1 *(P=0.18)*
Moslems	43 (15.5)	6 (14.0)	0.45 (0.18-1.12)
Others	8 (2.9)	2 (25.0)	0.92 (0.18-4.72)
Tribe			
Mhaya	71 (25.5)	9 (12.7)	1 *(P=0.041)*
Mkurya	131 (47.0)	35 (26.7)	2.51 (1.13-5.58)
Mndali	22 (7.9)	7 (31.8)	3.21 (1.03-10.03)
Others	55 (19.7)	17 (30.9)	3.08 (1.25-7.60)
Present place of Residence †			
Rural	119 (42.8)	27 (22.7)	1 *(P=0.61)*
Roadside	73 (26.3)	21 (28.8)	1.38 (0.71-2.67)
Urban	86 (30.9)	20 (23.3)	1.03 (0.53-2.00)
District			
Tarime	168 (60.2)	47 (28.0)	1 *(P=0.003)*
Bukoba	78 (28.0)	9 (11.5)	0.34 (0.16-0.73)
Ileje	33 (11.8)	12 (36.4)	1.47 (0.67-3.23)

† 1 male had missing data. § 3 males had missing data. à 2 had missing data. ¶ 5 males had missing data.

Those who paid 5,000 Tshs or more were more likely to be young males aged 18-24 years, never married, belonged to *Kurya* or *Ndali* ethnic groups and more likely to be residents of Tarime or Ileje Districts. Males aged 25-44 years, married or residents of Bukoba Rural District were significantly less likely to pay 5,000 Tshs or more for male circumcision procedure.

Study district confounded the association between paying 5000 Tshs or more for the circumcision procedure and education. After adjusting for the effect of study district, the effect of education on paying 5000 Tshs or more for circumcision remained non-significant (Log likelihood ratio test = 0.5, P=0.77). Males with above primary school education were 1.3 times (95% CI: 0.6 – 2.7) while those with incomplete primary school education were 1.2 times more likely (95% CI: 0.5-2.8) to pay 5000 Tshs or more compared to those with primary school education, adjusted for the effect of district. However, adjusted for education, males in Bukoba rural were 0.35 times less likely (95% CI: 0.26-0.76) and Ileje District were 1.5 times (95% CI: 0.7-3.2) more likely to pay 5000 Tshs or more compared to males in Tarime District.

4.7 The Preferred Male Circumcision Model

A high level of acceptability for circumcision among men and women in both traditionally circumcising and non-circumcising populations was reported in the study area. This section explores the determinants for acceptability for male circumcision in the study area.

Because of the universal acceptability of son's circumcision among the non-circumcising populations across all levels of demographic variables, no significant association was observed between the demographic characteristics and the acceptability of the son's circumcision in the study areas (Table 12).

Table 12. Predictors for Acceptability of Son's Circumcision among the Non Circumcised Men

Factor	Total N=225 (%)	Supports son's MC N=209 (%)	Crude OR (95% CI) *(P values for heterogeneity)*
Age †			
15-24 years	66 (29.5)	60 (90.9)	1 *(P=0.71)*
25-34 years	89 (39.7)	84 (94.4)	1.68 (0.49-5.76)
35-44 years	69 (30.9)	64 (92.8)	1.28 (0.37-4.41)
Education à			
Primary School	173 (77.6)	162 (93.6)	1 *(P=0.69)*
Other levels	50 (22.4)	46 (92.0)	0.78 (0.24-2.57)
Marital status †			
Married	145 (64.7)	136 (93.8)	1 *(P=0.47)*
Others	79 (35.3)	72 (91.1)	0.68 (0.24-1.90)
Religion			
Christians	222 (98.7)	206 (92.8)	1
Others	3 (1.3)	3 (100.0)	-
Tribe			
Mhaya	96 (42.7)	91 (94.9)	1 *(P=0.60)*
Mndali	87 (38.7)	80 (92.0)	0.63 (0.19-2.06)
Others	42 (18.7)	38 (90.5)	0.52 (0.13-2.05)
Place of Residence			
Rural	75 (33.3)	71 (94.7)	1 *(P=0.59)*
Roadside	77 (34.2)	72 (93.5)	0.81 (0.21-3.14)
Urban	73 (32.4)	66 (90.4)	0.53 (0.15-1.90)
Place of Birth à			
Rural	107 (48.0)	100 (93.5)	1 *(P=0.90)*
Roadside	57 (25.6)	53 (93.0)	0.93 (0.26-3.31)
Urban	59 (26.5)	54 (91.5)	0.76 (0.23-2.50)
District à			
Bukoba Rural	97 (43.5)	92 (94.9)	1 *(P=0.30)*
Ileje	126 (56.5)	115 (91.3)	0.57 (0.19-1.69)

† 1 male had missing data. à 2 had missing data. § 3 males had missing data. à 2 had missing data. ¶ 5 males had missing data.

Age and study district were predictors for circumcision among non-circumcised men (Table 13). Acceptability for circumcision decreased with an increasing age group (Test for trend of odds χ^2=8.4, P=0.004). Non-circumcised males aged 35-44 years were significantly less likely to accept circumcision compared to those aged 15-24 years.

Table 13. Predictors for Acceptability for Circumcision among the Non-Circumcised Men

Factor	Total N= 225 (%)	Supports Own MC N=172 (%)	Crude OR (95% CI) *(P values for heterogeneity)*
Age †			
15-24 years	66 (29.5)	56 (84.9)	1 *(P=0.011)*
25-34 years	89 (39.7)	71 (79.8)	0.70 (0.30-1.65)
35-44 years	69 (30.9)	44 (63.8)	0.31 (0.14-0.72)
Education à			
Primary School	173 (77.6)	130 (75.1)	1 *(P=0.30)*
Other levels	50 (22.4)	41 (82.0)	1.51 (0.68-3.35)
Marital status †			
Married	145 (64.7)	104 (71.7)	1 *(P=0.024)*
Others	79 (35.3)	67 (84.8)	2.20 (1.08-4.49)
Religion			
Christians	222 (98.7)	169 (76.1)	1
Others	3 (1.3)	3 (100.0)	-
Tribe			
Mhaya	96 (42.7)	80 (83.3)	1 *(P=0.094)*
Mndali	87 (38.7)	61 (70.1)	0.47 (0.23-0.95)
Others	42 (18.7)	31 (73.8)	0.56 (0.24-1.35)
Place of Residence			
Rural	75 (33.3)	57 (76.0)	1 *(P=0.93)*
Roadside	77 (34.2)	60 (77.9)	1.11 (0.52-2.37)
Urban	73 (32.4)	55 (75.3)	0.96 (0.46-2.04)
Place of Birth à			
Rural	107 (48.0)	80 (74.8)	1 *(P=0.77)*
Roadside	57 (25.6)	44 (77.2)	1.14 (0.54-2.44)
Urban	59 (26.5)	47 (79.7)	1.32 (0.61-2.85)
District à			
Bukoba Rural	97 (43.5)	82 (84.5)	1 *(P=0.019)*
Ileje	126 (56.5)	90 (71.4)	0.46 (0.23-0.90)

† 1 male had missing data. à 2 had missing data. § 3 males had missing data. à 2 had missing data. ¶ 5 males had missing data.

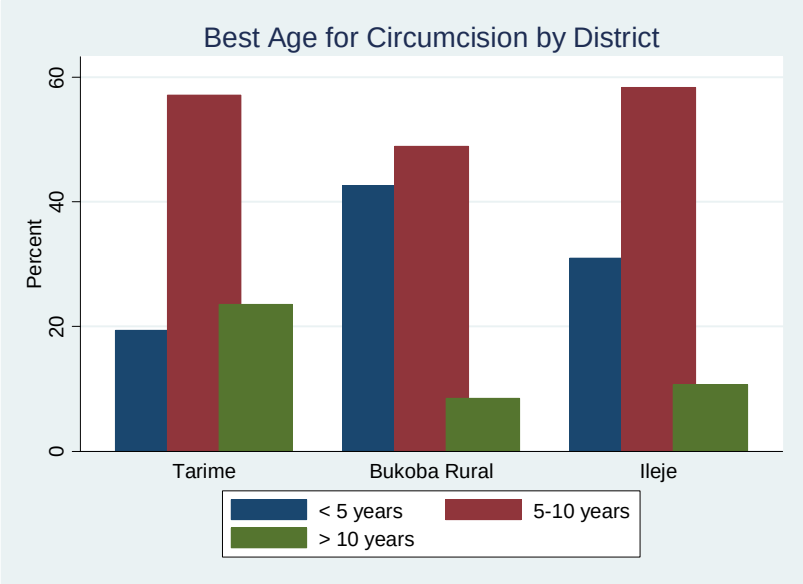
Being unmarried was significantly associated with accepting male circumcision compared to being married. However, this association was confounded by age. After adjusting for age, the significance disappeared (χ^2=0.6, P=0.45). Non-married males were 1.5 times (95% CI: 0.52-4.32) more likely to accept circumcision compared to those who were married.

Non-circumcised males in Ileje District were 54% (95% CI: 10%-77%) less likely to accept circumcision compared to those in Bukoba Rural District.

4.7.1 Preferred Age for Circumcision

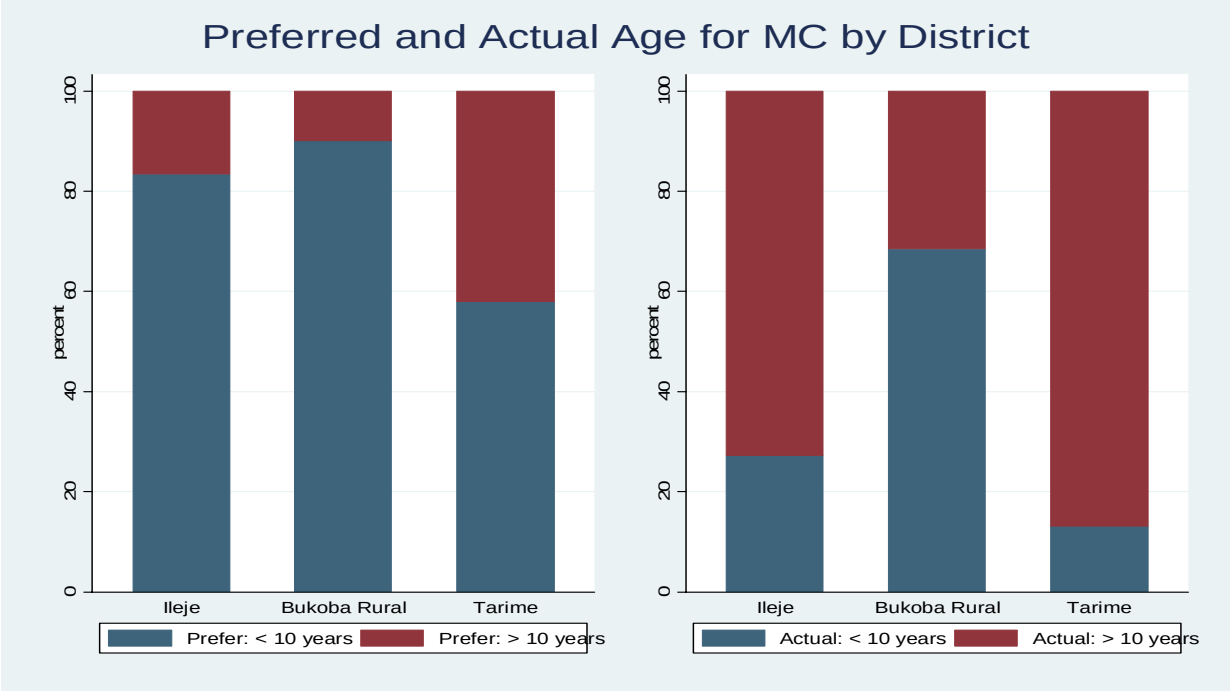
All respondents interviewed preferred males to be circumcised when aged 5-10 years. The age at circumcision preference for males was similar to that of females; therefore Figure 10 presents the preference of both sexes. In Bukoba Rural and Ileje Districts, the next preferred group was children aged less than five years while in Tarime District the proportion preferring males above 10 years was almost similar to those preferring children aged less than five years.

Figure 10: Preferred Age for Circumcision by District



To compare the preferred circumcision model to the existing model, we compared the age at circumcision between the two models (Figure 11). Though most males in the study area preferred to be circumcised when aged less than 10 years because the wound heals faster and prior to sexual debut, males in Tarime and Ileje Districts were mostly circumcised when aged above 10 years. The reason for circumcision in the teen ages in Tarime District was tradition (76%) while in Ileje District was hygiene (72%).

Figure 11: Preferred and Actual Age for Circumcision by District



4.7.2 Preferred Cost for Circumcision

The median preferred fee for circumcision among females and males were 4,000 Tshs and 2,000 Tshs with an inter-quartile range of 10,000 Tshs and 4,000 Tshs, respectively (Table 14). Females in Tarime District were willing to pay more for circumcision than those in Bukoba Rural District while females in Ileje District preferred free circumcision services.

Table 14. Median and Inter-Quartile Range for Cost for Circumcision

Districts	**Median (Inter-quartile range) of the preferred Cost**	
	Male	**Female**
Tarime	4,000 Tshs (IQR =6000) †	8,000 Tshs (IQR=5,000)
Bukoba Rural	2,000 Tshs (IQR=4000)	4,000 Tshs (IQR=5,500)
Ileje	2,000 Tshs (IQR=4500)	Free service (IQR=0)
Total	2,000 Tshs (IQR=4000)	4,000 Tshs (IQR=10,000)

† Actual Cost for Circumcision

Figure 12 compares the amount of money the non-circumcised males are prepared to pay and the amount of money the circumcised males paid by study districts. Males who

were circumcised in Bukoba Rural and Ileje Districts paid more money for the procedure than the amount of money the non-circumcised males were willing to pay.

Figure 12: Preferred and Actual Cost for Circumcision by District

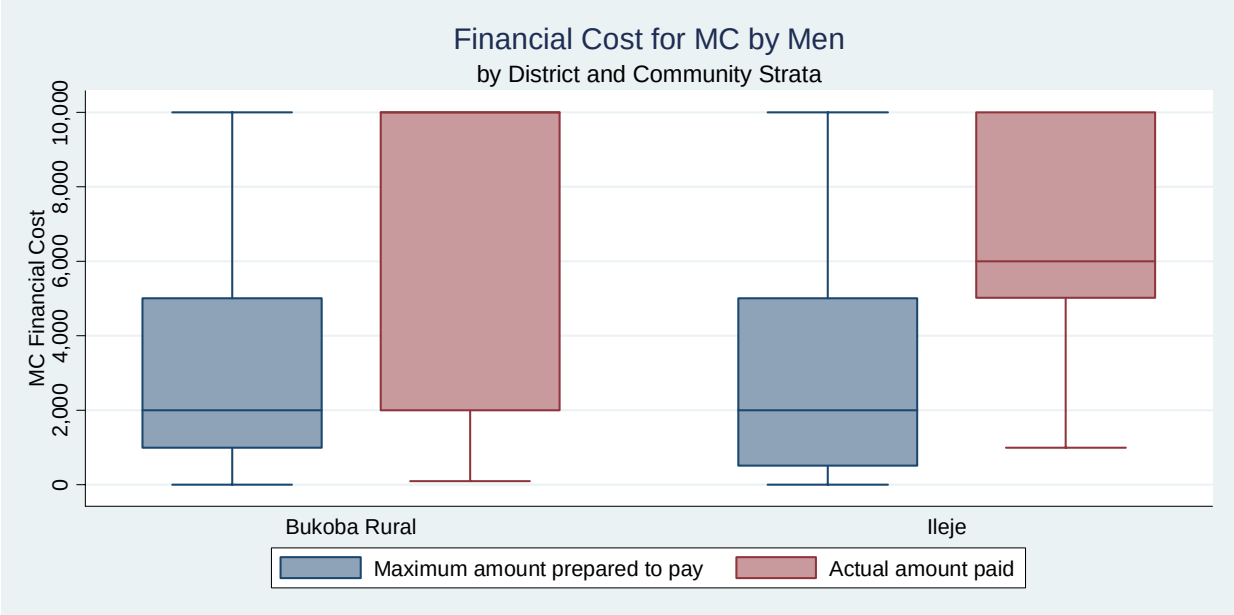


Table 15 assess whether in the non-circumcising communities, males who were willing to pay more than 4,000 Tshs for circumcision have different demographic characteristics compared to those who were willing to pay less than 4,000 Tshs.

Of the 225 males who were not circumcised, 67 (30%) were willing to pay more than 4,000 Tshs for the procedure. Age was significantly associated with the amount of money respondents were willing to pay for circumcision procedure. The willingness to pay more money for circumcision procedure decreased with an increasing age group (Test for trend of odds χ^2=6.8, P=0.009). Non-circumcised males aged 35-44 years were significantly less likely to pay 4000 Tshs or more for circumcision procedure compared to those aged 15-24 years.

Table 15. Predictors for Higher Costs for Circumcision among Non-Circumcised Men

Factor	Total N= 225 (%)	Paid > 4000 Tshs N=67 (%)	Crude OR (95% CI) *(P values for heterogeneity)*
Age †			
15-24 years	66 (29.5)	27 (40.9)	1 *(P=0.032)*
25-34 years	89 (39.7)	26 (29.2)	0.60 (0.30-1.17)
35-44 years	69 (30.9)	14 (20.3)	0.37 (0.17-0.79)
Education à			
Primary School	173 (77.6)	47 (27.2)	1 *(P=0.087)*
Other levels	50 (22.4)	20 (40.0)	1.79 (0.93-3.45)
Marital status †			
Married	145 (64.7)	36 (24.8)	1 *(P=0.041)*
Others	79 (35.3)	30 (38.0)	1.85 (1.03-3.34)
Religion			
Christians	222 (98.7)	66 (29.6)	1 *(P=0.89)*
Others	3 (1.3)	1 (33.3)	1.18 (0.11-13.23)
Tribe			
Mhaya	96 (42.7)	34 (35.1)	1 *(P=0.21)*
Mndali	87 (38.7)	24 (27.6)	0.69 (0.37-1.30)
Others	42 (18.7)	9 (21.4)	0.50 (0.21-1.16)
Place of Residence			
Rural	75 (33.3)	21 (28.0)	1 *(P=0.64)*
Roadside	77 (34.2)	26 (33.8)	1.31 (0.66-2.62)
Urban	73 (32.4)	20 (27.4)	0.97 (0.47-1.99)
Place of Birth à			
Rural	107 (48.0)	33 (30.8)	1 *(P=0.84)*
Roadside	57 (25.6)	18 (31.6)	1.03 (0.52-2.07)
Urban	59 (26.5)	16 (27.1)	0.83 (0.41-1.69)
District à			
Bukoba Rural	97 (43.5)	35 (36.1)	1 *(P=0.085)*
Ileje	126 (56.5)	32 (25.4)	0.60 (0.33-1.07)

† 1 male had missing data. à 2 had missing data. § 3 males had missing data. à 2 had missing data. ¶ 5 males had missing data.

Being unmarried was significantly associated with the willingness to pay more money for the circumcision procedure than being married. However, this association was confounded by age. After adjusting for the effect of age, the significance disappeared (χ^2=0.3, P=0.58). Unmarried males were 1.3 times (95% CI: 0.53-3.10) more likely to pay more money for circumcision procedure compared to married males.

CHAPTER 5

RESULTS FROM THE QUALITATIVE STUDIES

This chapter presents findings from the KIIs and FGDs. The Chapter is structured in four parts. The first part provide the social contextualisation information about the four main ethnic groups in the study areas, the second part details traditional circumcision practices in Tarime District. The third part presents finding from KIIs and the last part findings from FGDs.

5.0 Social Characteristics of the Main Ethnic Groups in the Study Areas

The main ethnic group in Tarime is *Kurya*, while in Bukoba is *Haya* and in Ileje are *Ndali* and *Lambya*. All the four ethnic groups belong to the broad category of Bantu speaking groups though they have varied cultural practices. For example, amongst the *Kurya,* clans are central to their social organisation (Kideghesho 2008) Therefore *Kurya* identity is framed and knitted more closely to the clan than the wider ethnic group. Even in recent times, *Kurya* clan leaders are charged with the responsibility of being custodians of their cultural knowledge and practices. Such cultural practices include male circumcision which is an important rite of passage from adolescence to adulthood.

The *Haya* have a rich and well documented social organisation history along Kingships with an impressive degree of social organisation similar to their *Baganda* and *Nyarwanda* neighbours (Carlson 1993). On the other hand, there has not been equally good documentation of the social organisation and cultural practices of the *Ndali* and *Lambya* unlike other dominant ethnic groups in Mbeya region such as the *Nyiha*, *Safwa* and *Nyakyusa* (for example Kalinga, 1978 and Swilla, 2005). Nevertheless, the *Ndali* and *Lambya* have maintained a distinct identity through the use of their languages *Chindali* and *Chilambya* respectively. Ileje is regarded as the heartland of *Ndali* and is commonly referred as *Bundali (Swilla 2005)* The *Lambya* are thought to have originally come from the *Bukinga* area in the Livingstone Mountains, South East of Tanzania (Kalinga 1978).

There is no documented evidence of traditional male circumcision practices amongst the *Haya*, *Ndali* and *Lambya*. For example, amongst the *Haya*, the male passage from childhood/adolescence into adulthood was symbolically sanctioned by the rulers (*Omukama*) after young males underwent age-set education at the royal palace (*ekikale*) (Carlson 1993). Hence the absence of traditional circumcision practices amongst the *Haya* of Kagera region and *Ndali* and *Lambya* of Ileje correlates with non-circumcising data collected through several National Health Demographic Surveys.

5.1 Traditional Circumcision Practices

Findings from KIIs and FGDs documented *Kurya* and Muslims traditional circumcision practices. These findings are provided in the following narrative. In Bukoba rural, local circumcision is mainly done by Muslim circumcisers (*Ngariba*). Participants reported that Islamic *Ngaribas* in Bukoba rural perform most of the childhood circumcision in the area as they are readily available compared to health workers who might request money upfront. Some participants mentioned Muslim *Ngaribas* by names as the ones performing circumcision in their area. These *ngaribas* are reported not to have undergone any formal training but only using their experience in circumcising. Conversely, other participants said that the traditional *Ngaribas* are taught the skill by sheiks in mosques including how to pray the *dua* for circumcision.

Amongst the circumcising families in Bukoba, general practices include not taking circumcised boys to neighbours to prevent them from seeing the wound and hence causing it to delay healing. Some Muslims reportedly may pray *dua* to speed up healing of their children and others organise a small tea party after the wound of their son has healed and offer a thanksgiving *dua* prayer.

In Tarime District, circumcision is practised by traditional circumcisers (locally known as *Omusari*) as part of maintaining the customs and traditions of the *Kurya* tribe. Circumcisers assume the role after dreaming of their appointment and shown (given) a circumcision knife. After waking up and finding (and picking the knife), the appointed

circumciser lets the clan elders know about his dream and the elders organise a ritual ceremony for the person and thereafter that person is allowed to perform the role.

On the other hand, some participants said that it is the clan elders who dream of the person to perform circumcision for that year. In such a case, the selected person may find circumcision knives placed along the walking path for them. They would then pick the knives and take to the elders for a ritual performance before using them. Some participants reported that it is the clan elders who select the person to become a traditional circumciser and place the knife on the roof of the house and the ones it falls on is selected as a circumciser. From these accounts, it appears that *Kurya* traditional circumcisers are primarily selected by ancestors. The selection is then communicated to them through dreams either personally or through clan elders. Thereafter clan leaders 'confirm' the selection by performing traditional rituals which make it legitimate for the selected person to commence circumcision activities.

Clan leaders (*Wazee wa mila*) are very influential in planning and implementing the whole exercise in close collaboration with traditional circumcisers. *Wazee wa mila* are the ones who decides when, where and whom should be the first to be circumcised. Not anybody can be *Mzee wa mila*. The selection is done by spirits (*mizimu*) and information pertaining to herbs and how to administer them are received through dreams.

Interviews with traditional leaders and traditional male circumcisers revealed that there is no formal training for the job of traditional circumciser. The skills are passed over *(kurithishana*) from one person (generation) to another in a clan. A son or a very close relative (e.g. grandson) of traditional circumciser for instance, who normally accompany him during several circumcision ceremonies come to learn and internalise the tricks of the trade and after some time become competent to perform it independently.

Circumcision takes place in a special location selected for the purpose know as *Kibaga*. These locations are usually far from residential areas (for example it could be near an uninhabited hill or forest) and are prepared for the purpose by the elders performing a ritual on the spot. Circumcision is organised according to the different *Kurya* clans such

as the *Wanchari*, *Wanchoka, Wantibaru, Wanyabasi*, *Wakira* and *Wairege*, and hence each clan has its own *Kibaga*. Circumcision is normally preceded by slaughtering of a cow at the venue and part of the meat is eaten by human beings and part of it is left at the site to be eaten by *mizimu.*

Traditional circumcision ceremonies are held after every two years usually between the months of December and January. These years are ones in even numbers. For example the last circumcision season was in 2008 and the next is expected in 2010.

Before circumcision takes place eight boys are selected by *mizimu* and communicated to *Wazee wa mila* to kick off the exercise. The boys selected together with *Wazee wa mila* and circumciser will have to find out by divine priesting (*kupiga ramli*) whether the exercise will proceed safely by taking a gourd (*Kibuyu*). It is believed that where there is water is a place where the *Wakurya* spirits (*mizimu*) live. The gourd is fully submerged into water. When it resurfaces and it is full of water this means the *mizimu* have been appeased, hence circumcision will proceed as planned. If the gourd comes up empty, then it is interpreted as the spirits are angry and no authorisation is given for circumcision in that particular year.

On the eve of circumcision, the family of the initiates arrange for a festival for their sons depending on their financial ability. On the morning of circumcision day the initiates are taken to the venue of circumcision. The initiates are usually escorted by a young man chosen by his family for the purpose. The escorting person (traditional nurse) is responsible for taking care of the initiate such as bathing him after circumcision and applying tradition medicine on his wound. The initiates stand side by side with their hands holding a shield on the left hand and spear on the right hand with someone standing behind each one. The circumcision rite starts with the circumciser chopping off the foreskin of the first pre-selected initiate with a special knife, then continues with the rest of the initiates. If it happens that during the process you show any signs of fear or agony during the procedure, you will be stigmatised because the procedure tests bravery. The customs reward bravery therefore; neither anaesthesia nor suturing of the wound is done. If an initiate dies during circumcision, he is not buried but thrown from

one bush to another until his body decomposes. There are taboos associated with circumcision. It is a taboo for an initiate to have sex before getting circumcised. It is believed that if he does he will bleed a lot when circumcised which may be fatal.

Money to cover for traditional circumcision costs is prepared in advance. Sheets of cloth for wearing during and after circumcision, hats and pins for the activity are also bought in advance. Circumcisers are paid between TShs. 5,000/= and TShs. 10,000/= per head. The money accrued from this exercise is shared between the circumciser and *Wazee wa mila*. It was reported that local drink (*togwa*) and a cow usually slaughtered for people to consume at the circumcision ceremony at the home of the initiate. Traditional dance known as *Litungu* (involving a *Zeze*) is organised. The dancing group fetches the initiate from the place of circumcision and bring him home in celebration. Parents organise such ceremonies for their sons because they feel happy and good that their son is now circumcised.

5.2 Findings from Key Informants' Interviews

5.2.1 Socio-demographic Characteristics

In this study, 36 key informants were interviewed. Of these; 94% were males, 72% were aged between 40 and 59 years, 89% were married and 58% had diploma, degree and postgraduate degree education. About 83% of informants were Christians and 61% were civil servants. The Kurya, Haya and Nyakyusa constituted almost 49% of the KIs, whereas, slightly more than half (51%) of the KIs belonged to other ethnic groups in Tanzania (Table 25 in Annex).

5.2.2 Relationship between HIV Infection and Circumcision

The KIs were fairly knowledgeable about the relationship between HIV and circumcision. Slightly more than three-quarters 28 (78%) of KIs underscored the relationship between the two. Of those who were aware of the relationship, 4 (14%) went further to quote the magnitude of this relationship and the studies done in Uganda, Kenya and South Africa. More than 50% of the informants underscored the protective effect of circumcision against other STIs.

However, 5 (14%) informants, irrespective of their educational levels categorically stated that they disagreed with the relationship between HIV infection and circumcision. The following two interview excerpts illustrate the disagreement:

> *It is silly to think that there is relationship between the two… once you put your penis in a woman, the fluid from a woman comes into contact with a man, and hence one can get infected with HIV. But circumcision cannot at all prevent HIV.*
> **[A male KI, Bukoba, Kagera]**

> *There is no relationship between HIV and circumcision. There has been circumcision from time in memorial… I was circumcised in 1960 together with my age mates and many other people who later on died of AIDS. I don't see the relationship between the two. On what ground do the researchers base their argument?*
> **[A Male KI, Musoma, Mara]**

Informants also pointed out that the removal of the foreskin maintains hygiene, it may be bruised during sexual intercourse and thus increase the chance of getting infected with HIV and it harbours pathogens for STIs.

5.2.3 Factors influencing Circumcision

The most important factors mentioned by almost all informants 34 (94%) were broadly categorised into 3 groups: those related to culture (herein referred to broadly as a total way of life), health, and religious factors. With regard to culture, almost all informants echoed the adherence to traditional customs as the most important factor which influence people to undergo circumcision in traditionally circumcising communities such as the *Kurya* in Mara region. This view was explicit in all interviews irrespective of their occupation. Circumcision is performed in traditionally circumcising communities as a rite of passage into manhood from time in memorial. Conversely, circumcision was not a common practice in traditionally non-circumcising communities of Kagera and Mbeya because it was not part of their culture. During an interview with one religious leader he remarked:

> *Among the Kurya of Mara region circumcision is undertaken to fulfil traditional customs. Circumcision consists of different stages in manhood and these stages have meanings. The meanings are the factors influencing circumcision. First, circumcision is a transition period which a child boy must undergo into manhood,*

or from childhood into becoming a father. Secondly, circumcision is translated as the period of undertaking responsibilities. That is, a boy is being prepared to undertake family responsibilities as a man. Third, it is the period of undergoing training in traditions and customs of the particular ethnic group. Fourth, it is a period of assuming power, security responsibilities and knowing the secrets of the tribe.
[A Male KI, Musoma, Mara]

Another factor influencing circumcision is social desirability. KIIs revealed that even in traditionally non-circumcising communities, circumcision had become popular due to forces of modernity. Such forces are schooling, religion, modern health care and exposure to other types of civilisations accrued from travelling, migration and intermingling with people from other circumcising ethnic groups. In addition, social desirability may be brought by pressure from peers and lovers. However, this pressure seems to apply more to the younger than older generation who can easily adapt to change.

Other mentioned factors were awareness about circumcision acquired through various channels including mass media; and the availability of facilities providing circumcision services in urban areas, which has made many civil servants to circumcise their children. Another factor mentioned was avoidance of social stigma.

Religion was mentioned to influence circumcision as well. It was reported that both Muslims and Christians are required to be circumcised to adhere to religious purity. Despite having few Muslims in the sample 4 (11%), it was pointed out by many informants, predominantly Christians, from traditionally non-circumcising communities that Islamic faith insists on its believers to be circumcised. A religious leader remarked:

Circumcision is a religious order from our leader Prophet Mohamed S.A.W. who taught us that if you are not circumcised, urine may be retained in the foreskin, and even during religious ablution it is difficult to be thoroughly clean hence you become short of udhu.
[A Male KI, Musoma, Mara]

Medical indications and health were other important factors mentioned. It was reported that children get circumcised on medical grounds in case they suffered from diseases

such as urinary tract infections, preventive and curative of sexually transmitted infections including HIV. Maintenance of penile hygiene was also revealed to be one of the factors influencing circumcision in the study area.

5.2.4 Disadvantages of Male Circumcision

The disadvantages of circumcision fell under the two broad categories: health and culture. With regard to health, a concern was raised if the operation is done in traditional settings where the possibility of sharing instrument without proper sterilisation may lead to acquisition of infections such as tetanus and HIV. Furthermore, if the procedure is done by an incompetent traditional circumciser, there is chance of disfigurement, excessive bleeding, and even deaths. Similar risks were reported in medical settings if the procedure is done by unqualified personnel. A concern was raised by one informant who claimed to have read elsewhere in the literature that circumcision reduces the size of penis by at least one-over sixteenth.

Among the traditionally non-circumcising *Haya,* ancestral spirits enforce non-circumcision. Violation of this custom leads to exclusion from performing traditional rituals. One traditional leader from traditionally non-circumcising community remarked:

> *The Haya spirits (mizimu ya Wahaya) dislike someone who is circumcised. If you force yourself into getting circumcised they will outright harm you, either by beating you up or they may even kill you. According to Haya traditional customs you cannot attend traditional rituals (matambiko) when you are circumcised. If you dare to do that you will outright get harmed.*
> **[A Male KI, Bukoba, Kagera]**.

5.2.5 Stigma associated with Circumcision Status

The majority of informants 33 (92%) reported that there is stigma attached to circumcision status. With regard to stigma related to culture, a good number of interviewees said that being either circumcised or uncircumcised attracts stigma depending on cultural circumcision norms. Stigma is more pronounced for uncircumcised men in traditionally circumcising communities than the other way round. Stigma also manifests itself in name-calling. For instance, uncircumcised men among the *Kurya* are called '*mrisya*' while among Muslims are regarded as a *kafirs* (filthy–those who do not know the ways of God) hence, are not 'real' Muslims. However, there was no mention of

ex-communication from either Christian or Islamic faith for the reason of not being circumcised. Where Islamic faith and non-circumcising culture come together, for instance, in Kagera region, it was reported that circumcision is tolerated.

It was reported that males who are circumcised in health facilities are stigmatised in traditionally circumcising communities (e.g., among the *Kurya*) because they are considered as cowards. They are always regarded as 'not grown ups' hence they find difficult to attract female partners.

Non-circumcision also attract stigma in interactions at public places and institutions. For instance in boarding primary and secondary schools and in public bathing places such as river banks and lake shores.

5.2.6 Increasing the Provision of Facility-based Circumcision

All informants mentioned at least one or more factors to be addressed in order to increase the provision of safe male circumcision services. KIs at the national level particularly those from MOHSW were more detailed and elaborate on their responses compared to other KIs.

The most common factor mentioned was related to availability and allocation of funds and other resources. Informants suggested that the government should budget and ensure adequate fund are available for laying down infrastructure (buildings and accessories); purchase of modern major and minor equipment (vehicles, pairs of scissors and other instruments such as forceps, surgical blades, haemostatic); drugs (anaesthetics, antibiotics, pain killers, eusol solution etc.); supplies (gloves, gauze, cotton wool, sutures and bandage); and provision of adequate qualified staff. Health facilities to be involved should be identified and practitioners trained *apriori*. There should be enough health facilities both private and public from dispensaries, health centres and hospitals providing circumcision services to increase accessibility. It was further stressed that health staff need to be sensitised on the importance of educating people on the advantages and disadvantages of circumcision.

It was suggested that, there is no policy that regulates circumcision services in the health facilities. Circumcision is done through private arrangements between the clientele and the health care providers. Therefore, there is a need to strengthen the entire health care system before scaling up. Politicians have been urged not to rush into sensitizing the public before health care system is ready to absorb the demand.

Furthermore, it was also pointed out that circumcision should be formalized and scale-up should learn from the current practice and experiences to enhance acceptability and sustainability. There was a fear that if it is regarded as a new intervention it may push up the costs. However, the formalization should be done with caution otherwise it may bring conflict of interest to health care providers who are currently earning money from performing the procedure.

In order to increase coverage of circumcision services, it was suggested that infant circumcision should be integrated into reproductive and child health services (RCH) and should be provided free of charge. The suggestion for free circumcision services for other members of the community was also echoed by KIs.

Almost all KIs (many of whom came from organisations related to circumcision) showed willingness to support the scale-up of circumcision services. They are enthusiastic to take part in sensitization and health education campaigns and in performing circumcision procedures if they are asked and empowered. One KI remarked:

> *Our institution will make sure that our community will be sensitised to undergo facility-based circumcision. I will use my position in the Ward and District Council to make sure that circumcision is being performed widely in our hospitals and dispensaries*
> *[**KI, Tarime, Mara**].*

5.2.7 Increasing Demand for Circumcision

A high proportion of informants 32 (89%) suggested a number of issues to be done to increase demand for circumcision. The most common issues were advocacy and mass

education to mobilise people for circumcision services. Other key issues mentioned were availability and affordability of the services.

With regard to education, it was pointed out that advantages and disadvantages of circumcision need to be communicated to the people to raise their levels of knowledge and awareness on the issue. The most common approach mentioned was to educate the people through public meetings and at other gatherings. However, prior to health education campaigns. It was strongly pointed out that this should be preceded by advocacy.

To support advocacy and awareness campaigns, KIs suggested that, influential people should be involved. These would include leaders of political parties, government leaders and civil servants from national to village levels, health staff and religious leaders. Others were influential and respected people in the communities including traditional leaders (such as former chiefs and clan leaders), circumcisers and healers, teachers at primary and secondary schools, peers and parents. All these need to be well informed of the intended campaign through workshops and in turn will use various platforms to mobilise people for increased demand for circumcision. However, one KI re-affirmed his previous call that there is no need of putting a lot of effort into mobilisation campaigns for circumcision other than taking it as a routine procedure and do away with bureaucracy.

Specific messages for community mobilisation for adolescents and adults suggested by KIs were: "Male circumcision reduces the chances of acquiring HIV infection;" "Male circumcision reduces acquiring STIs;" "Male circumcision for health;" and "Circumcision for maintaining body cleanliness." Conversely, specific messages for parents to encourage infant and children circumcision were: "Take your children for circumcision before adolescence to reduce the chance of getting infected with HIV;" "Let us take our children for circumcision earlier;" "Earlier circumcision for a male infant is good for fast healing and keeps them clean." National level KIs underscored the importance of encouraging people to circumcise for civilisation, penile hygiene and reduction of STIs generally but not to create impression that circumcision is done for HIV prevention as it

may mislead people into thinking that circumcision is the sole HIV prevention strategy. It was also stressed that campaign messages should emphasise the importance of partial protective effect of circumcision against HIV infection and should be promoted in combination with other HIV preventive approaches.

It was also pointed out that there is a need to integrate the services of traditional male circumcisers into the health care system due to complications in the traditional circumcision set-up. Nevertheless, conflict of interest may arise if in the course of scaling up circumcision services, traditional providers and clan leaders are not taken on board. Traditional circumcisers receive payments (money and in kind) for circumcision. This payment is shared between traditional circumcisers and clan leaders (*Wazee wa mila*). Furthermore, clan leaders command respect and power; therefore, if the integration would result into loss of income and their respect, then there is a danger of resistance. To avoid the possible conflict of interests, it was proposed that traditional leaders and circumcisers should be involved in scaling-up campaigns of facility-based circumcision from the very beginning. This cannot be done through the didactic top-down approach but through engagement and dialogue.

To increase demand for circumcision services, KIs suggested that the services should be affordable. If the services should be paid for, the amount shouldn't exceed Tshs. 5000/=. However, it was recommended that if possible the services should be provided free by the government due to economic hardships prevailing among Tanzanians particularly those living in rural areas with no reliable sources of income. Alternatively payment in kind (equivalent of proposed amount of money) was also suggested in the form of a bunch of banana, hens, rice, beans, peas, maize, sorghum or potatoes.

5.2.8 Preferred Age for Circumcision

A good proportion of informants 26 (72%) recommended the age at which parents would like to have their children circumcised to be between 1-15 years old whereas the rest 10 (28.0%) recommended less than one year old (infancy). The main reason put forward particularly by KIs from traditionally circumcising communities is the fact that during adolescence it is ample time for a boy to undergo the rite of passage into

adulthood. The reasons put forward by the later category is the fact that at infancy or tender age it is easier for the operation to be performed with less complications and faster healing than for a mature age. In addition, it is easier to care for the infants and there will be no recall of pain and psychological trauma.

5.2.9 Other Services to be provided with Circumcision

Almost half 15 (42%) of KIs suggested that voluntary counselling and testing (VCT) should be one of the services to be provided before circumcision. Health education on HIV and AIDS such as provision of leaflets was also mentioned by one-third 11 (31%) of the KIs. Regarding health education, emphasis was placed on telling those who will be circumcised to continue to adhere to other preventive measures against HIV such as partner reduction and condom use. Other suggested services were providing antiretroviral drugs, life skills, nutrition and wound nursing.

5.3 Focus Group Discussions (FGDs)

5.3.1 Introduction

FGDs are a recommended method for exploring community perceptions or attitudes about health interventions or any other research topics (Kitzinger 1995). In conducting FGDs, researchers facilitate a focussed discussion and debate whereby it is hoped that in the end there would be a consensus on the topic. However, in other instances participants may not reach a consensus on a topic as they may have differing views or experiences. In both scenarios, it is important for the researcher(s) to document the final outcome of the discussion on a particular topic or question as it informs the final analysis. Hence findings from FGDs are usually presented to reflect general views of the groups and not individual participants.

A total of 27 FGDs were conducted in the three districts. All discussions were conducted in Swahili (the National language). In general the discussions were vibrant and interactive as the participants found the topics interesting. However in some FGDs, members did not participate as actively as desired necessitating the facilitators to make special efforts to make sure each participant aired their views.

All FGDs provided very interesting information about circumcision practices and attitudes in study areas. FGDs conducted in Tarime provided more information than those conducted in Bukoba rural and Ileje. This difference may either be due to the fact that participants from Tarime had more information to provide as they are more familiar with circumcision practices especially traditional circumcision. The other reason may be methodological, that is, participants from Tarime probably felt freer to participate in the discussions and were more comfortable with the topic than their counterparts from Bukoba rural and Ileje.

5.3.2 Demographic Characteristics of FGDs Participants

Most FGDs participants are engaged in farming as their main economic activity and had completed primary school education (Table 16). The majority of the participants were Christians though in Bukoba rural district there was a considerable representation of Muslims. The majority of the Christian participants in Bukoba rural were Roman Catholics (52 or 50%) while in Ileje the majority belonged to the Moravian church (29 or 55%). In Tarime, the Christian participants were distributed across the different Christian denominations though a large number were Catholics. The main characteristics of the FGDs participants are summarised in Table16.

Table 16. Main characteristics of FGDs participants in Tarime, Bukoba rural and Ileje districts.

District	Group categories	Number of FGDs	Participants per district	Religion	Ethnic group	Education	Occupation
Tarime (n=10)	Women 18-25 years	3	83	81(98%) Christian	64(77%) Kurya	66(80%) Completed primary school	72(87%) Farmers
	Women 26-44 years	2		2(2%) Muslims			
	Circumcised men 18-25 years	3					
	Circumcised men 26-44 years	2					
Bukoba rural (n=9)	Women 18-25 years	2	83	61 (73%) Christian	79(95%) Haya	79(95%) Completed primary school	66(80%) Farmers
	Women 26-44 years	2		22(27%) Muslims			
	Circumcised men 26-44 years	2					
	Uncircumcised men 18-25 years	1					
	Uncircumcised men 26-44 years	2					
Ileje (n=8)	Women 18-25 years	2	53	53(100%) Christian	32(60%) Ndali	36(68%) Completed primary school	44(83%) Farmers
	Women 26-44 years	2			14(26%) Lambya		
	Uncircumcised men 18-25 years	2					
	Uncircumcised men 26-44 years	2					

5.3.3 Thematic Areas of Findings from FGDs

5.3.3.1 Types of Circumcision and Prevalence

From FGDs, it was found that circumcision is commonly practiced in Tarime, moderately practiced in Bukoba and very rarely practiced in Ileje. Traditional circumcision is the most common type of circumcision practiced in Tarime. Most males in the district (particularly those belonging to the *Kurya* ethnic group) are circumcised traditionally. Health facility circumcision though available and utilised by some residents of Tarime, is not widely preferred by the majority of residents. The majority of FGDs participants in Bukoba reported that in their locality circumcision is mainly done by Muslim families. Participants from uncircumcised males FGDs in Bukoba rural strongly linked circumcision with Islam. They said in their area it is neither a traditional practice.

On the other hand, participants from Ileje reported that traditional or religious based circumcision practice is almost non-existent in their district. For the few who circumcise, they do it at health facilities and it is health workers (of either sex) who perform it.

5.3.3.2 Perceptions of Circumcision and its Association with STIs

The majority of FGDs participants in Tarime and Bukoba rural and a few in Ileje reported that circumcision protects males against STIs including HIV/AIDS. Many participants (in both male and female groups) said that circumcised men are protected against STIs such as syphilis, gonorrhoea and HIV. The same participants also had the view that circumcision protects females who have sex with circumcised males as the foreskin easily harbours STI pathogens. This view was firmly expressed by participants in Tarime and Bukoba rural than Ileje. Furthermore, some participants had the view that circumcised men are protected against genital fungal infections. Male participants from Bukoba rural reported that adult males may also be circumcised as treatment for penile infections which may cause swelling of the foreskin.

Some participants also reported that circumcised men are better protected against STIs as they find it practically easier to put on and use a condom than uncircumcised ones. Some female participants said that they would feel good (as mothers) if their sons were circumcised as they would be protected against STIs and urinary tract infections.

Many FGDs participants in all three sites said circumcision is associated with penile hygiene. Some participants had the view that circumcised men are hygienic in their penises because they do not have the foreskin which keeps dirt (*uchafu*). For example female FGDs participants in Bukoba had the view that circumcised boys are more hygienic and urinate more easily than those uncircumcised. The following excerpt from Bukoba rural highlights how circumcision is perceived positively:

> *For me a circumcised man is not dirty because his semen is not so dirty…he is clean in his private parts…a circumcised man is clean…a circumcised man does not have any problems with ejaculation during sex…he is clean with good health because he is circumcised…when I have sex with him I won't get sexually transmitted diseases easily.*
>
> **[Female FGD aged 26-44 years, Rukuyu Village, Bukoba rural]**

Some FGDs participants associated circumcision with religious completeness or obligation. It was pointed out that amongst Muslims, circumcised men are seen as more complete spiritually. Some Christian participants in Ileje said that circumcision is desirable amongst Christians since even Jesus was circumcised while he was a child. However other participants in Ileje had the view that some people in their area believe that being circumcised is wrong (from a religious point of view) as it is like correcting the work of God who created man with the foreskin. Some FGDs participants in Bukoba said if a Christian is circumcised, he may be perceived as having converted into Islam.

Discussions revealed that among circumcising communities in Tarime and Bukoba, circumcision is associated with respect (*heshima*) from family and community at large. In Tarime circumcised youth are regarded as ready to get married and set up their homestead. Through circumcision they are transformed from being a child to being a grown up '*Mmura*'. They are also able to make decisions in their families and may be given the responsibility of overseeing family cattle and farms. Female participants in Tarime affirmed that a circumcised young man is in conformity with tradition and

customs. In addition, circumcision shows that their sons are ready for marriage. Hence for these reasons, they reported preferring their sons to be circumcised.

Participants outlined several disadvantages of circumcision. In Bukoba rural and Ileje, excessive bleeding which could lead to death was the most commonly cited effect of circumcision. Other participants had the view that it may take long for a circumcision wound to heal and hence cause one not to engage in productive income generating activities during that time. Others mentioned the danger for HIV infection as a disadvantage of traditional circumcision as one knife is used on many people. Some participants also feared that some individuals may become HIV infected even from health facility if the surgical equipment used for circumcision are not safely sterilised. Some participants expressed fear that if the cutting was not done properly, it may lead to disfigurement of the penis. Some had the view that the procedure may be performed wrongly resulting into impotence or sterility.

Some participants associated circumcision with sexual pleasure and performance. For example, the majority of female participants in Tarime and Bukoba perceived circumcised men as better sexual performers. In Ileje some female participants reported that they have not seen/come into contact with a circumcised man and hence could not discuss about the experience of having sex with one.

Furthermore, it was also reported that circumcised men find it easier to have sexual intercourse as they do not have a foreskin which may hinder penetration. Reportedly, they enjoy sexual intercourse more than uncircumcised ones. Some female participants argued that there is a difference between having sex with a circumcised man and uncircumcised man. They said the glans of a circumcised man is softer than that of an un-circumcised man whose foreskin causes pain during sex. Some female participants said that an un-circumcised man may find it difficult to have sex as they are not able to insert their penis into a woman's vagina easily due to the foreskin. On the other hand, some women argued that there is no difference between having sex with a circumcised or uncircumcised man as the pleasure is the same. Uncircumcised males in Bukoba rural

and Ileje overwhelmingly expressed the view that there is no difference in experienced sexual pleasure between circumcised and uncircumcised males.

Stigma and ridicule against uncircumcised men was reported to be more common in Tarime and less common in Bukoba rural and Ileje. In Tarime, uncircumcised men are called *Mrisya* (a derogatory term). It was also pointed out that women who marry uncircumcised men may be ridiculed or stigmatised that they are married to a *Mrisya*. Some participants said that an uncircumcised man may be laughed at by fellow men while bathing at public places such as rivers. Others said that uncircumcised men may feel shy to undress before colleagues. Some female participants in Tarime and Bukoba rural pointed out that circumcised males in their communities find it easier to get female sexual partners than those uncircumcised. Participants in all three sites reported that school going boys may decide to get circumcised after being laughed at in school that they are not circumcised.

5.3.3.3 Awareness of and Attitudes towards Clinical-Based Circumcision

Most participants said they were aware of the availability of Circumcision services at the health facilities in their areas including the district hospitals. For example, in Ileje the majority of respondents said they were aware that circumcision services are available at health facilities in their area such as Isoko mission hospital and Itumba health facility. In other instances, some participants in Bukoba rural reported that circumcision services are not available at their local health facilities but at the distant district hospital in Izimbya. Some complained that the long distances to health facilities result into a few people in their areas opting to go to hospital for circumcision services.

From discussions, it was found that better wound treatment; pain reducing drugs; less blood loss; and anaesthesia make health facility circumcision service attractive in comparison to traditional circumcision.

5.3.3.4 Who Makes Decisions for Circumcision

The majority of participants pointed out that in most instances, parents (in most cases the father) decide whether and when to circumcise their sons depending on their

readiness to organise and pay for the procedure and ceremony. Few others (especially from female discussions) said that both parents may participate in decision making. In women headed households, women may make the decision. In the absence of parents, a relative such as an uncle could make the decision. Some participants reported that it is the young people themselves who decide when they want to circumcise.

Participants from Tarime said that according to *Kurya* customs, when young men achieve the right age they undergo circumcision. There are no formal arrangements for circumcision reported from Bukoba rural and Ileje. In both sites, it was reported that circumcision is organised by parents either through taking their sons to a health facility for circumcision or inviting a health practitioner or (in Bukoba) *Ngariba* at their home to perform the procedure. Some participants (mostly from Ileje) said that other parents are not in favour of circumcising their sons as they see it as a waste of money.

For adult males, it was reported that they decide for themselves if they want to be circumcised and go to the health facilities for the procedure. Adult males may also be convinced by their friends to be circumcised.

5.3.3.5 Age for Circumcision

Across all sites, there were different opinions on the preferred age for circumcision. Participants in the district reported that in *Kurya* traditional circumcision practices, young people are circumcised between the ages 11-19 as that is the age when the young males have matured and capable of taking part in war. This is the age that young people are allowed to make the transition from childhood to adulthood. Also at that age they are judged capable to withstand the pain of traditional circumcision. Some participants said that if circumcision is delayed too much such young people would be stigmatised as *Mrisya*.

Female participants in Bukoba rural generally favoured circumcision of boys between 5-10 years because at that age it is easy to take care of them and make sure they do not disturb the wound. In addition, at that age they do not bleed much during circumcision as their skin has not matured. On the other hand, in one female FGD in Tarime, all

participants had the view that if a boy was circumcised while very young they might be circumcised again when older as they may still be regarded as a *Mrisya*.

In general, participants in Bukoba prefer boys to be circumcised under the age of 1 year as their wounds would heal faster. It was reported that infants take 1 or 2 weeks to heal while adults may take 1 or more months to heal. In Ileje, female and male participants had varied opinions on their preferred age for circumcision. Some said they prefer their sons to be circumcised before they reach 1 year as they would heal quickly because their skin would still be soft. Others preferred circumcision to be done to boys between 1 and 10 years. They prefer the age range because circumcision won't be as painful as if done at a later age. In addition, some participants in Bukoba and Ileje argued that such small boys won't have sexual desires hence they won't feel the urge to have sex before healing. Others preferred males to be circumcised between 10 and 20 years as they would be able to withstand the pain. The following excerpt from Tarime underlines the preference for childhood circumcision by females:

> *I would like my child to be circumcised because if he is circumcised early before puberty he would be protected against sexually transmitted infections such as HIV, syphilis, gonorrhoea and others…also if he is circumcised at an early age the wound will heal easily, also as his mother I will become happy among community members…I would like my son to be circumcised when he is one year old, because it is easier to take care of him …when he is circumcised after puberty he might erect if he sees a girl and get pain which might also delay his healing.*
>
> **[Female FGD aged 18-26 years, Turwa, Tarime]**

Uncircumcised males in Bukoba and Ileje were generally supportive for circumcision. They showed a positive attitude and recommended that boys be circumcised at an early age (below 10 years). However, they showed a more positive attitude towards circumcision at health facilities than the one performed by *Ngaribas*.

5.3.3.6 Costs for Circumcision

In Tarime, facility based circumcision was reported to cost up to Tshs. 10,000 per person. However, many participants in Tarime said people can afford to pay Tshs. 5,000. Others proposed Tshs. 2,000 shillings or equivalent to the price of two bunches

of bananas. Some argued that traditional circumcisers should also charge Tshs. 2,000. Others proposed that the service be given free of charge. Some participants were in favour of the payment in kind (such as goats, cows and a tin of maize).

In Bukoba there was a range of suggestions for affordable circumcision costs. Some female participants said people are able to pay TShs. 3,000 as circumcision costs in health facilities. Some participants pointed out that some people are able to pay 1,000 shillings to traditional circumcisers or one bunch of bananas. The cost of post operative care was quoted to be between 5,000 shillings and 20,000 shillings. Some participants in Bukoba rural recommended that circumcision services be provided free of charge.

In Ileje, some participants reported that circumcision costs between Tshs. 10,000 and Tshs. 15,000 at a mission hospital in their area. Others said that the cost for circumcision starts from Tshs. 3,000 onwards. Participants said the affordable cost for circumcision is between Tshs. 500 (for ordinary people) and Tshs. 5,000 (for workers). Participants in Ileje said that people could obtain money for paying for circumcision after selling their farm produce (such as a tin of maize, beans or groundnuts). Some participants in Ileje suggested that circumcision services should be offered free of charge at health facilities as people could not afford to pay given that they have many other financial commitments. Following is an excerpt from a FGD in Ileje highlighting the perceived high costs for health facility based circumcision:

> *Moreover circumcision needs money, that also prevents people from being cut…in our area health facility costs start from Tshs 3,000 to…Tshs 15,000 currently including treatment costs. For me personally I think the cost is too high and people's incomes are low, that is why you find that in our village people find it difficult to get circumcised… because I cannot go for circumcision for Tshs 15,000 while I am short of money.*
> [Uncircumcised males FGD aged 26-44 years, Katete, Ileje]

5.3.3.7 Proposed Additional Services

Participants in Bukoba and Ileje districts proposed that screening for STIs (including HIV) be provided together with circumcision services at health facilities and those found to be positive offered treatment and ART. Others suggested that circumcised men could be offered transport home after the procedure and given food to help them with

recovery. Some participants proposed that circumcised men given fruits to restore blood lost during circumcision.

CHAPTER 6

RESULTS: HEALTH SERVICES AVAILABILITY

6.1 Introduction

This chapter presents the results from the surveyed health facilities and health practitioners. The findings from health facilities are presented in the first part of the chapter. These include current capacities of the health facilities, future needs and capacities required to enable these facilities to provide safe circumcision services. The second part presents current competence of the health practitioners to deliver safe circumcision services and future needs for increased uptake.

6.2 Health Facility Survey

6.2.1 Description of the Health Facilities

Table 17 provides the description of the health facilities surveyed in the study districts. The health facilities surveyed were mostly dispensaries although all the hospitals and health centres were surveyed. Since most of these facilities were dispensaries, 71% of the facilities served areas with a population of less than 10,000. Overall, two-third of the facilities were owned by the government of Tanzania.

Table 17. Description of the Health Facilities surveyed

Factor	Bukoba Rural n=22 (%)	Ileje n=20(%)	Tarime n=27(%)	Total n=69(%)
Type of health facility				
Hospital	1 (4.5)	2 (10.0)	1 (3.7)	4 (5.8)
Health centre	6 (27.3)	1 (5.0)	8 (29.6)	15 (21.7)
Dispensary	15 (68.2)	17 (85.0)	18 (66.7)	50 (72.5)
Ownership of health facility				
Government	16 (72.7)	17 (85.0)	13 (48.2)	46 (66.7)
Faith-based	4 (18.2)	3 (15.0)	7 (25.9)	14 (20.3)
NGO	1 (4.5)	0 (-)	0 (-)	1 (1.4)
Private	1 (4.5)	0 (-)	7 (25.9)	8 (11.6)
Population of service area				
Less than 10,000 people	15 (68.2)	18 (90.0)	16 (59.3)	49 (71.0)
10,000 or more people	7 (31.8)	2 (10.0)	11 (40.7)	20 (29.0)

Sixty nine out of 93 (74.2%) facilities including district hospitals were visited in 3 districts. These facilities all together had 714 (199 males, 515 females) health practitioners (Figure 13). Of these; 5 (4 males, 1 female) were doctors, 23 (17 males, 6 females) were Assistant Medical Officers (AMO), 88 (68 males, 20 females) were Clinical Officers (CO), 6 were anaesthesiologists (5 males, 1 female), 80 were counsellors (24 males, 56 females) and 54 were nursing officers (15 males, 39 females). Others were 157 enrolled nurses (21 males, 136 females) and 301 medical attendants (45 males, 256 females).

The four hospitals employed 3 doctors, 16 assistant medical officers and 29 clinical officers while the 15 health centres employed 1 doctor, 3 assistant medical officers and 17 clinical officers. The 50 dispensaries had employed 1 doctor, 4 assistant medical officers and 42 clinical officers.

Figure 13: Number of Medical Personnel Working at Health Facilities by Cadre

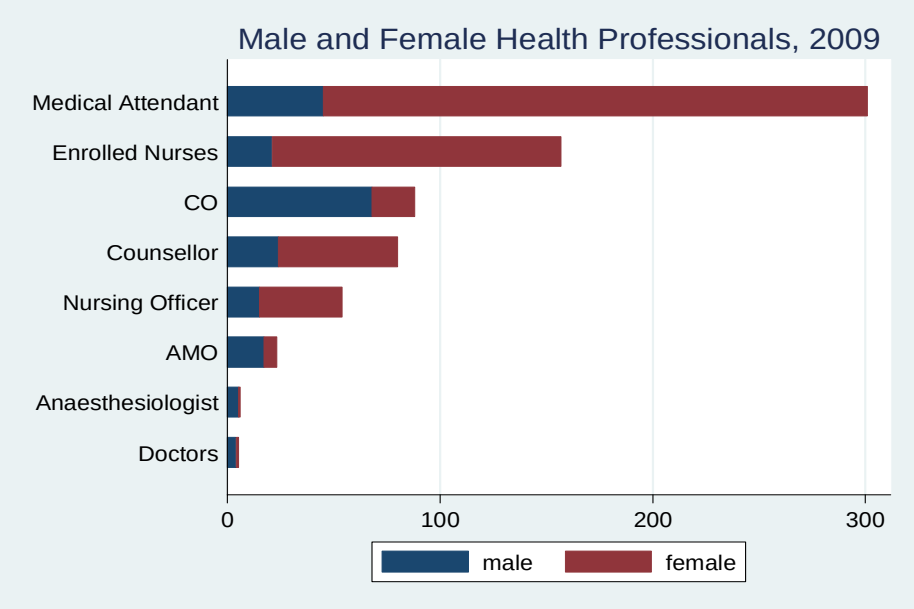


Table 18 presents the workload for staff in the health facilities surveyed. On average a doctor, AMO or CO served 8 people per day if they worked in a hospital, 38 people per day if they worked in a health centre and 25 people per day if they worked in a dispensary. The same staff will serve 21 people per day if they worked in Tarime District, 25 people per day if they worked in Bukoba Rural and 15 people per day if they worked in Ileje dispensary.

Table 18. Work load for Staff in the Health Facilities Surveyed

Factor	Total No of Clients served per day	Average No of Clients per facility per day	Work load per Doctor/AMO/CO per day
Type of health facility			
Hospital	380	95	8
Health centre	791	53	38
Dispensary	1185	24	25
District			
Tarime	1133	42	21
Bukoba Rural	704	32	25
Ileje	519	26	15

6.2.2 Current Capacities of the Health Facilities

Basic facilities required for surgery include the main operating theatres, outpatient operating theatres or procedure rooms, essential surgical equipment and essential emergency equipment. Of the facilities visited, almost 9% had an operating main theatre, 64% had an operating outpatient minor theatre, 91% had operating essential surgical equipment and only 22% had functioning emergency equipment available (Table 19). However, facilities with sterilizing equipment were less than one-third (15% autoclave, 23% pressure cooker) though most facilities were well supplied with facilities needed for basic infection prevention.

Electrical power supply in most of the health facilities was not reliable. Only one-third of the facilities surveyed reported reliable electrical power. Of those with reliable power, almost all facilities relied on the national grid for their supply of power although in Bukoba Rural District, solar energy supplied electrical power to one-fifth of the health facilities surveyed. Less than half of the facilities had adequate water supply. The leading main source of running water was from a captive source and to a lesser extent running water from water authorities.

The STIs and VCT services were available in almost all health facilities surveyed. These services were integrated into the outpatient department. Reproductive and child health services such as ante-natal clinic care (97%), family planning (95%), postnatal services (91%) and services to children aged less than 5 years (91%) were offered in many facilities.

Table 19: Current capacity of the Facilities Surveyed.

Factor	Bukoba Rural n=22 (%)	Ileje n=20 (%)	Tarime n=27 (%)	Total n=69 (%)
Facilities with Basic surgical facilities‡				
Main operating theatres	2 (9.1)	2 (10.0)	2 (7.4)	6 (8.7)
Outpatient minor theatre	15 (68.2)	9 (45.0)	20 (74.1)	44 (63.8)
Essential surgical equipment	21 (95.4)	18 (90.0)	24 (88.9)	63 (91.3)
Essential emergency equipment	7 (31.8)	2 (10.5)	6 (22.2)	15 (22.1)
Facilities with reliable power	9 (40.9)	7 (35.0)	10 (37.0)	26 (37.7)
Facilities with adequate water supply	11 (50.0)	9 (47.4)	13 (48.2)	33 (48.5)
STI services				
STI services dedicated	0 (-)	2 (10.0)	2 (7.4)	4 (5.8)
STI services integrated	22 (100)	16(80.0)	24 (88.9)	62 (89.9)
Counselling and testing for HIV				
Dedicated HIV counselling and testing	9 (40.9)	11(55.0)	11(42.3)	31(45.6)
Intergraded HIV counselling and testing	13 (59.1)	8 (40.0)	23 (88.5)	44 (64.7)
RCH services ‡				
Antenatal care (ANC)	22 (100.0)	18 (90.0)	27 (100.0)	67 (97.1)
Under-five services	20 (90.9)	19 (95.0)	24 (88.9)	63 (91.3)
Family planning services	22 (100.0)	18 (90.0)	23 (85.2)	63 (91.3)
Postnatal services	22 (100.0)	18 (90.0)	20 (95.2)	60 (95.2)
Functioning sterilizing equipment				
Autoclave	4(18.2)	2(10.0)	4(14.8)	10(14.5)
Pressure cooker	3(13.6)	1(5.0)	11(40.7)	15(22.7)
Supplies for basic infection prevention (12 months)				
Chlorine or appropriate decontaminant	21 (91.5)	19 (95.0)	23 (85.2)	63 (91.3)
Plastic bucket for decontamination	22 (100)	19 (95.0)	25 (92.6)	66 (95.7)
Gloves (surgical, examination, cleaning)	22 (100)	20 (100)	27 (100)	69 (100)
Waste disposal	22 (100)	18 (90.0)	26 (96.3)	66 (95.7)
Facilities providing condoms to public	20(90.9)	20(100)	22(84.6)	62(91.2)

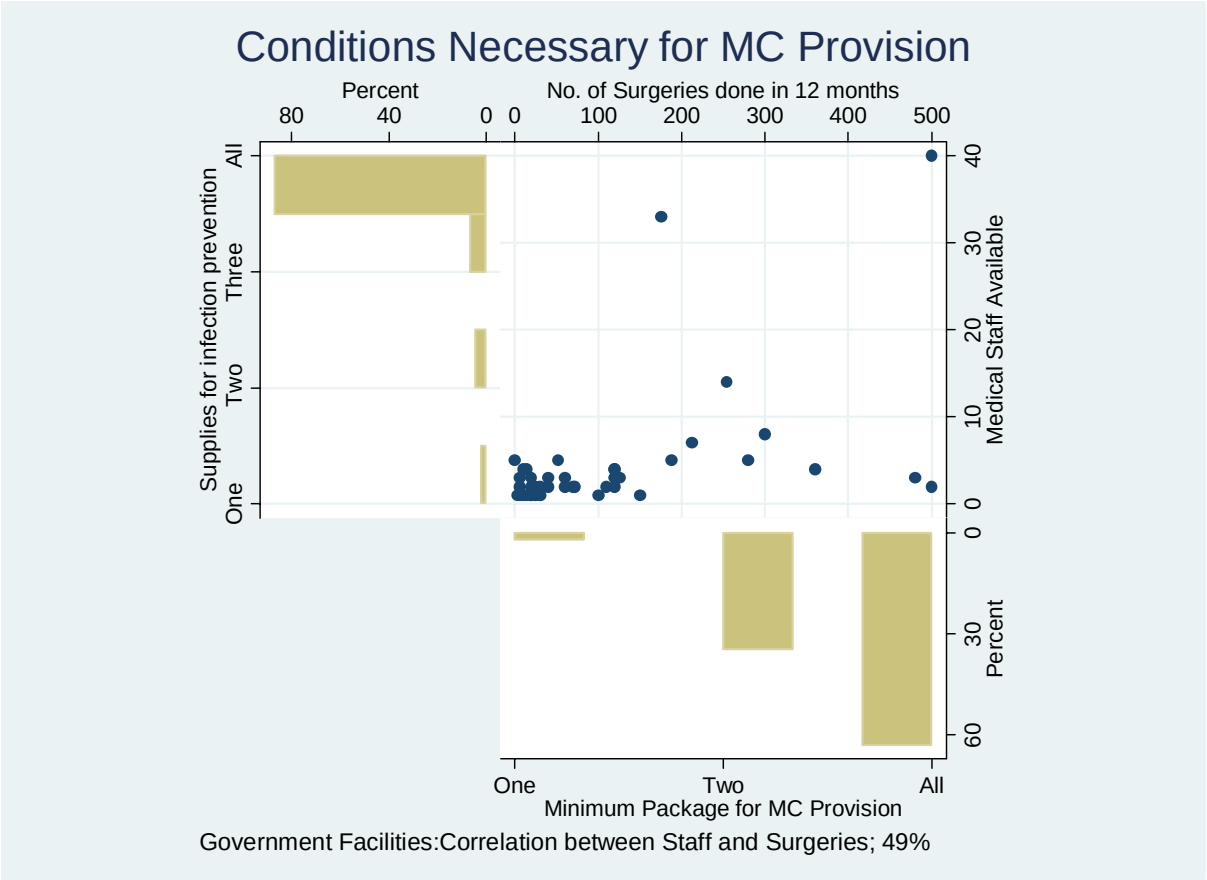
‡ In-charge of Health Facilities selected more than one response

The World Health Organisation (WHO) recommends that only facilities that meet the following minimum conditions should be recommended for male circumcision:

- Facilities that perform at least minor surgery
- Facilities that have an available appropriate equipment for resuscitation
- Facilities with available staff who are willing to be trained
- Facilities which comply with requirements for sterilisation and infection control
- Facilities that are able to provide the minimum package for male circumcision services which include HIV testing and counselling, active screening of symptomatic STIs and syndromic treatment where required, provision of male and female condoms and counselling on risk reduction and safer sex.

To assess the preparedness of the health facilities to provide safe circumcision services, we analysed the performance of government and faith based organisations with respect to the WHO criteria. Figure 14 presents the performance of the government owned facilities with respect to the WHO criteria of selecting facilities for male circumcision.

Figure 14: Conditions Necessary for Provision of Circumcision in Government Owned Facilities

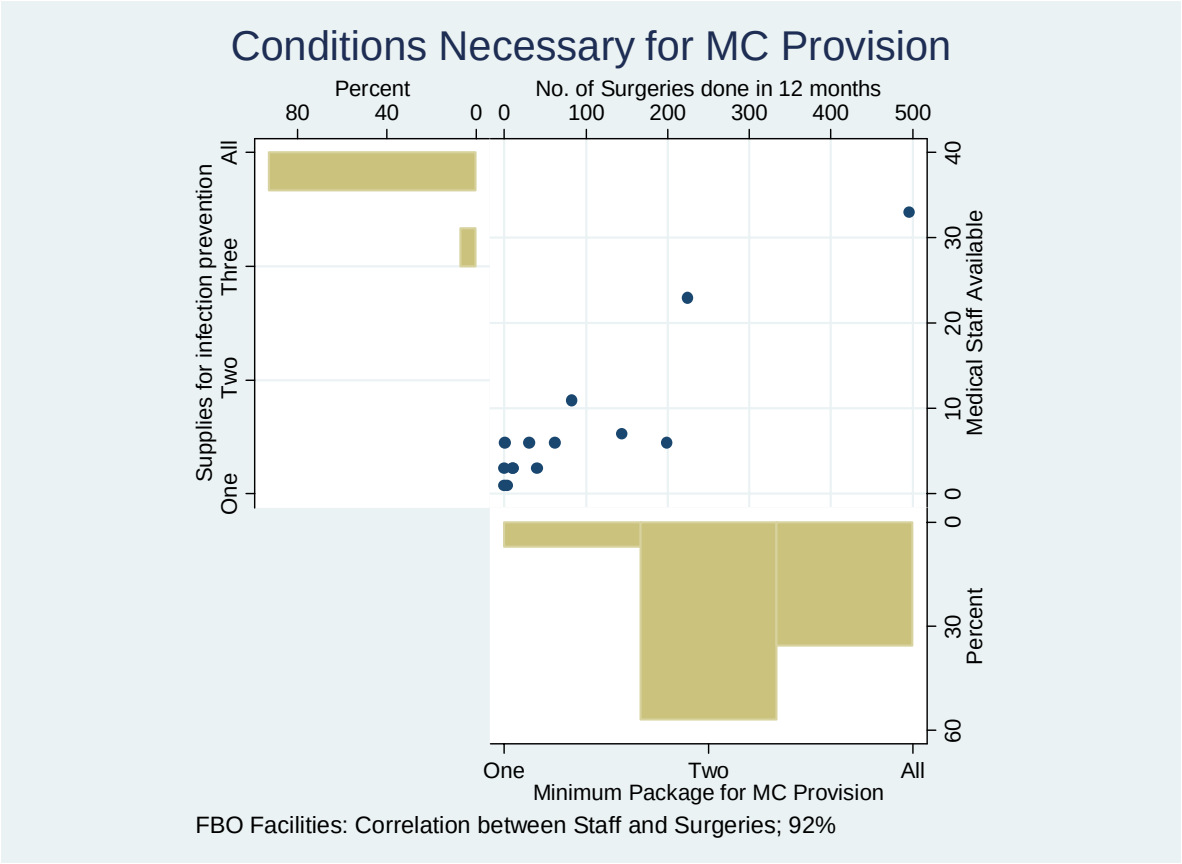


About 80% of the government owned facilities visited had all four essential supplies required for basic infection prevention (left of the graph). These are gloves, basin, chlorine and waste disposal. The lower part of the graph presents government facilities that provided condoms, HIV counselling and testing, and STI services whether dedicated or integrated. Almost 64% of all the facilities visited provided condoms, HIV counselling and testing and STI services to the community. On the right part of the graph, there

was no correlation between the number of skilled staff (excluding medical attendants) available and the number of surgeries done in the last 12 months.

Figure 15 presents the performance of the faith based facilities with respect to the WHO criteria of selecting facilities for circumcision. About 90% of the faith based facilities visited had all four basic supplies (gloves, basin, chlorine and waste disposal) infection prevention (left of the graph).

Figure 15: Conditions necessary for provision of circumcision in Faith-Based facilities



The lower part of the graph presents faith based facilities that provided condoms, HIV counselling and testing, and STI services whether dedicated or integrated. Almost 60% of all the facilities visited provided only HIV counselling and testing and STI services to the community. An addition 30% provided STI management, HIV counselling and testing and condoms. This is due to the fact that some Christian denominations that own these facilities do not support family planning methods. Unlike in government

owned facilities, there was a strong correlation between the number of skilled staff available and the number of surgeries done in the last 12 months.

6.2.3 Facilities Providing Circumcision Services

About 59% of the health facilities surveyed provided male circumcision services (Table 20). More facilities (82%) in Tarime District provided the services compared to facilities in Bukoba Rural (36%) and Ileje (55%) districts. Generally, most health facilities do not record or document circumcision procedures. Of the facilities surveyed, less than one-third reported documenting circumcision procedures. Most circumcision procedures were done either in the outpatient minor theatre or elsewhere, usually in the outpatient department (OPD) room.

Most of the circumcisions in the health facilities were conducted by clinical officers in all study districts. However, in Tarime, even nurses perform circumcision procedures in addition to assistant medical officers and doctors. Assistant medical officers performed circumcision procedures in Ileje and Bukoba Rural Districts as well (Figure 16).

Figure 16: Circumcision Providers in the Study Districts

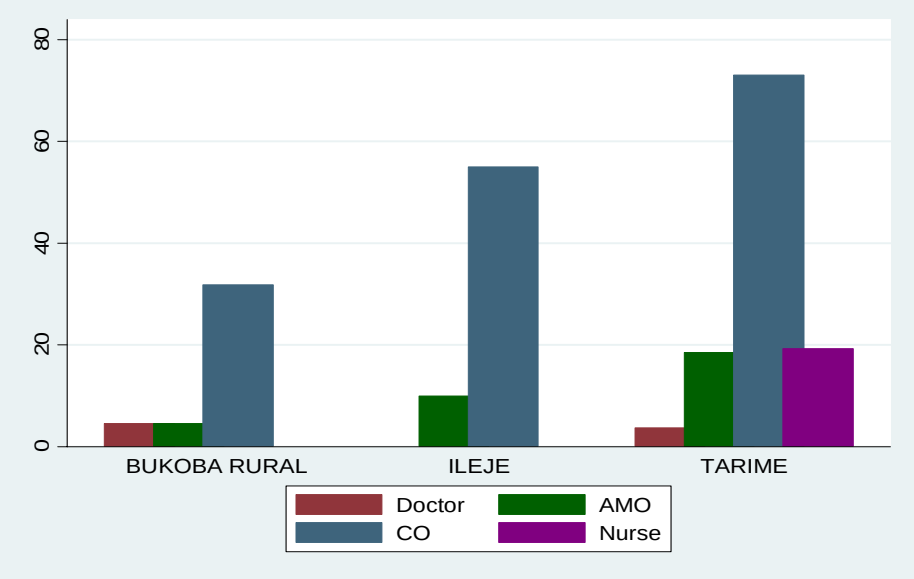


Table 20. Facilities providing male circumcision

Factor	Bukoba Rural n=22(%)	Ileje n=20(%)	Tarime n=27(%)	Total n=69(%)
Facilities providing circumcision services				
No	14 (63.6)	9 (45.0)	5 (18.5)	28 (40.6)
Yes	8 (36.4)	11 (55.0)	22 (81.5)	41 (59.4)
Of those providing circumcision services, Facilities Recording the procedure				
No	6 (75.0)	8 (72.7)	16 (72.7)	30 (73.2)
Yes	2 (25.0)	3 (27.3)	6 (27.3)	11(26.8)
Of those providing circumcision services, Room for circumcision in the facility				
Major theatre	1(14.3)	1(7.1)	1(4.2)	3(7.0)
Minor out-patient theatre	3(42.9)	3(35.7)	15(62.5)	21(48.8)
Elsewhere (OPD Room)	3(42.9)	8(57.1)	8(33.3)	19(44.2)
Of those providing circumcision services, Counselling routinely done on Circumcision				
No	2 (25.0)	0 (-)	3 (13.6)	5 (12.2)
Yes	6 (75.0)	11 (100.0)	19 (86.4)	36 (87.8)
Of the facilities that provided Counselling Type of counselling Circumcision clients receive ǂ				
Pre-procedure counselling on MC procedure	6 (100.0)	10 (90.9)	16 (84.2)	32 (88.9)
Pre-procedure counselling on risks and benefits	6 (100.0)	10 (90.9)	16 (84.2)	32 (88.9)
Counselling about HIV and STI prevention	6 (100.0)	11(100.0)	18 (94.7)	35 (97.2)
Post-procedure counselling about wound care	6 (100.0)	10 (90.9)	19 (100.0)	35 (97.2)
Post-procedure counselling about risk reduction	6 (100.0)	11(100.0)	18 (94.7)	35 (97.2)
Counselling on resumption of sexual activity	5 (83.3)	10 (90.9)	17 (89.5)	32 (88.9)
Counselling on other reproductive health topics	6 (100.0)	10 (90.9)	10 (55.6)	26 (74.3)
Of the facilities that provided Counselling Provider of counselling ǂ				
Clinician	6 (100.0)	11 (100.0)	18 (94.7)	36 (97.2)
Nurse or other assistants	5 (83.3)	5 (45.5)	16 (84.2)	26 (72.2)
A counsellor	5 (83.3)	11 (100.0)	17 (89.5)	33 (91.7)
With promotion of MC, Could this facility provide male circumcision services				
Yes	19 (86.4)	18 (90.0)	26 (96.3)	63 (91.3)
No	2 (9.1)	2 (10.0)	0 (0.0)	4 (5.8)
Uncertain	1 (4.6)	0 (0.0)	1 (3.7)	2 (2.9)

ǂ Heads of the Health Facilities selected more than one response

Of the facilities providing circumcision services, almost 88% reported conducting routinely counselling services for circumcision. Before the procedure is done, facilities offered counselling on the procedure, risks and benefits of circumcision and existing HIV and STI prevention approaches. After the procedure, most facilities also offered counselling on postoperative care, risky sexual behaviour reduction, resumption of sexual activity and on other male reproductive health topics. Clinicians and counsellors performed circumcision counselling most of the time.

Overall, 91% of the health facilities felt that they were capable of providing circumcision services if it would be promoted in their area (Table 21). Almost 96% of the health facilities reported that they would be able to increase the number of circumcisions performed if they had additional equipment and instruments, such as surgical tables, operating instruments, medications, disposable equipment, medicines and supplies and more staff were trained on how to perform the surgery.

When asked what else would be needed to improve circumcision services, the facilities mentioned reliable electrical power, medicines, recruitment and training of staff, surgical protective gear, and availability of the procedure room. Others were sterilizer, surgical bed and adequate water supply. Most of health facilities (84%) suggested that circumcision be included into the National Insurance Fund benefits.

Table 21. Requirements for facilities to provide male circumcision

Factor	Bukoba Rural n=22 (%)	Ileje n=20 (%)	Tarime n=27(%)	Total n=69(%)
Needs of the facilities to provide circumcision				
Equipment and instruments	22 (100.0)	20 (100)	24 (88.9)	66 (95.7)
Medications	19 (86.4)	20 (100)	23 (85.2)	62 (89.9)
Disposable equipment, medicines and supplies	19 (86.4)	19 (95.0)	24 (88.9)	62 (89.9)
Training of staff	22 (100.0)	20 (100)	25 (96.2)	67 (97.1)
Surgical/procedure room	12 (54.5)	16 (80.0)	19 (70.4)	47 (68.1)
Include MC in the National Health Insurance Fund	20 (90.9)	18 (90.0)	20 (74.1)	58 (84.1)

6.3 Health Practitioners Survey

6.3.1 Description of the Study Population

Two hundred and three health practitioners (53 males, 150 females) were interviewed from the 3 study districts. Of these, 56% were from Tarime, 24.6% and 19.7% were from Bukoba Rural and Ileje, respectively. Majority of the respondents were nurses 64% (Table 22).

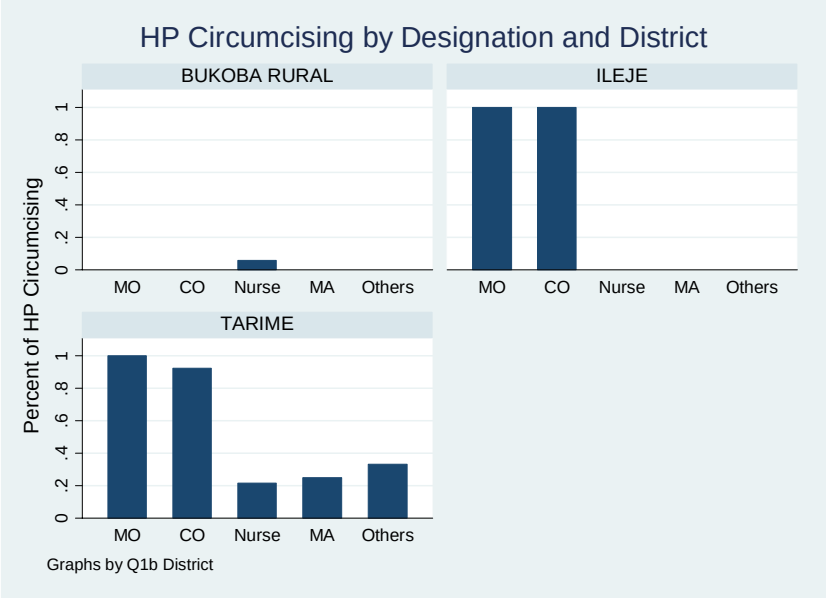
Table 22. Description of Health Practitioners by District

Factor	Tarime N=113 (%)	Bukoba Rural N=50 (%)	Ileje N=40 (%)	Total N=203 (%)
Sex				
Male	39 (34.2)	7 (14.3)	7 (18.9)	53 (26.1)
Female	74 (65.8)	43 (85.7)	33 (82.1)	150 (73.9)
Designation				
Medical Officer	5 (4.6)	0 (-)	1 (2.6)	6 (3.0)
Clinical Officer	13 (11.8)	2 (4.1)	5 (12.8)	20 (10.1)
Nurse	84 (73.6)	34 (67.3)	13 (30.8)	130 (63.6)
Medical attendant	8 (7.3)	12 (24.5)	20 (51.3)	40 (20.2)
Others	3 (2.7)	2 (4.1)	1 (2.6)	6 (3.1)
Work Experience				
<5 years	26 (22.5)	11 (22.4)	4 (10.3)	40 (20.1)
5-10 years	25 (21.6)	7 (14.3)	2 (5.1)	34 (16.6)
11- 20 years	31 (27.9)	13 (26.5)	13 (33.3)	57 (28.6)
>20 years	31 (27.9)	19 (36.7)	20 (51.3)	69 (34.7)
Performed Circumcision				
No	74 (62.3)	49 (98.0)	33 (84.6)	154 (75.9)
Yes	39 (37.7)	1 (2.0)	6 (15.4)	46 (24.1)
MC performed (last 12 month)				
None	66 (60.2)	49 (98.0)	33 (84.6)	146 (74.5)
<10	12 (10.2)	0 (-)	1 (2.6)	12 (6.1)
10-50	12 (10.2)	0 (-)	3 (7.7)	14 (7.1)
>50	23 (19.4)	1 (2.0)	2 (5.1)	24 (12.2)
Male Circumcision assisted				
None	16 (15.0)	16 (32.6)	23 (59.0)	55 (28.2)
<10	22 (20.6)	22 (42.9)	9 (23.1)	52 (26.7)
10-50	37 (34.6)	10 (20.4)	4 (10.3)	51 (26.1)
>50	32 (29.9)	2 (4.1)	3 (7.7)	37 (19.0)

Of those interviewed, 80% had worked in the medical field for more than 5 years. Providers in Ileje and Bukoba had practiced medicine significantly longer than those in Tarime (χ^2 =12.9, P=0.045). Conversely, practitioners in Tarime had significantly performed more circumcisions than those in Ileje and Bukoba Rural (χ^2 =29.11, P<0.001).

In Bukoba Rural, circumcision was mainly done by nurses while in Ileje it was mainly done by medical officers, assistant medical officers and clinical officers. In Tarime, circumcision was done by all health practitioners including medical attendants, lab technicians and anaesthesiologists most of whom had no formal training but learned through observation (refer figure 17).

Figure 17: Circumcision Providers by Designation and District for the Past 12 Month



6.3.2 Complications of Male Circumcision

Complications which have been observed by health practitioners were excessive bleeding, infections, disfigurement and impotence. The three districts differed significantly in terms of magnitude and type of complications observed by health practitioners (χ^2 =57.22, P<0.001). Most of the complications observed were reported by practitioners from Tarime. This could be attributed to traditional circumcision practices (Table 23). Complications have also been reported on clinical based circumcision though of less magnitude compared to traditional circumcisions. In Ileje District, there were no reported cases of complication arising from circumcisions done in clinical setting. This may be because all circumcision procedures were done by medical officers or clinical officers only unlike in Tarime and Bukoba Rural Districts.

Table 23. Complications of Circumcision

Factor	Tarime N= 107 (%)	Bukoba rural N=49 (%)	Ileje N=39 (%)	χ^2 P value
Complication arising elsewhere not from clinical settings ‡				
Excessive bleeding	77 (69.4)	20 (40.8)	0 (-)	57.2 (p<0.001)
Infections	73 (69.4)	23 (46.9)	4 (10.3)	41.2 (p<0.001)
Disfigurement	75 (67.6)	22 (44.9)	4 (10.3)	38.8 (p<0.001)
Impotence	73 (65.8)	23 (46.9)	4 (10.3)	35.9 (p<0.001)
Other	35 (31.5)	2 (4.1)	2 (5.1)	22.7 (p<0.001)
Complication arising from clinical settings ‡				
Excessive bleeding	7 (6.3)	4 (8.2)	0 (-)	3.1 (p=0.216)
Infections	5 (4.5)	4 (8.2)	0 (-)	3.6 (p=0.187)
Disfigurement	5 (4.5)	1 (2.0)	0 (-)	2.2 (p=0.331)
Impotence	5 (4.5)	4 (8.2)	0 (-)	3.4 (P=0.187)
Other	4 (3.6)	1 (2.0)	0 (-)	1.6 (p=0.452)

‡ Health practitioners selected more than one response

6.3.3 Male Circumcision Training and Challenges

Only 50 (25%) of the 203 respondents have received training on circumcision surgical procedures and 41 of those are from Tarime District. Of those trained, 22 (45%) were trained while in college and 55% received training while in service by observing other practitioners.

Overall, 94% of all the practitioners interviewed reported that they will benefit from additional circumcision training. The training required included theoretical, practical and clinical aspects of circumcision, STI diagnosis and treatment, infection prevention and counselling (Table 24).

Major challenges reported by respondents in providing circumcision services to a large number of males in health facilities, were lack of equipment (51%), lack of enough trained practitioners (47%) and inadequate space for circumcision procedures (2%).

In order to increase the uptake of circumcision services, 70% of the practitioners interviewed recommended community sensitization and education on circumcision, 13% recommended training more health service providers to perform safe circumcision

procedures and supplying more surgical equipment and medical supplies to health facilities for circumcision services.

Table 24. Training Levels and Requirements for Increase of Circumcision Uptake

Factors	Tarime N= 113 (%)	Bukoba rural N=50 (%)	Ileje N=40 (%)	Total N=203 (%)
HP who have received training on MC				
No	70 (60.4)	45 (89.8)	36 (89.7)	153 (74.4)
Yes	43 (39.6)	5 (10.2)	4 (10.3)	50 (25.6)
Where they have been trained				
In collage	16 (38.1)	3 (60.4)	3 (75.7)	22 (45.2)
In service	26 (61.9)	2 (40.6)	1 (25.3)	29 (54.8)
Need for additional training				
No	7(6.3)	6 (8.2)	0 (-)	13 (5.5)
Yes	100 (93.7)	44 (91.8)	39 (100)	190 (94.5)
Challenges for increased uptake				
Lack of equipments	56 (53.3)	22 (48.9)	19 (47.5)	97 (51.1)
Lack of trained practitioners	47 (44.8)	21 (46.7)	21 (52.5)	89 (46.8)
Lack of space	2 (1.9)	2 (4.4)	0 (-)	4 (2.1)
What should be done to increase MC uptake				
Equipments	14 (12.4)	5 (10.0)	4 (10.3)	23 (11.4)
Practitioners training	15 (13.3)	7 (14.0)	4 (10.3)	26 (12.9)
Community sensitization	76 (67.3)	35 (70.0)	30 (76.9)	141 (69.8)
Free/low costs	3 (2.7)	3 (6.0)	1 (2.7)	7 (3.5)
Space	5 (4.4)	0 (-)	0 (-)	5 (2.5)

Figure 18: Training of Clinical Providers and Circumcision Service Provision

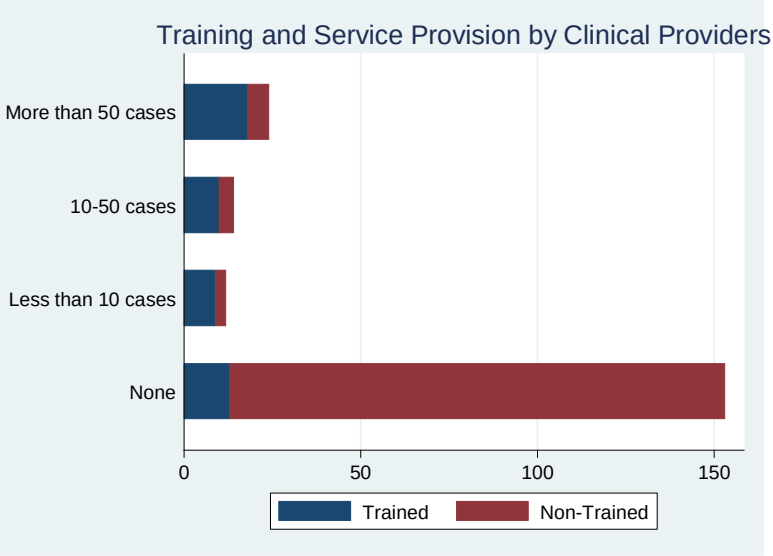


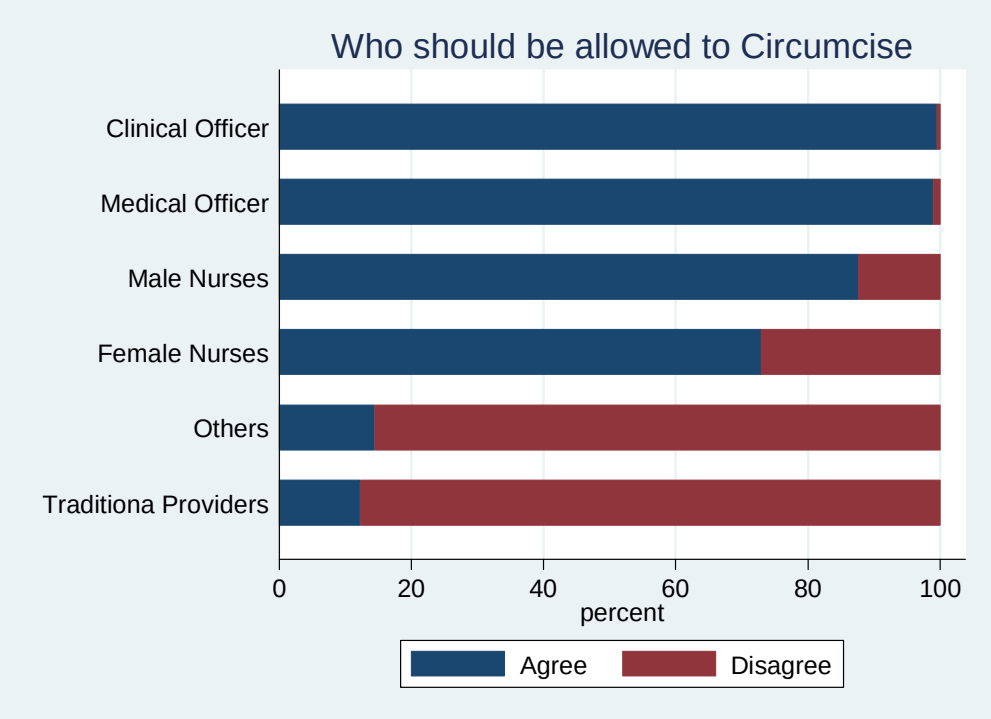
Figure 18 presents health practitioners who performed surgical procedures by circumcision training. Majority of the untrained health practitioners did not perform

circumcision surgical procedures. However, of those who performed, 26% reported to have never received any circumcision surgical training.

6.3.4 Who Should be Allowed to Circumcise

Practitioners were asked who should be allowed to circumcise (Figure 19). Almost all practitioners interviewed supported clinical and medical officers to circumcise. Around 90% supported male nurses while 70% supported female nurses. Almost 90% of all practitioners interviewed were not in favour of allowing traditional circumcisers and other cadres to perform circumcision procedures.

Figure 19: Who should be allowed to circumcise

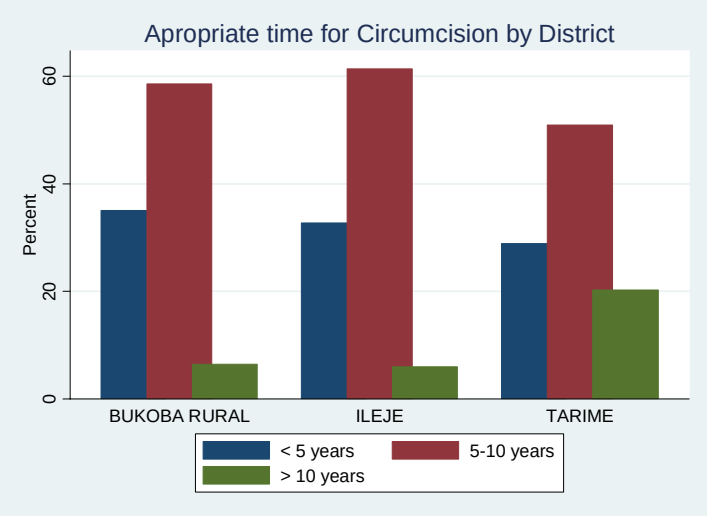


6.3.5 Preferred Age for Circumcision by Health Practitioners

Most practitioners interviewed preferred children aged between 5 and 10 years to be circumcised. Children aged less than 5 years was the next group preferred in Bukoba Rural and Ileje Districts while both groups (above 10 years and children aged less than 5 years) were almost preferred equally in Tarime District (Figure 20). The most common reasons for choosing this age group (5-10 years) were: faster wound healing and easily

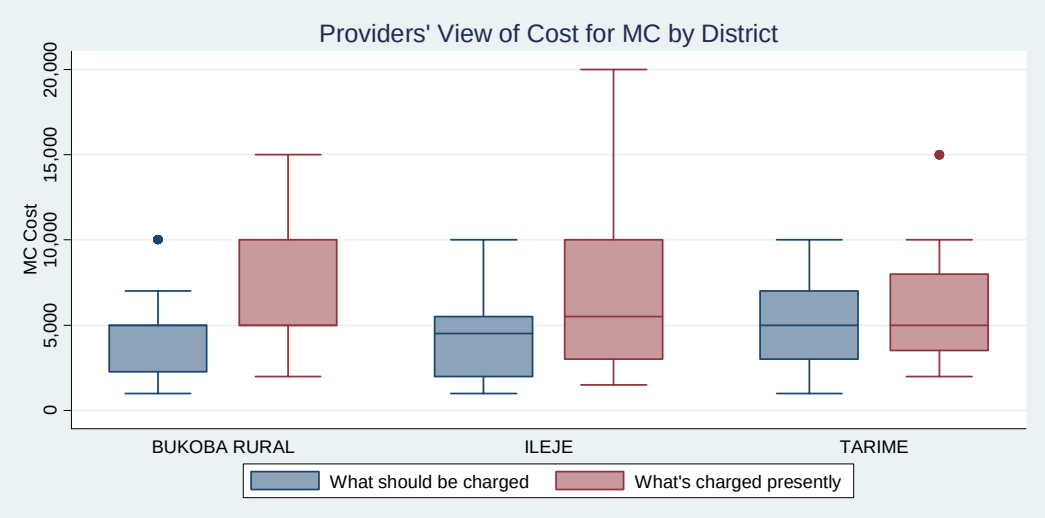
manageable; have not started sexual activities; and it is the appropriate time for educating them on HIV prevention.

Figure 20: Preferred age for circumcision by health practitioners



Practitioners were also asked how much should be charged for clinical based circumcision, most practitioners suggested a median amount of Tshs 5,000 for the procedure. The amount suggested was comparatively similar to the amount of money paid for circumcision services presently (Figure 21).

Figure 21: Providers' View of Cost for Circumcision by District



CHAPTER 7

DISCUSSION

7.1 Design and Methodological Issues

The situation analysis for male circumcision was a cross-sectional, descriptive, integrated quantitative and qualitative study conducted in 2008/2009 to assess the acceptability and feasibility of promoting circumcision as an additional and important strategy for HIV prevention in Tanzania. The study used population survey tools for males and females, qualitative research tools (focus group discussions and key informants' interviews) and service availability tools (health facility survey and health practitioners survey tool) to assess current attitudes and practices related to circumcision in Mara, Kagera and Mbeya Regions. The tools were also used to assess regulatory issues, health systems readiness, and the policy environment prior to the scale up of circumcision as a strategy to prevent HIV. Therefore this study had the benefit of employing several tools to triangulate and cross validate some of the findings.

This design facilitated the collection of necessary information required to scale-up safe circumcision services in Tanzania. However, the main limitations of this design were measurement issues and data deficiencies. The most important measurement issue was related to retrospective measurements of the cost and age for circumcision in traditionally circumcising populations as these could be affected by recall biases. To address this limitation, triangulation of the data was used to validate the information collected. For instance, cost and age for circumcision data was collected from both, the communities and providers (clinical and traditional).

With regards to data inadequacies, providers' skills and competencies to provide safe circumcision services was not observed because males were not circumcised for the entire period the research team was in the study district (20 days per district). However

efforts were made to observe circumcision procedures by regularly contacting (through phones) the health practitioners and the in charge of all health facilities. For this reason, no data on providers' skills and competencies were collected through the performance checklist. Proxy indicators (such as level of training, number of circumcision performed and number of complications) were used to estimate the skills and competencies of the providers.

Furthermore, the data collected may have been affected by the sensitive nature of the topic. For example married female respondents could have found it difficult to talk about their experiences of sexual pleasure with circumcised and uncircumcised males. This limitation was addressed by assuring the respondents of confidentiality and anonymity.

Additionally, the study did not rely on self reporting of circumcision status as this has been demonstrated to be problematic by studies conducted elsewhere due to either social desirability or misunderstanding of questions(Weiss et al. 2008). The circumcision status of male participants was physically ascertained by a physician.

Other studies have shown that non-circumcised males may be stigmatized in some cultural settings and vice versa. Hence this study employed a culturally sensitive approach to minimise social desirability biases. Throughout the research process there was ongoing respect for social values, and dignity of study population and this safeguarded scientific validity and integrity of the study. For example, the group discussions were organised for participants with same sex, same circumcision status and almost same age group.

Furthermore, the interviewers were of the same gender and roughly the same age as the respondents. The interviewers were trained to ensure confidentiality, build rapport, and how to respond when faced with common problematic responses. They were also intensively trained to ensure accuracy and consistency of the data collected. These interviewers' characteristics minimised, but not eliminated, reporting errors.

Whilst, the wide-spread knowledge about the protective nature of circumcision over STIs is a plausible key finding of this research, we have to acknowledge the potential for bias through the way we introduced our research to the participants. As part of the introduction of FGDs, the facilitators informed the participants that studies have established that circumcision reduces the risk for HIV infection between 50-60% prior to commencing the discussions. This introduction may have biased the participants' responses to the question on whether there is a relationship between circumcision and HIV/AIDS[2]. Nevertheless, in our analysis, we strived to move beyond the potential for bias by examining the participants' narratives about the association between circumcision and HIV/AIDS when they were discussing other topics apart from that specific one (for example reasons for circumcision).

7.2 Reasons for Male Circumcision

Circumcision is renowned as one of the oldest surgical procedures in the world (Mavundla et al. 2009) Over the years it has been practiced by a range of ethnic groups for various reasons. For example in sub-Sahara Africa, it has been practiced as a traditional ritual for ushering male adolescents into adulthood. It is documented that traditional circumcision practices have changed over time as some ethnic groups have adopted it while others (such as the Zulu of South Africa) have dropped it from their cultural practices (Marck 1997)

In this study, the main reasons for circumcision were penile hygiene, protection from STIs, tradition and religious reasons (for Muslims). This is consistent with findings

[2] In the participatory, learning and action approaches (PLA) the exchange of information between researchers and participants is encouraged. PLA research tools (such as FGDs) integrate data collection with support for mobilisation around relevant issues, facilitating exchange of knowledge between researchers and participants. In this approach, researchers solicit information from participants in the first part of the discussions and in the second part pass on the information they wish to provide to participants. This strategy prevents potential bias which may be introduced by providing detailed information about the topic of investigation prior to commencing the discussions. For an example of how the PLA approach may be applied in FGDs conducted in a rural Africa setting see ***Mshana, G. H., J. Wamoyi, J. Busza, B. Zaba, J. Changalucha, S. Kaluvya, and M. Urassa***. *2006. Barriers to accessing antiretroviral therapy in Kisesa, Tanzania: a qualitative study of early rural referrals to the national program.* ***AIDS Patient Care STDS*** *20:649-57*.

reported in other studies conducted in sub-Saharan Africa (Bailey et al. 2002, Mavundla et al. 2009). Circumcision was most common in traditionally circumcising Tarime district, moderately practised in Bukoba rural and rarely practised in Ileje.

Community perceptions that circumcision protects against STIs has also been reported by other studies conducted in Tanzania (Barongo et al. 1994, Nnko et al. 2001, Urassa et al. 1997). Circumcision has increasingly become popular among traditionally non-circumcising communities (Bailey et al. 2002, Nnko et al. 2001, Weiss et al. 2008).

Further evidence from studies conducted in several parts of Africa show that in contemporary times circumcision has become more of a personal decision than it is done for ethnic or religious preference (Bailey et al. 2002, Nnko et al. 2001). Non-religious circumcision has also increased due to cultural mixing and perceived health benefits (Nnko et al. 2001, Peltzer and Kanta 2009).

7.3 Existing Model for Circumcision

In all three districts, study participants had basic understanding of what circumcision is, and could distinguish between circumcision conducted at health facilities and that done by either traditional or local circumcision service providers.

7.3.1 Traditional Circumcision

Almost 51% of circumcisions in the study area were performed by traditional circumcision service provider as a mark for cultural identity or religious purification among the Moslems. Traditional circumcisions generally took place outside the formal medical settings and were performed by providers with only informal training on circumcision procedures.

Traditional circumcision for cultural identity is usually associated with a traditional ceremony. During this ceremony, monetary and non-monetary gifts are presented by the community to the initiate. In addition to the respect bestowed upon the initiates after circumcision, the gifts also motivate young males to undergo the process. Age for circumcision varied with the meaning attached to the procedure, initiates circumcised for

religious reasons tended to be young (less than 10 years of age) and residents of Bukoba Rural District while initiates for cultural identity tended to be in teen ages and residents of Tarime District.

For circumcision done for cultural reasons, the actual cutting of the foreskin while a pivotal moment in the circumcision ceremony is a small component of the whole process. The actual cutting is done without prior administration of anaesthesia to demonstrate bravery and manhood which confirms that the initiate is ready and worthy to become an adult member of the community. The experience of pain is an important aspect of traditional male circumcision carrying significant symbolic meaning. Circumcision initiates are expected to demonstrate the ability to withstand the pain of circumcision which is framed as a demonstration of bravery and courage which are important attributes of male adulthood in those communities.

For both *Kurya* and *Xhosa* communities the non-expression of pain during traditional circumcision is a 'test' which initiates have to undergo and 'pass' in order to be entrusted with family and communal responsibilities. In Tarime, study participants spoke of the need for young men to demonstrate their readiness to become community warriors and defenders of family and community property by undergoing the traditional circumcision process. As in the case of the *Kurya*, *Xhosa* boys are only allowed to marry, own property and speak at public gatherings after circumcision (Mavundla et al. 2009, Peltzer and Kanta 2009, Vincent 2008).

The preference for traditional over health facility circumcision was expressed by FGDs participants in Tarime than in other research sites. This attitude has also been reported by other study conducted among traditionally circumcising groups in Africa. In a study conducted among *Xhosa* initiates of South Africa, the majority (70%) felt that they could be stigmatised as a result of opting for medical rather than traditional circumcision (Peltzer and Kanta 2009). Among the *Xhosa*, ridiculing and stigmatisation of uncircumcised males or those circumcised in hospital is common (Vincent 2008).

Social pressure for circumcision is likely to be experienced by adolescents in traditionally circumcising communities than those which don't. In this study, young uncircumcised males in Tarime were labelled *Mrisya* which is a derogatory term. Similarly, among the *Xhosa* such pressure results to some young males presenting themselves to initiation schools without the knowledge or consent of parents (Vincent 2008). Secondary school pupils coming from non-circumcising communities experience peer pressure from other pupils coming from circumcising communities (Nnko et al. 2001).

Circumcision among the *Kurya* is conducted in a clan designated area known as *Kibaga*. Circumcision initiates are escorted by a male who is responsible for taking care of them (aiding in wound care, bathing etc.). These functions performed by the *Kurya* 'traditional nurse' are similar to the ones performed by the *Xhosa* 'traditional nurses' (Mavundla et al. 2009). In contrast to *Kurya* circumcision rite where there are no elaborate stages, *Xhosa* circumcision initiation into manhood involves three stages which are separation, transition and integration (Mavundla et al. 2009).

Considering practices associated with traditional circumcision, most initiates may prefer traditional over clinical based circumcision. However, this study shows that 38% of those circumcised in Tarime district were circumcised in health facilities. Moreover, about 60% of males interviewed in Tarime preferred their sons to be circumcised in the health facility. This is a positive attitude towards health facility based circumcision and could be used to promote behaviour change from traditional circumcision practices.

Respondents from traditionally non-circumcising communities mentioned pain, excessive bleeding, disfigurement, infections, impotence, and fear of stigma. Studies conducted among traditionally non-circumcising communities elsewhere in Africa generally show willingness to adopt and practice of circumcision for other reasons than traditional. For example, in a study conducted in Nyanza province in Kenya, four barriers to circumcision were identified. These were cultural identification, fear of pain, excessive bleeding and perceived high costs for health facility treatment (Bailey et al. 2002). In that study, cultural identification with non-circumcision was strongly reported by the majority of *Luo* participants who are the main ethnic group in the area. , Bailey and colleagues (2002)

concluded that a shift of cultural practices amongst the *Luo* was possible as illustrated by the non-popularity of front teeth removal, which was an important cultural identity of the *Luo*.

From the available evidence both traditionally circumcising and non circumcising communities preserve their culture, however culture is dynamic and revolutionary and is subject to change. Hence there is a window of opportunity to increase uptake of health facility based circumcision if culturally sensitive approaches are employed.

7.3.2 Health Facility Based Circumcision

Almost 43% of circumcisions in the study area were performed by clinical providers mostly in formal medical settings. However, 26% of these providers have never been trained on male circumcision. Therefore, it is important that the policy in Tanzania defines the minimum quality of care to be provided to males who accepts circumcision services in clinical settings. As the services are rolled out, the quality of care provided should be measured to determine whether the standards are being met and quality improvement methodology should be used to continuously improve the quality of circumcision care and services (WHO 2007).

WHO (WHO 2007) recommends that facilities where minor surgeries are performed; have available equipment for resuscitation; where staff are available and willing to be trained; and where sterilization and infection control compliance exist be selected to provide safe circumcision services. In this study, some facilities visited had sterilization equipment and basic infection prevention facilities, staff were willing to be trained and most facilities had basic surgical equipments. This suggests that the readiness is there, for the roll out of circumcision services, however, more practitioners need to be trained and more facilities equipped.

Moreover, there was strong correlation between number of surgeries done in the last 12 months and the number of staff available in facilities owned by faith based organisation. This was not the case with government owned facilities. This lack of correlation may either be due to lack of staff motivation or inaccurate documentation of surgeries done.

Considering the number of providers in the health facilities surveyed and service recipients, the health care workers are over-stretched. This finding is consistent with those from the Bureau of statistics survey of 2006 where in most parts of Tanzania one doctor serves 10,000 people (National Bureau of Statistics (NBS) and Macro International Inc. 2007). At the national level, the health workforce, for example, is reported to have been declining over the years by 28% from 67,600 in 1994/95 to 48,500 in 2001/02 and by further 10% to 43,650 in 2005/06[3]. In 2002, the key cadre of health care workers including nurses, clinical officers, and laboratory technicians was reported to be at 50% or less of the agreed staffing levels in 1999[4] although the level was slightly above 60% among the doctors. Although efforts have been made in recruiting and training health care workers (for instance in this survey, more clinical officers were seen at the dispensary level more than reported by NBS in 2006), this area still remains a major challenge.

Therefore, where appropriate, we recommend tasks to be delegated to less specialized health workers (task shifting) or to be shared with these less specialised workers (task sharing). By reorganizing the workforce in this way, task shifting presents a viable solution for improving health care coverage by making more efficient use of the human resources already available and by quickly increasing capacity while training and retention programmes are expanded. This will also prevent the circumcision programs from siphoning off workers from other services.

The successful use of less specialized health workers (e.g., nurses and clinical officers) to perform more complex clinical and surgical procedures is well-documented in various countries (WHO 2007). Experience has also shown that appropriately trained non-physician providers can safely conduct procedures such as Caesarean sections, mini-laparotomy under local anaesthesia for female sterilization, no-scalpel vasectomy, repair of simple obstetric fistula, manual vacuum aspiration, and a variety of other surgical procedures (WHO 2007). Specifically, it has been successfully demonstrated that well

[3] NMSF Human and Financial Assessment Report. AM Kireria & D Ngowi. TACAIDS. March 2007.
[4] Wyss, K. (2004), Human Resources for Health Development for Scaling up ARVs in Tanzania. WHO/Swiss Tropical Institute

trained staff (including clinical officers) can be used to perform circumcision (Bailey et al. 2007). Thus, in order to scale up the availability of male circumcision services, it is recommended that Tanzania should identify non-physician providers (like clinical officers and nurses) that can be trained to perform this procedure.

7.3.3 Integration of Traditional and Facility Based Circumcision Services

There were several important differences between traditional and clinical circumcision procedures in the study areas. These include variations in counselling provided to the initiates before and after the procedure, overall context for and the meaning of the procedure, service providers and how they are recruited and trained, and the equipments used for the procedure. However, there was no evidence that traditional circumcision involved only a small cut to the foreskin or partial removal of the prepuce compared to clinical circumcisions although this is well documented practice in other cultures that practise traditional circumcision (Mboera et al. 2009). Only 6 of 239 (2.5%) males who reported being circumcised and were assessed by the clinician were found to be partially circumcised. Of these only one was circumcised by traditional providers, five were circumcised by clinical providers.

While it is not known exactly how much foreskin must be removed in order to reduce the risk of HIV infection in men, the three randomised controlled trials that demonstrated the protective effect of male circumcision removed sufficient foreskin that the glans remained fully exposed even on a non-erect penis (Patterson et al. 2002). Thus, the practice of partial removal of the foreskin may help explain why some cultures that practice traditional male circumcision still have high rates of HIV prevalence (Urassa et al. 1997). In order to maximise the benefits of male circumcision for HIV prevention, it is recommended that all clinical providers even those experienced in performing circumcision procedures should be provided with additional training on circumcision.

Despite these important differences in traditional and clinical based circumcision procedures, there are many ways that clinical and traditional circumcision services can work together in traditionally circumcising populations. Traditional and clinical providers can collaborate to improve the safety and acceptability of circumcision, reduce complications, enhance the health education content of civic education and rituals, and

improve the sexual and reproductive health of men and women, while preserving the socio-cultural importance of the circumcision process.

Involvement of community leaders may facilitate uptake of health facility based circumcision in traditionally circumcising communities such as the *Kurya*. In the South African Eastern Cape region, there is combination both clinical and traditional based circumcision, that is traditional circumcision and initiation into manhood; and medical circumcision followed by traditional initiation into manhood (Peltzer and Kanta 2009). The involvement of traditional circumcisers and clan leaders in Tanzania could facilitate a similar scenario whereby initiates undergo health facility circumcision and subsequently are trained in initiation schools. Other examples of such collaboration include:

- Training traditional providers in anatomy, aseptic technique, control of blood loss and wound closure;
- Ensuring supply of necessary instruments and dressings to reduce complications from circumcision;
- Cooperating on the information provided and training given to initiates to maximise good health outcomes for the participants and their current or future partners and family members;
- Ensuring a smooth and rapid transfer to, or intervention by, clinical services if a medical complication associated with the circumcision arises;
- Developing models by which clinical and traditional providers can cooperate and share responsibility for the tasks involved in the circumcision process, while respecting the different skills that each contributes; and
- Understanding more about the cultural and social significance of circumcisions performed by traditional providers according to the setting and age of the initiate.

However this will need very strong advocacy involving both health care worker and traditional leaders and circumcisers. For if we want the health service providers to be available in the event of complications from tradition circumcision, they will have to accept traditional circumcisers to perform the procedure. Most respondents of the

service utility tools were of the opinion that traditional circumcisers should not be allowed. Moreover, if circumcision is done in health facilities, there must be a buy in from traditional leaders and circumcisers; they will certainly lose income and respect. Furthermore a strong advocacy will be needed in order to ensure that health facility based circumcision is acceptable in traditionally circumcising communities. Our study findings indicate that those who circumcise in health facilities are stigmatised and may find it hard to be accepted as adults or to find sexual partners.

7.4 Age for circumcision

From our study, the majority of participants from Tarime were circumcised during adolescence while infant circumcision was more common in Bukoba rural. However, most respondents indicated that they would prefer circumcision to be done during childhood. These findings may be a reflection of the current trends for circumcision in the background population in these areas whereby adolescence circumcision is more common in traditionally circumcising *Kurya* while infant circumcision is common among the *Haya* Muslim population in Bukoba rural.

Female participants specifically those in Bukoba preferred infant circumcision as it ensured them (as mothers) of the opportunity to take care of their children until they were properly healed. Some participants favoured infant circumcision due to perceived low risk for adverse events such as excessive bleeding and wound infection. On the other hand proponents of adolescent circumcision felt that it was culturally appropriate and that at such age the boys could sustain the pain of circumcision.

Infant circumcision has some additional benefits: the operation is simpler with fewer complications; it is less painful, less expensive, and requires no stitches; keratin has ample time to develop; the wound heals faster and there is a lessened incidence of urinary tract infections (Wiswell and Hachey 1993). Moreover, circumcision in childhood will provide the required HIV protection by the time they become sexually active. Nevertheless, there is a caution that minors cannot consent to the procedure. Considering the risk /benefit ratio, we recommend infant and child circumcision to parents who assent to the procedure. Thus circumcision services should be integrated

into Reproductive and Child Health (RCH) services as they are widely available even in rural areas.

7.5 Cost and affordability

Males in the community suggested that circumcision services should be provided for a user fee amounting to Tshs. 2,000 while women in Tarime and Bukoba Rural District suggested at least Tshs. 4000 while women in Ileje suggested free circumcision services. Health care providers on the other hand suggested a fee amounting to Tshs 5000.

Data in this study has shown that if the cost for procedure was set at Tshs. 4,000 per person, only 30% of the males in non-circumcising population will be willing to be circumcised. These tend to be young males aged 15-24 years, mostly never married and with above primary school education. However, as the cost for circumcision procedure is reduced to Tshs 1000 per person, circumcision becomes more generalised. We recommend free services for circumcision procedure as other studies have shown that there is a difference between the 'willingness to pay' and 'ability to pay' by service users (Muela, Mushi, and Ribera 2000).

7.6 Policy and Implementation Environment

Findings from this study show that there is support from the village to national level for introducing a national circumcision programme. Enabling policy and regulatory environment is crucial for scaling up circumcision services. For provision of circumcision services, it is not necessary that a new dedicated policy should be formulated as the introduction of new policies is often a time consuming process.

Existing policies could be revised to incorporate both traditional and clinical based circumcision services. For instance traditional circumcision could be incorporated into Traditional and Alternative Medicine Act of 2002 and health facility based circumcision into The National HIV/AIDS Policy of 2002. The integration should be done in a way that ensures services are widely available, accessible, and affordable.

7.7 Mobilisation at Different Levels of Society

Health education and advocacy are important in promoting the demand for circumcision. A multi-sectoral approach involving all government, ministries departments and agencies should be used to promote circumcision services. Politicians could be an important target for advocacy efforts, whether or not formal legal and policy changes are required, to try to ensure that the issue of circumcision, which could be controversial, does not become unnecessarily politicised.

In the area of civil society, a broad range of representatives from traditional, religious, ethnic and other influential groups, at the national and the local or community levels, are very important constituents and targets for education and advocacy efforts. More importantly, targeting journalists and media representatives would be important both to support advocacy efforts and to prevent misrepresentation of circumcision in the media. The potential for misconceptions and misinformation is great, and there are issues of stigmatisation and discrimination that may require advocacy and social change communication efforts to prevent or address.

Health staff and administrators are also targets for advocacy. Those who would provide services should become advocates themselves, but the influence of other health personnel and administrators shouldn't be underestimated. They can be either advocate or become obstacles, therefore it is critical to provide them with appropriate information and motivation for them to become advocates. They can influence clients and also influence decisions about use of facilities, allocation of funds, etc.

Regarding messages that would encourage circumcision among males of all age groups in the community, the most common messages reported emphasised that circumcision reduces the chances of getting infected with HIV. It can be argued that people need to understand that circumcision only reduces the risk of HIV infection and does not give complete protection against the virus. Circumcised men can still become HIV-infected, and if HIV-positive, can still infect their sexual partners. Incorrect perceptions of protection may lead to an increase in risk behaviours, including a reduction in condom use. Men may use their circumcision status as a reason for not using condoms, while

women may be less inclined to insist on condom use if their male partners are circumcised.

It is therefore essential that circumcision does not replace other known and effective means of reducing HIV infection, such as abstinence, risk reduction and correct and consistent use of male or female condoms. It should be emphasized that circumcision is only one of several HIV infection risk reduction methods. There is a real danger that men who have been circumcised in order to reduce their chances of becoming infected with HIV will consider themselves completely protected and forgo other ways of reducing their risk.

Association of circumcision and Islamic faith may be a factor inhibiting its uptake among predominantly Christian populations of traditionally non-circumcising communities. Our findings show that these fears were reported by some participants in rural Bukoba and not in the other two research sites. The association of circumcision with conversion to Islam has also been reported as a significant factor for low uptake of circumcision in Uganda (Bailey et al. 2002). Hence community messages addressing these fears may be appropriate in areas with similar characteristics as Bukoba rural.

Perceived negative effects of circumcision on sexual pleasure should also be addressed. From a study conducted in Uganda, it was demonstrated that circumcision did not negatively affect the sexual satisfaction of males. In that study, participants were asked to compare their experiences of sexual pleasure before and after circumcision (Kigozi et al. 2008). In that study, the majority of female participants reported either no change or improved sexual satisfaction after their partner's circumcision(Kigozi et al. 2008). It is important to point out that sexual satisfaction is subjective and may be determined or affected by relationship issues between partners. Hence issues of sexual satisfaction or meaningful sex are subjective constructs which require detailed analytical studies.

Considering all these factors circumcision should be promoted as a male sexual health issue rather solely as HIV infection prevention approach. HIV prevention should be

promoted as additional benefit. If associated with HIV prevention the uptake of circumcision will be affected by ones perceived risk.

CHAPTER 8

CONCLUSIONS AND RECOMMENDATIONS

From this situational analysis study, it appears that circumcision will be acceptable by communities in Tanzania with similar characteristics like those in Tarime, Bukoba rural and Ileje. These findings are encouraging given that there have been fears that circumcision may not be readily acceptable among traditionally non-circumcising communities. However, it seems that non-circumcising communities are more likely to accept health facility based circumcision than the traditionally circumcising communities.

There are reports of complications and deaths during traditional circumcision activities. Health facility workers in the study sites manage many complications resulting from traditional circumcision. Therefore another engagement strategy might be to organise health workers within the proximity of the traditional circumcision camps to provide outreach services for managing adverse effects and immediate complications from traditional circumcision. Since circumcision seasons in these communities are known (e.g. after every two years in Tarime), it is possible to organise and coordinate these activities with the clan leaders and traditional circumcisers before hand.

Circumcision should always be considered as part of comprehensive HIV prevention package. Advocacy will play a crucial role from the very early outset of any programme to introduce or scale–up circumcision, building support for key decisions, encourage high level leadership, and building broad-based support for circumcision activities. The need for advocacy will continue, overlapping with aspects of social change communication, throughout the process of scaling-up services.

In all three districts, respondents suggested a uniform circumcision model in which children (aged less than 10 years) are to be circumcised in the health facilities for a user fee. The fee was suggested to be Tshs 2000 by males and Tshs 4,000 by females

though females in Ileje districts suggested free circumcision services. Based on these findings, policy for circumcision in Tanzania should consider the following for effective male circumcision programming:

- Circumcision should be rolled out for males of all ages in a culturally sensitive way and in a clinically safe setting. Services should be provided to all males who demand services and programs should also target adolescents, men at high risk of HIV infection and infants/children in Reproductive and Child Health units.

- The circumcision programme in Tanzania should start with areas where the prevalence of circumcision is low and the prevalence of HIV infection is high. Moreover rural areas should given priority because the prevalence of circumcision is low and HIV prevalence is still increased while it has stabilised in most urban areas. Meanwhile the government should develop a model to be tested and utilised in traditionally circumcising populations that ensures not only that circumcision is performed safely in these areas but also guarantees the participation of clan leaders and traditional service providers. Traditional circumcisers can play a key role in re-educating their communities as they are very useful advisers whom people look up to, so they can be taught to advise the young initiates on safe sex and other healthy practices.

- In order to limit resistance to the circumcision programme, social mobilisation exercises would precede the rollout, with community members being trained to educate their peers on the benefits of circumcision. For instance, people would need to know that, circumcision does not in any way guarantee a full protection from HIV infection. The social mobilisation should also be used as an entry point for education about the traditional ABC - Abstinence, Be faithful and use a Condom - prevention strategy, as well as an avenue for promoting voluntary counselling and testing.

- Health facilities will be need to be strengthened particularly in areas of
    - Training more practitioners on circumcision procedures thus providing enough health staff to meet the demand. Health staff should also be trained on forecasting, procurement and data management.

- Providing enough equipments, supplies and medication for circumcision services.
- Staff motivation should also be taken into consideration.

- Male circumcision should be provided for free for children aged less than 10 years and it should either be free or adults pay a user fee of at most Tshs 2,000 for the procedure.

- Cost effectiveness is an important factor for sustainability of the programme. Strategy and operational plan for national implementation and scale-up is essential. As the country gets ready to scale-up the implementation of circumcision services, a sound national strategy and operational plan is essential tool for decision-makers, managers and collaborating partners, both as a guide and as an advocacy tool. This national strategy will guide the implementation. Based on the situation analysis, given the policy and regulatory framework, this is the critical stage for setting strategic directions, doing the necessary costing and resource mobilisation, and developing a concrete operational plan for achieving desired results.

Issues that need detailed studies:

- There is need to collect detailed information on traditional and religious based circumcision practices in a wider geographical area of Tanzania, attitudes towards adolescence and infancy circumcision in other traditionally circumcising communities in Tanzania.
- Can the clan leaders and traditional providers play the role of counsellors while all the circumcision procedures are conducted in the health facilities?
- Neonatal male circumcision should be studied further (e.g. what is the best procedure for neonates between circumcision rings and cutting; whether health workers have adequate skills to perform either of the two procedures) etc. These issues and others could be investigated in the neonate pilot projects.

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ANNEXES

Table 25. Socio-demographic characteristics of key informants

Sex	
Male	34
Female	2
Age groups	
30-39	4
40-49	9
50-59	17
60-69	3
70-79	3
Marital status	
Single	2
Married	32
Widow	2
Education	
Primary (IV-VIII)	9
Secondary (O-level)	6
Diploma	6
Graduate	6
Postgraduate	9
Religion	
Catholics	11
Other Christians	19
Moslems	4
Traditional	2
Tribe	
Kurya	6
Haya	7
Nyakyusa	4
Other	19
Occupation	
Civil servants	22
Religious service	3
Civil society services	6
Traditional healers	1
Peasants	4

MAIN QUESTIONNAIRE FOR MALES

All eligible males are to be interviewed using this form.

"Thank you for agreeing to help us with our survey. My name is **[insert your name].** I work for the **National Institute for Medical Research (NIMR)**. We are talking to men and women in an effort to find out more about male circumcision. Your contribution will be of great importance to us.

The interview will last about [**insert a tested time for Swahili interviews**].

There are no right or wrong answers to the questions; we would just like to learn about your personal thoughts and attitudes. If you don't understand a question, please tell me, and you can add further information at any stage.

Your answers will, of course, be kept confidential. Your personal responses will be seen by only a very few of my colleagues and your name will not be used in relation to the answers you give."

Place of interview…… **District:** ……**Region**……

Interviewers code |__|__|

Date: |__|__|. |__|__|. |__|__|__|__|

IDNO: |___|. |___|.|___|___|.|___|___|. |___|___|___|.|___|___|

1. DEMOGRAPHICS

1.1	**How old are you?** ***Write age in full years***	|____|____|
1.2	**What's your tribe?** _____	
1.3	**How many children do you have? Boys: |____|____|Girls: |____|____|**	
1.4	**What is the highest education level you have attained?** 1=None; 2=Adult Education only; 3=Primary Incomplete; 4= Completed primary school STD 7; 5=Drop out ordinary Secondary school; 6=Completed Secondary School Form 4 and Above; 7=Other studies;	|____|
1.5	**What is your marital status?** 1=Never married; 2=Married; 3=Separated / Divorced / Widowed;	|____|
1.6	**Where were you born?** ***Name of place*** **_____District_____**	
1.7	**What type of area:** 1=Rural; 2=Roadside Centre; 3=Town;	|____|
1.8	**Where are you living now?** ***Name of place*** **_____District_____**	
1.9	**What type of area:** 1=Rural; 2=Roadside Centre; 3=Town;	|____|
1.10	**What is your religion?** 1=Christian; 2=Moslem; 3=Other religion (including traditional); 4=No religion;	|____|
1.11	**Are you circumcised?** 1=Yes; 2=No;	|____|

2. Please describe what you think male circumcision is.

Listen to what the respondent says fill in the box below. Do not show or describe the options to the respondent.

1=Removal of the entire foreskin (the skin that can be rolled forward or back over the head of the penis); 2= Removal of the foreskin (the skin that can be rolled forward or back over the head of the penis), but not necessarily the entire foreskin; 3= Removal of the penis; 4=Other; 9=Don't Know; |_____|

Specify if 'Other': ……

Once the question has been answered, please explain that male circumcision is the surgical removal of the entire foreskin, which is the skin that can be rolled forward or back over the head of the penis. If less than the entire foreskin has been removed, this is "partial" circumcision. (Pictures of an uncircumcised, not "fully" circumcised, and circumcised penis might be helpful, and are provided with this questionnaire)

3. *Now that I have told you what circumcision is, let me ask you again:* **How are you circumcised?** *[show him the pictures]*

1=fully circumcised; 2=partially circumcised; 3=Not circumcised |_____|

4. Why do you think male circumcision is carried out?

Listen to what the respondent says and fill in the options below. Do not show or describe the options to the respondent.

- Traditional reasons: 1=Yes; 2=No; |____|
- Medical reasons: 1=Yes; 2=No; |____|
- Hygiene reasons 1=Yes; 2=No; |____|
- Religious reasons 1=Yes; 2=No; |____|
- For other reasons (*please state*) ……..……

—If the respondent answered 'fully or partially circumcised' to Question 3, USE THE QUESTIONNAIRE FOR CIRCUMCISED MALES

If the respondent answered 'Uncircumcised' to Question 3, USE THE QUESTIONNAIRE FOR UNCIRCUMCISED MALES

Questions for uncircumcised Males ONLY

5. *[If 'not circumcised' in Q3]* **Why aren't you circumcised?**

6. Would you want to be circumcised? |____|

[Give the interviewee the choice of the following options]

1=Strongly 'No'; 2=No; 3=Undecided; 4=Yes; 5=Strongly 'Yes'; 8=NA;

7. What are your reasons for this answer?

8. If you have or had a son, would you want him to be circumcised? |____|

[Give the interviewee the choice of the following options]

1=Strongly 'No'; 2=No; 3= Undecided; 4=Yes; 5=Strongly 'Yes'; 8=NA;

9. What are your reasons for this answer?

10. [*If 'Strongly No, No or Undecided in Q8' write 8=NA to Q10-Q12 and skip to Q13*]

[*If 'Yes or Strongly Yes in Q8'*] **When would be the best time for him to be circumcised?**

I shall read to you several answers and you select the time you think would be best.

- Infants (less than 1 year)? 1=Yes; 2=No; 8=NA; |____|
- Children aged less than 5 years (1-4 years)? 1=Yes; 2=No; 8=NA; |____|
- Children with pre-school age (5-10 years)? 1=Yes; 2=No; 8=NA; |____|
- Adolescents (11-17 years)? 1=Yes; 2=No; 8=NA; |____|
- 18 years and above? 1=Yes; 2=No; 8=NA; |____|

11. Why would he be circumcised at this time?

12. Where would you like him to be circumcised? |____|

1=At a traditional circumciser; 2=At the health facility; 3=At other places; 8=NA;

Specify if 'at other places': ……

13. What do you think the benefits of male circumcision would be?

14. What do you think the problems or negative consequences of male circumcision might be?

Tell the respondent that recent studies show that male circumcision reduces the risk of being infected with HIV. Being circumcised is not enough on its own to protect from HIV infection and circumcised men MUST continue using other forms of protection.

15. *[If the answer is "Strongly No," "No" or "Undecided" to Q6] tell the interviewee the following, ELSE write 8=NA to Q15-Q16 and SKIP to Q17.*

Based on this information, would you now want to be circumcised? |___|

[Give the interviewee the choice of the following options]

1=Strongly 'No'; 2=No; 3=Undecided; 4=Yes; 5=Strongly 'Yes'; 8=NA;

16. What are your reasons for this answer?

17. *If the answer is "Strongly No," "No" or "Undecided" to Q8] tell the interviewee the following, ELSE write 8=NA to Q17 and SKIP to Q18***.**

Would you now support your son's circumcision? |_____|

[Give the interviewee the choice of the following options]

1=Strongly 'No'; 2=No; 3=Undecided; 4=Yes; 5=Strongly 'Yes'; 8=NA;

Circumcision also has other health benefits. Infants have a lessened chance of developing infections of the urine, children and adults do not have problems with the foreskin becoming too tight around the penis, there is a lessened chance of getting infections under the foreskin, and adults have a lessened chance of getting some sexually transmitted diseases.

18. *[If the answer is "Strongly No," "No" or "Undecided" to Q17] tell the interviewee the following, ELSE write 8=NA to Q18 and SKIP to Q19.*

Would you now support your son's circumcision? |____|

[Give the interviewee the choice of the following options]

1=Strongly 'No'; 2=No; 3=Undecided'; 4=Yes; 5=Strongly 'Yes'; 8=NA;

—If the respondent answered "no" or "strongly no" to Question 18, this is the end of the survey—

Express thanks to the respondent for their time and information. Remember to ask them if they have any questions for you. You may need to refer to the briefing you have been given, however, if you don't know the answer to a question, do not be afraid to say so.

19. Would you still be worried about anything to do with male circumcision?

1=Yes; 2=No; 8=NA; **|____|**

20. *[If 'yes' in Q19, ELSE write 8=NA to Q20 and skip to Q21]* **What would you be worried about?**

21. If you had to pay for the operation, what is the most you would be prepared to pay in Tshs?

22. What would be the source of this money?

—End of survey for uncircumcised male respondents—

Express thanks to the respondent for their time and information. Remember to ask them if they have any questions for you. You may need to refer to the briefing you have been given, however, if you don't know the answer to a question, do not be afraid to say so.

Questions for circumcised Males ONLY

23. Why are you circumcised?

24. How old were you when you were circumcised?

25. Where was it done? |_____|

[Give the interviewee the choice of the following options]

1=At a traditional circumciser; 2=At a health facility; 3=Some other place; 8=NA; 9=Don't Know;

Specify if 'some other place': ……

26. Can you estimate the financial cost to your family of the male circumcision?

27. What was the source of this money?

28. What do you think the benefits of male circumcision are?

29. What do you think the problems or negative consequences of male circumcision are?

30. Are you pleased that you are circumcised? |_____|

[Give the interviewee the choice of the following options]

1=Strongly 'No'; 2=No; 3=Undecided; 4=Yes; 5=Strongly 'Yes'; 8=NA;

31. Would you recommend male circumcision to others? |_____|

[Give the interviewee the choice of the following options]

1=Strongly 'No'; 2=No; 3=Undecided; 4=Yes; 5=Strongly 'Yes'; 8=NA;

32. *[If the answer is "Strongly No," "No" to Q31] tell the interviewee the following, ELSE write 8=NA to Q32 and skip to Q33]*

Why would you not recommend male circumcision?

33. If you have or had a son, would you support his circumcision?

[Give the interviewee the choice of the following options]

1=Strongly 'No'; 2=No; 3=Undecided; 4=Yes; 5=Strongly 'Yes'; 8=NA;

34. What are your reasons for this answer?

35. [*If 'Strongly No, No or Undecided in Q33' write 8=NA to Q35-Q36 and skip to Q37*]

[*If 'yes' in Q33****]*** **When would be the best time for him to be circumcised?**

I shall read to you several answers and you select the time you think would be best.
[Give the interviewee the choice of the following options]

Infants (less than 1 year)? 1=Yes; 2=No; 8=NA |_____|

Children aged less than 5 years (1-4 years)? 1=Yes; 2=No; 8=NA; |_____|

Children with pre-school age (5-10 years)? 1=Yes; 2=No; 8=NA; |_____|

Adolescents (11-17 years)? 1=Yes; 2=No; 8=NA; |_____|

18 years and above? 1=Yes; 2=No; 8=NA; |_____|

36. Why would he be circumcised at this time?

Tell the respondent that recent studies show that male circumcision reduces the risk of being infected with HIV. Being circumcised is not enough on its own to protect from HIV infection and circumcised men MUST continue using other forms of protection.

37. *[If the answer is "Strongly No," "No" or "Undecided" to Q33] tell the interviewee the following, ELSE write 8=NA to Q37 and SKIP to Q38.*

Would you now support your son's circumcision? |____|

[Give the interviewee the choice of the following options]

1=Strongly 'No'; 2=No; 3=Undecided; 4=Yes; 5=Strongly 'Yes'; 8=NA;

Circumcision also has other health benefits. Infants have a lessened chance of developing infections of the urine, children and adults do not have problems with the foreskin becoming too tight around the penis, there is a lessened chance of getting infections under the foreskin, and adults have a lessened chance of getting some sexually transmitted diseases.

38. *[If the answer is "Strongly No," "No" or "Undecided" to Q37] tell the interviewee the following, ELSE write 8=NA to Q38.*

Would you now support your son's circumcision?

[Give the interviewee the choice of the following options]

1=Strongly 'No'; 2=No; 3=Undecided; 4=Yes; 5=Strongly 'Yes'; 8=NA; **|_____|**

—End of survey for circumcised male respondents—

Express thanks to the respondent for their time and information. Remember to ask them if they have any questions for you. You may need to refer to the briefing you have been given, however, if you don't know the answer to a question, do not be afraid to say so.

MAIN QUESTIONNAIRE FOR FEMALES

All eligible females are to be interviewed using this form.

"Thank you for agreeing to help us with our survey. My name is **[insert your name].** I work for the **National Institute for Medical Research (NIMR)**. We are talking to men and women in an effort to find out more about male circumcision. Your contribution will be of great importance to us.

The interview will last about [**insert a tested time for Swahili interviews**].

There are no right or wrong answers to the questions; we would just like to learn about your personal thoughts and attitudes. If you don't understand a question, please tell me, and you can add further information at any stage.

Your answers will, of course, be kept confidential. Your personal responses will be seen by only a very few of my colleagues and your name will not be used in relation to the answers you give."

Place of interview…… **District:** ……**Region**……..……

Interviewers code |__|__|

Date: |__|__|. |__|__|. |__|__|__|__|

IDNO: |___|. |___|.|___|___|.|___|___|. |___|___|___|.|___|___|

DEMOGRAPHICS

1.1	**How old are you?** ***Write age in full years***	|___|___|
1.2	**What's your tribe?** _____	
1.3	**How many children do you have? Boys: |___|___| Girls: |___|___|**	
1.4	**What is the highest education level you have attained?** 1=None; 2=Adult Education only; 3=Primary Incomplete; 4= Completed primary school STD 7; 5=Drop out ordinary Secondary school; 6=Completed Secondary school Form 4 and Above; 7=Other studies;	|___|
1.5	**What is your marital status?** 1=Never married; 2=Married; 3=Separated / Divorced / Widowed;	|___|
1.6	**Where were you born?** ***Name of place*** **_____District**: _____	
1.7	**What type of area:** 1=Rural; 2=Roadside Centre; 3=Town; 4=City;	|___|
1.8	**Where are you living now?** ***Name of place*** **_____District**: _____	
1.9	**What type of area:** 1=Rural; 2=Roadside Centre; 3=Town; 4=City;	|___|
1.10	**What is your religion?** 1=Christian; 2=Moslem; 3=Other religion (including traditional); 4=No religion; 9=DK;	|___|

2. If a man is circumcised, what would you think of him?

3. If a man is uncircumcised, what would you think of him?

4. **Who would you prefer to have sex with?** 1=Circumcised; 2=Uncircumcised; 3=Undecided; |_____|

5. **What are your reasons for this answer?**

6. **What do you think the benefits of a man being circumcised might be?**

7. **What do you think the problems or negative consequences of a man being circumcised might be?**

8. **If you have or had a son, would you support his circumcision? |_____|**

[Give the interviewee the choice of the following options]
1=Strongly 'No'; 2=No; 3=Undecided; 4=Yes; 5=Strongly 'Yes'; 8=NA;

9. **What are your reasons for this answer?**

10. [*If 'yes' in Q8, Else write 8=NA to Q10-Q11 and skip to Q12*] **When would be the best time for him to be circumcised?** *I shall read to you several answers and you select the time you think would be best.*

[Give the interviewee the choice of the following options]

Infants (less than 1 year)?	1=Yes; 2=No; 8=NA |_____|
Children aged less than 5 years (1-4 years)?	1=Yes; 2=No; 8=NA; |_____|
Children with pre-school age (5-10 years)?	1=Yes; 2=No; 8=NA; |_____|
Adolescents (11-17 years)?	1=Yes; 2=No; 8=NA; |_____|
18 years and above?	1=Yes; 2=No; 8=NA; |_____|

11. **Why would he be circumcised at this time?**

Tell the respondent that recent studies show that male circumcision reduces the risk of a man being infected with HIV. Being circumcised is not enough on its own to protect from HIV infection and circumcised men MUST continue using other forms of protection.

12. **Based on this information, would you change the way you think of uncircumcised men?**

1=Yes; 2=No; 8=NA; |_____|

13. [*If 'yes' in Q12, ELSE write 8=NA to Q13]* **How?** *(Possible prompt: Such as considering marrying a circumcised man?)*

14. *[If the answer is "Strongly No," "No" or "Undecided" to Q8] tell the interviewee the following, ELSE write 8=NA to Q14-Q15 and SKIP to Q16.*

Would you now support your son's circumcision?
[Give the interviewee the choice of the following options]
1=Strongly 'No'; 2=No; 3= Undecided; 4=Yes; 5=Strongly 'Yes'; 8=NA; |____|

15. What are your reasons for this answer?

Circumcision also has other health benefits. Infants have a lessened chance of developing infections of the urine, children and adults do not have problems with the foreskin becoming too tight around the penis, there is a lessened chance of getting infections under the foreskin, and adults have a lessened chance of getting some sexually transmitted diseases.

16. *[If the answer is "Strongly No," "No" or "Undecided" in Q14] tell the interviewee the following, ELSE write 8=NA to Q16 and SKIP to Q17.*
Would you now support your son's circumcision?
[Give the interviewee the choice of the following options]
1=Strongly 'No'; 2=No; 3= Undecided; 4=Yes; 5=Strongly 'Yes'; 8=NA; |_____|

17. Can you estimate the financial cost to your family of a male circumcision?

18. What would be the source of this money?

19. If you wanted to encourage an adolescent to be circumcised, what would you say to him?

20. If you wanted to encourage an adult man to be circumcised, what would you say to him?

—End of survey for female respondents—

Express thanks to the respondent for their time and information. Remember to ask them if they have any questions for you. You may need to refer to the briefing you have been given, however, if you don't know the answer to a question, do not be afraid to say so.

HEALTH FACILITY QUESTIONNAIRE

All heads of the health facility are requested to complete this form. IDNOs should be provided with this form.

PLEASE READ

The Ministry of Health and Social Welfare (MOHSW) is conducting a survey on current male circumcision (MC) services in the health facilities in order to promote male circumcision as an additional intervention against HIV infection. This tool is therefore designed to provide information about the current capacity of your facility and the facility preparedness to respond to a potential increased demand for safe male circumcision services. The information obtained will be useful in planning the scale up for programming of male circumcision services. Your responses will be kept confidential.

DATE: |___|___|. |___|___|. |___|___|___|___|

IDNO: |___|. |___|.|___|___|

General information

1. **Region:_____**

   District:_____

2. **Name of the health facility:_____**

3. **What Type of Health facility is it?** |____|

   1=Hospital; 2=Health Centre; 3=Dispensary; 4=Other (Specify) _____

4. **Ownership of the Health facility** |____|

   1=Government; 2=Faith-Based; 3=NGO; 4=Private; 5=Other (Specify) _____

5. **Name of the Informant:_____ _____**

6. **Position of the Informant:_____ _____**

Information about the Health facility

7. **What is the approximate population of the service area served by this facility?** _____

8. **Presently, what is the average total client load per day?**

   Inpatient_____

   Outpatient_____

9. **What proportions of the clients served by this facility are of the following religious background?**

Religion	**Proportion**
a. Moslem	
b. Christian	
c. Other	

Total	**100%**

10. What proportions of the clients served by this facility are of the following ethnic background?

Ethnicity	**Proportion**
a. _____	
b. _____	
c. _____	
d. _____	
e. _____	
f. _____	
Total	**100%**

11. How many of the following medical personnel work at this facility presently?

	Cadre	**Males**	**Females**	**Total**
a.	**Doctors**			
b.	**Assistant Medical Officers**			
c.	**Clinical Officers**			
d.	**Nursing Officers**			
e.	**Enrolled Nurses**			
f.	**Counsellors**			
g.	**Anaesthetists**			
h.	**Medical Attendants**			

12. Does this facility have the following basic surgical facilities?

a. Main operating theatre(s) 1=Yes; 2=No; |____|

b. Outpatient minor theatre / procedure room(s) 1=Yes; 2=No; |____|

c. Essential surgical equipment and supplies for performing minor operations e.g stitching a wound 1=Yes; 2=No; **|____|**

d. Functioning essential emergency equipment 1=Yes; 2=No; **|____|**

13. Does this facility have reliable electrical power? 1=Yes; 2=No; **|____|**

[*If the response is 2=No in Q13' write 8=NA to Q13a and skip to Q14*]

a. What is the source(s)? 1=Connected to the National grid; 2=Generator; 3=Solar; |____|

4=Other (specify)_____; 8=NA;

14. Does this facility have adequate water supply? 1=Yes; 2=No; |____|

[*If the response is 2=No in Q14' write 8=NA to Q14a and skip to Q15*]

a. What is the source(s)? |____|

1=Running water from water authority; 2=Running water from a captive source (e.g, a well); 3=Other

(specify if other)_____***;*** 8=NA;

15. Does this facility offer STI services? 1=Yes; 2=No; |____|

[*If the response is 2=No in Q15 write 8=NA to Q15a-Q15b and skip to Q16*]

a. Are STI services dedicated (i.e., STI clinic) 1=Yes; 2=No; 8=NA; |____|

b. or integrated (e.g., in general outpatient services) 1=Yes; 2=No; 8=NA; |____|

16. Does this facility offer counselling and testing for HIV? 1=Yes; 2=No; |____|

[*If the response is 2=No in Q16' write 8=NA to Q16a-Q16b and skip to Q17*]

a. Are HIV counselling and testing services dedicated (i.e. VCT) 1=Yes; 2=No; 8=NA; |____|

b. or integrated (i.e., PITC) 1=Yes; 2=No; 8=NA; |____|

17. Does this facility offer the following RCH services?

a. Ante-natal care (ANC) 1=Yes; 2=No; |____|

b. Under-five services 1=Yes; 2=No; |____|

c. Family planning services 1=Yes; 2=No; |____|

d. Postnatal services 1=Yes; 2=No; |____|

18. Does this facility have functioning sterilizing equipment? 1=Yes; 2=No; |____|

[*If the response is 2=No in Q18' write 8=NA to Q18a-Q18c and skip to Q19*]

a. Autoclave: 1=Yes; 2=No; 8=NA; |____| Number_____

b. Pressure cooker: 1=Yes; 2=No; 8=NA; |____| Number_____

c. Other means: 1=Yes; 2=No; 8=NA; |____| Number_____

(specify if other)_____ _____

19. In the past 12 months, has this facility have had adequate supplies for basic infection prevention?

a. Chlorine or other appropriate decontaminant: 1=Yes; 2=No; |____|

b. Plastic bucket/ basins for decontamination 1=Yes; 2=No; |____|

c. Gloves (surgical, examination, cleaning): 1=Yes; 2=No; |____| Number_____

d. Waste disposal 1=Yes; 2=No; |____| Number_____

e. Other personal protective equipment 1=Yes; 2=No; |____| Number_____

(specify if other)_____

20. How many surgical procedures were carried out at this facility in the past 12 months?

a. Major operations 1=Yes; 2=No; |____| Number |___|___|___|___|

b. Minor operations 1=Yes; 2=No; |____| Number |___|___|___|___|

21. Does this facility provide condoms to the public? 1=Yes; 2=No; |____|

[*If the response is 2=No in Q21' write 8=NA to Q21a and skip to Q22*]

a. How many have been provided in the last 12 months?_____

22. Does this health facility perform male circumcision? 1=Yes; 2=No; |____|

[*If the response is 2=No in Q22' write 8=NA to Q23-Q33 and skip to Q34*]

23. Are all male circumcision procedures recorded? 1=Yes; 2=No; 8=NA; |____|

24. How many male circumcisions were performed in the last 12 months?_____

25. Where is male circumcision done in this facility?

a. Major operating theatre 1=Yes; 2=No;8=NA; |____|

b. Minor out-patient theatre 1=Yes; 2=No;8=NA; |____|

c. Elsewhere 1=Yes; 2=No;8=NA; |____|

(specify if other)_____ _____

26. Who performs male circumcision in this facility?

a. Doctor 1=Yes; 2=No;8=NA; |____|

b. AMO 1=Yes; 2=No;8=NA; |____|

c. Clinical officer 1=Yes; 2=No;8=NA; |____|

d. Nurses 1=Yes; 2=No;8=NA; |____|

e. Others 1=Yes; 2=No;8=NA; |____|

(specify if other)_____ _____

27. How many male circumcisions were performed on each of the following groups over the same 12-month period?

a. Infants (< 1 year) _____

b. Under five Children (1–4 years)_____

c. Pre-School age (5-10 years) _____

d. Adolescents (11–17 years) _____

e. Adults (18 and over) _____

28. Please indicate the approximate proportion of reasons for male circumcisions done in that period

a. Medical indications _____%

b. Religious practice _____%

c. Cultural practice _____%

d. Hygiene reasons _____%

e. Other reasons (specify) _____: _____%

f. Unknown _____%

29. Is client counselling routinely done as part of MC procedure? 1=Yes; 2=No;8=NA; |____|

[*If the response is 2=No in Q29' write 8=NA to Q30a-Q31 and skip to Q32*]

30. What type of counselling do MC clients routinely receive as part of the procedure?

a. Pre-procedure counselling about the MC procedure: 1=Yes; 2=No;8=NA; |____|

b. Pre-procedure counselling about risks and benefits of MC: 1=Yes; 2=No;8=NA; |____|

c. Counselling about HIV and STI prevention: 1=Yes; 2=No;8=NA; |____|

d. Post-procedure counselling about postoperative care: 1=Yes; 2=No;8=NA; |____|

e. Post-procedure counselling about risk reduction: 1=Yes; 2=No;8=NA; |____|

f. Post-procedure counselling about resumption of sexual activity: 1=Yes; 2=No;8=NA; |____|

g. Counselling about other male reproductive health topics: 1=Yes; 2=No;8=NA; |____|

(specify if other)_____ _____

31. Who provides this counselling?

a. The clinician performing the male circumcision: 1=Yes; 2=No; 8=NA; |____|

b. A nurse or other assistant assisting on the procedure: 1=Yes; 2=No; 8=NA; |____|

c. A counsellor: 1=Yes; 2=No; 8=NA; |____|

d. Other: (***specify***) _____

32. What is the normal charge for male circumcision paid by the patient in Tshs:

a. Infants (< 1 year) _____

b. Under five Children (1–4 years)_____

c. Pre-School age (5-10 years) _____

d. Adolescents (11–17 years) _____

e. Adults (18 and over) _____

33. What additional charges/costs might apply (e.g. antibiotics, return visits, bandaging, etc):

1=None; 2=Some; (specify amount)_____; |_____|

34. If male circumcision were to be promoted in this area, in your opinion, could this facility provide male circumcision services? 1=Yes; 2=No; 3=Uncertain; |_____|

35. Please explain why you gave this answer: _____

_____

_____

_____

36. What might the facility need to be able to introduce (or, if the facility does them, increase the number of) male circumcisions?

a. Would equipment and instruments, such as surgical tables or operating instruments, be needed: 1=Yes; 2=No; |_____|

(specify): _____

b. Would medications be needed: 1=Yes; 2=No; |_____|

(specify): _____

c. Would disposable equipment, medicines and supplies be needed, (e.g., anaesthetics, gloves, syringes/needles, sharps boxes, etc.): 1=Yes; 2=No; |_____|

(specify): _____

d. Would training of staff be needed: 1=Yes; 2=No; |_____|

(specify what type of staff and what type of training): _____

_____

_____

_____

e. Would a surgical / procedure room to perform the surgery be needed: 1=Yes; 2=No; |_____|

f. If yes, do you have a room that could be used if equipment was supplied: 1=Yes; 2=No; |_____|

g. What else would be needed? _____

_____

_____

_____

h) Should male circumcision (for reasons other than medical/surgical indication) be included in the National Health Insurance Fund benefits: 1=Yes; 2=No; |_____|

HEALTH PRACTITIONERS QUESTIONNAIRE

All health facility workers are to be interviewed using this form.

Interviewers code |__|__|

Date: |__|__|. |__|__|. |__|__|__|__|

IDNO: |___|. |___|.|___|___|. |___|___|

Please read out loud:

We are carrying out an assessment in this district of the experience and knowledge that health professionals have on male circumcision. We would like to learn from your experiences (if any) and your opinions about the provision of male circumcision services at the health facilities in this district. Please answer the questions as truthfully as possible. We will not use your name or refer to you personally when reporting the results of this assessment. You are free to refuse to answer any questions, but we would appreciate your giving us truthful answers to the questions you do answer.

General information

1. **Region:**_____
   District:_____
2. **Name of the health facility:**_____ _____
3. **What type of health facility is it?** |___|
   1=Hospital; 2=Health Centre; 3=Dispensary; 4=Other (Specify) _____
4. **Type of ownership of the health facility** |___|
   1=Government; 2=Faith-Based; 3=NGOs; 4=Private; 5=Other (Specify) _____
5. **Gender of the informant:** 1=Male; 2=Female; |___|

Information about the Health facility Worker

6. **What is your designation?** |____|
   1=Medical Officer; 2=Clinical Officer; 3=Nurse; 4=Counsellor; 5=Other (specify) _____
7. **What is your area of specialty, if any?** _____
8. **How long have you been practicing (medicine / nursing)? |___|___|**yrs **|___|___|** months
9. **How long have you been working at this facility? |___|___|** yrs **|___|___|** months
10. **What has been your role(s) in performing male circumcision procedures?**
    a. Performing the surgery of male circumcision 1=Yes; 2=No; |_____|
    b. Assist the clinician during the procedure: 1=Yes; 2=No; |_____|
    c. Preliminary investigations: 1=Yes; 2=No; |_____|
    d. Pre- or Post-operative care: 1=Yes; 2=No; |_____|
    e. Counselling clients: 1=Yes; 2=No; |_____|

f. Other: (***specify***): _____

11. Approximately how many male circumcisions have you performed (in total)

1=None; 2=Less than 10 cases; 3=10-50 cases; 4=More than 50 cases; |_____|

12. Approximately how many male circumcisions have you assisted (in total)

1=None; 2=Less than 10 cases; 3=10-50 cases; 4=More than 50 cases; |_____|

13. In the last 12 months how many male circumcisions have you performed/assisted?

|___|___|___|

a. How many of these were performed /assisted in this health facility? |___|___|___|

b. How many of these were performed/ assisted outside of this health facility?

|___|___|___|

14. *If the response is 000 in Q13b' write 8=NA to Q14a-Q15 and skip to Q16]*

[If outside this health facility], **where were these male circumcisions performed?**

a. In a private clinic 1=Yes; 2=No;8=NA; |_____|

b. At homes 1=Yes; 2=No;8=NA; |_____|

c. In the village 1=Yes; 2=No;8=NA; |_____|

d. Other places (***specify***): _____

15. *[If outside the health facility]***, why was it performed outside the health facility?**

---

16. What were the reasons for male circumcisions performed?

a. Medical indications 1=Yes; 2=No; |_____|

b. Religious practice 1=Yes; 2=No; |_____|

c. Cultural practice 1=Yes; 2=No; |_____|

d. Personal preference 1=Yes; 2=No; |_____|

e. Other reasons (specify)_____ _____

17. What proportion of the males you circumcised /assisted were in the following age groups?

a. Infants (less than 1 year) |_____|%

b. Under five children (1-4 years) |_____|%

c. Pre-school (5 -10 years) |_____|%

d. Adolescents (11-17 years) |_____|%

e. Adults (18 years and above) |_____|%

18. How much is charged for a male circumcision? (in Tshs) |___|___|___|___|___|___|

19. What additional costs might be needed (e.g., antibiotics, return visits, extra bandaging, etc)?

1=None; 2=Some; (***specify amount***)_____; |_____|

20. Have you received any training on performing male circumcision? 1=Yes; 2=No; |_____|
If the response is 2=No in Q20' write 8=NA to Q21 and skip to Q22

21. *[If yes in Q 20*]**, what training did you receive?** _____

_____

_____

22. If you were asked to perform/assist in male circumcisions, would you need additional training? 1=Yes; 2=No; |____|
If the response is 2=No in Q22 write 8=NA to Q23a-Q23g and skip to Q 24)

23. *[If yes in Q 22],* **what training do you think you should receive?**

a. Theoretical (for example, lectures or reading): 1=Yes; 2=No; 8=NA; |____|
b. Practical clinical training (i.e., performing male circumcision): 1=Yes; 2=No; 8=NA; |____|
c. STI diagnosis and treatment: 1=Yes; 2=No; 8=NA; |____|
d. Infection prevention: 1=Yes; 2=No; 8=NA; |____|
e. Counselling: 1=Yes; 2=No; 8=NA; |____|
f. Comprehensive (all of the above): 1=Yes; 2=No; 8=NA; |____|
g. Others: _____

_____

_____

24. In your opinion, are there advantages to a man being circumcised?

1=Yes; 2=No;3=Makes no difference; |____|

25. Please state whether you agree or disagree with the following statements:

a. Male circumcision helps to improve hygiene 1=Yes; 2=No; 9=Do not know; |____|
b. Male circumcision reduces risk of STIs 1=Yes; 2=No; 9=Do not know; |____|
c. Male circumcision reduces risk of HIV infection 1=Yes; 2=No; 9=Do not know; |____|
d. Male circumcision prevents HIV infection entirely 1=Yes; 2=No; 9=Do not know; |____|
e. Male circumcision increases risk of HIV 1=Yes; 2=No; 9=Do not know; |____|
f. Male circumcision reduces risk of penile cancer 1=Yes; 2=No; 9=Do not know; |____|
g. Male circumcision increases sexual pleasure 1=Yes; 2=No; 9=Do not know; |____|
h. Male circumcision reduces sexual pleasure 1=Yes; 2=No; 9=Do not know; |____|
i. Men who are circumcised are more promiscuous 1=Yes; 2=No; 9=Do not know; |____|
j. Male circumcision cures impotence 1=Yes; 2=No; 9=Do not know; |____|
k. Male circumcision can cause impotence 1=Yes; 2=No; 9=Do not know; |____|
l. Women prefer men who are circumcised 1=Yes; 2=No; 9=Do not know; |____|

26. In the last 3 years, have you seen male circumcisions (carried out by someone else) that resulted in complications or adverse effects? 1=Yes; 2=No; |____|
If the response is 2=No in Q26' write 8=NA to Q26a-Q26b and skip to Q 27)

a. How many: |____|____|____|
b. Please mention what were the main types of complication or adverse event:
    a. Excessive bleeding 1=Common; 2=Not Common; 3=Never seen; 8=NA; |____|
    b. Infection 1=Common; 2=Not Common; 3=Never Seen; 8=NA; |____|
    c. Disfigurement 1=Common; 2=Not Common; 3=Never seen; 8=NA; |____|

d. Impotence 1=Common; 2=Not Common; 3=Never seen; 8=NA; |____|

e. Other_____1=Common; 2=Not Common; 3=Never seen; 8=NA; |____|

27. In the last 3 years, has any male circumcision that you have performed/assisted resulted in a complication or adverse event? 1=Yes; 2=No; **|____|**

If the response is 2=No in Q27 write 8=NA to Q27a-Q27e and skip to question no 28)

a. How many: **|____|____|____|**

b. Please mention what were the main types of complication or adverse event:

a. Excessive bleeding 1=Common; 2=Not Common; 3=Never seen; 8=NA; |____|

b. Infection 1=Common; 2=Not Common; 3=Never seen; 8=NA; |____|

c. Disfigurement 1=Common; 2=Not Common; 3=Never seen; 8=NA; |____|

d. Impotence 1=Common; 2=Not Common; 3=Never seen; 8=NA; |____|

e. Other_____1=Common; 2=Not Common; 3=Never seen; 8=NA; |____|

c. Have you ever referred cases with complications 1=Yes; 2=No; |____|

If the response is 2=No in Q27c' write 8=NA to Q27d-Q27e and skip to Q28

d. *[If Yes in Q26c]* how many over the last 12 months **|___|___|___|**

e. What were the reasons for referring _____

_____

_____

_____

28. How long does a newly circumcised man required to refrain prior to resumption of sexual activity? |____|____| weeks.

Please read out loud:

International health organizations have concluded that male circumcision is an important and effective means of reducing the risk of HIV infection. The national government is considering recommending that males be offered circumcision to reduce the chances of the men becoming infected with HIV and other STIs. We would like to get your opinions of the challenges that would have to be addressed to promote male circumcision and make it available to a large number of males in this district. I am now going to ask you some questions about how male circumcision might be made available to many people.

29. In your opinion, who should be permitted to perform male circumcision?

a. Medical Officers:

1=Strongly Agree; 2=Agree; 3=Neither Agree nor Disagree; 4=Disagree; 5=Strongly Disagree; |____|

b. Clinical Officers:

1=Strongly Agree; 2=Agree; 3=Neither Agree nor Disagree; 4=Disagree; 5=Strongly Disagree; |____|

c. Male Nurses:

1=Strongly Agree; 2=Agree; 3=Neither Agree nor Disagree; 4=Disagree; 5=Strongly Disagree; |____|

d. Female nurses:

1=Strongly Agree; 2=Agree; 3=Neither Agree nor Disagree; 4=Disagree; 5=Strongly Disagree; |____|

e. Traditional and Religious Male Circumcision providers:

1=Strongly Agree; 2=Agree; 3=Neither Agree nor Disagree; 4=Disagree; 5=Strongly Disagree; |____|

f. Other (specify): _____

1=Strongly Agree; 2=Agree; 3=Neither Agree nor Disagree; 4=Disagree; 5=Strongly Disagree; |____|

30. In your opinion, what would be the best age for male circumcision?

a. Infants (under 1 year) 1=Yes; 2=No; |____|

b. Under fives children (1-4 years) 1=Yes; 2=No; |____|

c. Pre-school age (5–10 years) 1=Yes; 2=No; |____|

d. Adolescents (11-17 years) 1=Yes; 2=No; |____|

e. Adults (18 years and above) 1=Yes; 2=No; |____|

31. What are your reasons for choosing the age group above?_____ _____

_____

_____

_____

32. In your opinion, what will be the major difficulties or challenges in providing male circumcision to a large number of males in this facility?

a. _____

b. _____

c. _____

33. In your opinion, what things should to be done to increase the number of males who will be coming for circumcision in this facility?

a. _____

b. _____

c. _____

34. If male circumcision were provided to many people in this facility, what do you think the charge should be for the procedure? Tshs |___|___|___|___|___|___|

35. If male circumcision were promoted in this community, would you be willing to offer male circumcision services? 1=Yes; 2=No; |____|

SEMI-STRUCTURED INTERVIEW SCHEDULE

(QUESTIONS FOR KEY INFORMANTS)

1. In your opinion, what are the main factors influencing Male Circumcision in your area?
Prompt: *[What are the possible benefits/advantages related to health, culture, religion, etc.]*

2. What do you consider as disadvantages of Male Circumcision?
Prompt: *[What are the possible disadvantages related to health, culture, religion, etc.]*

3. Is there any stigma attached to a man being circumcised or uncircumcised?
Prompt*: [What is the possible stigma related to culture, religion, etc. regarding to both MC statuses in both traditionally circumcising and non-circumcising communities]*

4. What do you know about the relationship between HIV infection and Male Circumcision?
Prompt*: [What is the protective effect in percentage of male circumcision against HIV infection]*

5. If we wanted to increase the provision of health facility–based Male Circumcision, what do you think are the most important factors we should address?

Prompt*: [Availability and allocation of funds and resources?]*

Prompt: *[Do you think staff in health facilities knows how to carry out male circumcision to the satisfaction of the local population? Please explain].*

Prompt: *[What role would your organization be able to play in increasing male circumcision services?]*

6. If we wanted to increase demand for male circumcision among adults and children, what sort of things should we do?

Prompt: *[Who do you think would have the most influence on people, if we were to ask someone to publicly support a programme?]*

Prompt: *[What messages do you think would have the most influence on people, to encourage male circumcision among adolescents or adults? What about for the parents of newborns or children?]*

Prompt: *[At what age do you think parents would like to have their male children circumcised: as infants (less than 1 year old); as children (between 1-5 years old), as children (between 6-10 years old), as adolescents (between 11-17 years old), or as adults (18 years old and above)? Why?]*

Prompt: *[How much money and payments in kind (non-monetary) would adults and parents in your area would be able to pay for male circumcision services?]*

7. At health facilities providing male circumcision, what other services (apart from post-operative care) do you think would be beneficial to provide to the circumcised?

Conclusion:

Thank you very much for your time. It has been a very interesting and useful discussion. Do you have any other comments or questions for me regarding male circumcision?

FGD GUIDE (MEN WHO ARE NOT CIRCUMCISED)

1. What is the practice in this area around Male Circumcision? **[By male circumcision I mean surgical removal of the entire foreskin of the penis (the skin that can be rolled forward or back over the head of the penis)].**
   Probe: *[What are the reasons behind any traditions – why is it done or not done?]*
   Probe: *[Who does most circumcisions in this community?]*
   Probe: *[Where are most circumcision done in this community?]*
2. Who makes the decision about whether a male is to be circumcised?]
   Probe*: [Has that changed in recent times?]*
3. Do you know if male circumcision services are available at the nearest health facility (government or faith-based)?
4. What do you think are the advantages and disadvantages of male circumcision?
   Probe: *[What are possible benefits/advantages related to health, culture, religion, etc.?]*
5. What do you think are the disadvantages of male circumcision?
   Probe*: [What are possible disadvantages related to health, culture, religion, etc.?]*
6. What do you know about the relationship between HIV and Male Circumcision?
   Probe*:* [*What is the protective effect in percentage of male circumcision against HIV infection*]
7. What might encourage parents to get male circumcision for their sons or themselves?
8. What might discourage parents from getting male circumcision for their sons or themselves?
9. Would people prefer to have their sons circumcised?
   Probe: at what age? *[As infants (less than 1 year old); as under fives (between 1-5 years old), as young children (between 6-10 years old; as adolescents (between11-17 years old) or as adults (between 18 years old and above)? Why?]*
10. If a man is circumcised, he has a much reduced risk of being infected with HIV. What are your views about this?
11. Would you consider getting circumcised? If so, why? If not, why not?
    Probe: *[If so where (at a traditional male circumciser or health facilities?)]*
12. How much would people be willing or able to pay for male circumcision at a health facility and a traditional male circumciser?

FOCUS GROUP DISCUSSION GUIDE (CIRCUMCISED MEN)

1. What is the practice in this area around Male Circumcision? **[By male circumcision I mean surgical removal of the entire foreskin of the penis (the skin that can be rolled forward or back over the head of the penis)].**

   Probe: *[What are the reasons behind any traditions – why is it done or not done?]*
   Probe: *[Who does most circumcisions in this community?]*
   Probe: *[Where are most circumcision done in this community?]*

2. Who makes the decision about whether a male is to be circumcised?]
   Probe*: [Has that changed in recent times?]*
3. Do you know if male circumcision services are available at the nearest health facility (government or faith-based)?
4. At what age are the majority of males in this community get circumcised?

   Probe**:** *[as infants (less than 1 year old); as under fives (between 1-5 years old), as as young children6 and 10 years old; as adolescents (between11-17 years old), or as adults (between 18 years old and above)? Why?]*
5. How much do people generally pay for male circumcision?

   Probe: *[Payments of money and payments in kind (non-monetary)]*
   Probe: *[How much would people be able or willing to pay?]*
6. What memories do people have of being circumcised?

   Probe: *[Any good or bad memories]*
   Probe: *[Who would people trust most to carry out male circumcision?]*
7. Would people prefer to have their sons circumcised?

   Probe: at what age? *[Infants (less than 1 year old); as under fives (between 1-5 years old), as young children (between 6-10 years old; as adolescents (between11-17 years old), or as adults (between 18 years old and above)? Why?]*
8. What happens during and after male circumcision?

   Probe :*[When done at a health facility]*
   Probe :*[When done by a traditional circumciser]*
   Probe: *[What instruments are used, anaesthesia, medications, other supplies?]*
9. What are the advantages of male circumcision?

   Probe: *[What are the possible benefits/advantages related to health, culture, religion, etc.]*
10. What are the disadvantages of male circumcision?

    Probe: *[What are disadvantages related to health, culture, religion, etc.?]*
    Probe: *[Have people heard that male circumcision can reduce the chance of catching HIV?]*
11. In some places of this country, the traditions around male circumcision still take place, but the actual operation happens at a health facility. What are your views about this?
12. Male circumcision only reduces the chance of infection, what other ways of avoiding HIV should people use?
13. Which do people in this community think is safer: the traditional method of male circumcision; or male circumcision at a health facility?
14. What might discourage parents from getting male circumcision for their sons or themselves at
    Probe: *[Health facilities?]*
    Probe: *[Traditional circumcisers?]*
15. What are your suggestions for improving the way male circumcision is done
    Probe: *[In health facilities?]*

Probe: *[At the traditional male circumcisers?]*

16. At health facilities providing male circumcision services, what other services (apart from post-operative care) do you think would be beneficial to provide to the circumcised?

Conclusion

Thank you very much for your time and contributions. It has been a very interesting and useful discussion. Please remember that everything discussed here will be held in strict confidence and that nothing will be linked back to you. This information will be very helpful for us as we plan to introduce and scale up male circumcision for HIV prevention.

Do you have any other comments or questions for me regarding male circumcision?

Thank you once again and goodbye.

FOCUS GROUP DISCUSSION GUIDE (WOMEN)

1. What is the practice in this area around Male Circumcision? **[By male circumcision I mean surgical removal of the entire foreskin of the penis (the skin that can be rolled forward or back over the head of the penis)].**

Probe: *[What are the reasons behind any traditions –why is it done or not done?]*
Probe: *[Who does most circumcisions in this community?]*
Probe: *[Where are most circumcision done in this community?]*

2. Who makes the decision about whether a male is to be circumcised?]

Probe*: [Has that changed in recent times?]*

3. Do you know if male circumcision services are available at the nearest health facility (government or faith-based)?

4. What does a circumcised man mean to you?

5. What does a son's circumcision mean to a mother?

6. Would you consider marrying a non-circumcised man? If yes, why? If no, why not?

7. Would mothers consider having their son circumcised? If yes, why? If not, why not?

Probe: at what age? *[as infants (less than 1 year old); as under fives (between 1-5 years old), as as young children (between 6-10 years old; as adolescents (between11-17 years old), or as adults (betwee 18 years old and above)? Why?]*

8. What are the advantages of male circumcision?

Probe: *[What are the possible benefits/advantages related to health, culture, religion, etc]*

9. What are the disadvantages of male circumcision?

Probe: *[What are disadvantages related to health, culture, religion, etc.?]*

10. How much would people be willing or able to pay (both in term of money and payments in kind (non-monetary for male circumcision at a health facility and traditional male circumcisers?]

11.In your opinion is there any difference between sex with a circumcised and uncircumcised man?

12.If man is circumcised, he has a much reduced risk of being infected with HIV. What are your views about this fact?

13.At health facilities providing male circumcision, what other services (apart from post-operative care) do you think would be beneficial to provide to the circumcised?

Conclusion

Thank you very much for your time and contributions. It has been a very interesting and useful discussion. Please remember that everything discussed here will be held in strict confidence and that nothing will be linked back to you. This information will be very helpful for us as we plan to introduce and scale up male circumcision for HIV prevention.

Do you have any other comments or questions for me regarding male circumcision?
Thank you once again and goodbye.