Report

Challenges and Opportunities for the involvement of Traditional Practitioners in Scaling up Safe Male Circumcision in the Context of HIV Prevention in Tanzania

Leonard E.G. Mboera
Julius J. Massaga
Kesheni P. Senkoro
Stella P. Kilima
Benjamin K. Mayala
Judith Msovela
Elizabeth H. Shayo

National Institute for Medical Research
P.O. Box 9653, Dar es Salaam,Tanzania
www.nimr.or.tz

July 2009

Challenges and Opportunities for the Involvement of Traditional Practitioners in Scaling up Safe Male Circumcision in the Context of HIV Prevention in Tanzania

Report submitted to the World Health Organization

Leonard E.G. Mboera
Julius J. Massaga
Kesheni P. Senkoro
Stella P. Kilima
Benjamin K. Mayala
Judith Msovela
Elizabeth H. Shayo

National Institute for Medical Research, P.O. Box 9653, Dar es Salaam, Tanzania
www.nimr.or.tz

Recommended Citation

Mboera, L.E.G., Massaga, J.J., Senkoro, K.P., Kilima, S.P., Mayala, B.K., Msovela, J. & Shayo, E.H. (2009) *Challenges and Opportunities for the involvement of Traditional Practitioners in scaling up of Safe Male Circumcision in the Context of HIV Prevention in Tanzania*. National Institute for Medical Research, Dar es Salaam, Tanzania

July 2009

ACKNOWLEDGEMENTS

We would like to acknowledge the assistance of Dr. John Mtimba, Assistant Director for Traditional and Alternative Medicine, MOHSW, Dr. Paul Mhame, Registrar of Traditional and alternative Health Practice Council, MOHSW, Mrs R. Kikuli, Director of Policy and Planning, MOHSW, Mr P. Luena, Registrar Medical Council of Tanganyika, MOHSW, Trad. Dr. Mittam Magombeka, Secretary, CHAWATIATA, Mr. Heri S. Mchunga, Procurement Manager-Pharmaceuticals, Medical Stores Department (MSD), Dr. N.B.Chukilizo, Manager of medicine and cosmetics evaluation, Tanzania Food and Drug Authority (TFDA) , Mr Akida M. Khea, Manager, medical devices assessment and enforcement TFDA, Dr. P. Ngiloi, Principal specialist (Paediatrics surgeon), Muhimbili National Hospital (MNH) , Dr. U. Mpoki, Head department of anaesthesia, MNH, Mrs. S. Mayenga, Assistant matron, MNH, Mr. Semu, Head department of medical records, MNH, Sr. Lucy Hwai, Acting head nursing services(matron), Aga Khan Hospital, Dr. J. Huho, Head department of Anaesthesia Aga Khan Hospital, Mr. Wamoja Mbonde, Medical record In charge, Aga Khan Hospital, Dr. I.K Tosiri, Head department of Surgery, Aga Khan Hospital.

We are very thankful to Monduli, Bahi and Mkuranga district administrative and health authorities for their assistance. The participation of community members and health workers from Monduli, Bahi and Mkuranga districts are highly appreciated.

The following are thanked for their role in facilitating data collection at district level: Gasper Kumalija, Lameck Mmbaga, Mustafa Ngwilla and Fortunatus Nkane from Bahi District; Gilbert Mrema, G. Pesambili, Alson Mjema and Azizi Bingwe from Mkuranga District; and Exavery Benella, Witness Mulegi, Eliana Mhalu and Anjelica Nyamukama from Monduli District.

We are grateful to Lilian Maeda, Zenais Shayo, Eric Mhina, Ikunda Rumisha, Rodgers Rindeni, Marco Komba, Beatrice Bilikwija and Charles Fubusa for their excellent field assistance. Data entry was done by Rodgers Rindeni, Marco Komba and Fagason Mduma. We wish to thank the National Male Circumcision Task Force for their comments on the final draft of the report.

The Director General, National Institute for Medical Research is thanked for the logistical support. This study received financial assistance from the World Health Organization.

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY

Background: Male circumcision (MC), one of the oldest surgical procedures, has been practiced worldwide from time immemorial. To-date, the procedure is been undertaken for various reasons including religious, cultural, social and medical. Recent studies from Africa have indicated that male circumcision is highly protective of HIV. Incorporating male circumcision in HIV/AIDS prevention programme will increase its demand in Tanzania where the health care system is facing acute shortage of skilled health workers and working tools. Thus, traditional male circumcision could be viewed as best alternative but complementary approach for scaling up safe circumcision.

Objective: The objective of this study was to underscore challenges and opportunities for the involvement of traditional practitioners in scaling up safe male circumcision as a measure to support global efforts of preventing HIV transmission. Specifically, the study aimed at: (i) identifying different categories and characteristics of recognized male circumcision practitioners; (ii) establishing factors that would facilitate or limit the development of partnership between the traditional practitioners and the conventional health personnel for the scaling up of safe male circumcision; and (iii) proposing evidence-based strategies for the involvement of traditional practitioners in the scale up of safe male circumcision for HIV prevention while preserving the social context of male circumcision needs in the country.

Methods: The study was conducted in Monduli, Mkuranga and Bahi districts of Tanzania. The selection of districts specifically targeted the Maasai, Zaramo and Gogo, respectively who are known to practice traditional circumcision. A descriptive cross-sectional study design, employing both qualitative and quantitative techniques was used in data collection. For household survey, two villages from each district were randomly selected. In addition, a convenient sample of men who had undergone circumcisions was also interviewed. At ward level in each district, 10 traditional practitioners were purposely selected and interviewed to identify categories and practices on male circumcision. Clinical circumcisers from conventional health facilities (1 hospital, 2 health centres and 10% of all dispensaries) were selected and interviewed in each district, to assess their experience with the MC procedure. Specific information was sought on the categories of traditional practitioners, their characteristics and practices as per cultural background. Factors that hinder or facilitate partnership between traditional and conventional health practitioners were explored. Similarly, their views on partnership with traditional practitioners and conventional health workers were sought. In-depth interviews involving key informants at national, district and facility levels were also conducted. Focus Group Discussions (FGDs) involving men who were circumcised by the traditional practitioners were also conducted. In each district, four FGDs were conducted two for elders and two for youths.

Results: A total of 601 individuals (mean age=36-45 years) were involved in the household interviews. Majority (51.1%) of the respondents had primary school education. Of the 601 respondents, 88.2% (Bahi=75.1%; Mkuranga= 99.3%; Monduli= 97.0%) admitted that circumcision is a common practice in their villages; with 71.4% preferring traditional male circumcision (TMC). Overall, group circumcision was most common (46.9%) in all the three districts. The most frequently mentioned reason for preference to TMC was that it is a ritual practice. It was regarded as a rite of passage from boyhood to manhood. Less than half (42.1%) of the respondents knew at least one advantage of clinical male circumcision (CMC). CMC was said to be hygienic and safe (76.3%), the wound heals fast and there is little HIV transmission risk (38.7%). However, CMC was considered to be against tradition and culture and may results into respective boy being discriminated by the society. Only 228 (37.9%) of the respondents were

aware of the occurrence of adverse events associated with TMC. About two thirds (67.4%) of the respondents recommended for the need to establish a formal linkage between traditional and conventional practitioners. Twenty-four traditional practitioners (23-85 years old) were involved in the survey. Most of them were using razor/surgical blades for circumcision and cotton wool for dressing wounds. In Monduli circumcisions were performed after every seven years and included young people aged 18-25 years. In Bahi and Mkuranga districts, traditional circumcision is performed every year specifically in June and July, during school holiday. The costs for the circumcision differed from one practitioner to another within the district, but most of the traditional practitioners charged TShs 5,000-10,000 per client. No specific categories of MC traditional practitioners could be identified. However, there were some who were practising both as circumcisers and traditional healers. Respondents classified traditional practitioners based on experience, speed of operation and art of circumcision which were associated with fast healing of wound. The MC practices varied from one district to another due to cultural differences. Maasai and Gogo communities usually leave a small flap of foreskin while the Zaramo remove the entire foreskin. Only a few traditional practitioners associated circumcision with HIV transmission. There was no formal collaboration between traditional practitioners and conventional health workers. Provision of education on HIV prevention; safe male circumcision; use of injectable drugs; care of wounds; and use of modern equipment was mentioned as the best strategy that could be used to strengthen linkages between traditional and conventional health practitioners. To improve the TMC, the following were opinions were suggested: (i) Traditional practitioners should be given education on circumcision techniques; (ii) Government should provide equipment for MC; (iii) Traditional practitioners should be educated on HIV/AIDS transmission and prevention.

A total of 18 district level key informants were interviewed. The key informants admitted that traditional practitioners were available in their respective district but were not registered. In all three districts information on circumcision at health facilities were recorded as minor surgery procedure in the Health Management Information System. The majority of district key informants supported traditional circumcision as it is part of the customs and traditions. Out of 38 health workers interviewed, 31 were aware that the community prefer traditional male circumcision, mainly because of the cost, culture and traditional values; it increases libido, and is more convenience. However, health workers advocated for CMC because the procedure is safe with minimum risk of transmission of infection and minimum risk of adverse events. Most of health workers described traditional MC as unsafe as it was done in poor hygienic environment, using unsterilised knives. Eleven of the 38 health workers interviewed reported to have performed male circumcision. Most (8) of them were clinical officers. MC was done for any age group, and it costs TShs 1,000 to 5,000 (US$1-5) per individual client. Few health workers reported to experience complications as a result of male circumcision. Challenges faced by health workers in carrying out MC were: (i) inadequate surgical equipment and supplies; (ii) inadequate sterilization system; (iv) and lack of theatre facilities. Male circumcision records were hardly kept at health facilities. Of the 38 respondents, 23 reported that their health facilities had adequate human resource capacity to carry out circumcision. About one third (12/38) of health workers admitted that there was some kind of informal collaboration between traditional and conventional practitioners. Poor collaboration between traditional and conventional practitioners was due to the fact that the former fear the later would interference with traditional values associated with circumcision.

In-depth interviews were conducted to 16 key informants from the Ministry of Health and Social Welfare, Medical Stores Department, Tanzania Food and Drugs Authority, Association of Traditional Health Practitioners, Muhimbili National Hospital and Aga Khan Hospital. Majority of respondents said there are no policy guidelines on circumcision in Tanzania. There are no kits specific for circumcision as the procedure falls under minor surgery. Most of the respondents proposed to have traditional circumcision

fall under the Ministry of Health and Social Welfare. All respondents said there is no formal relationship between traditional and conventional practitioners. According to the informants conventional and traditional practices are two different disciplines, each with its own principles and procedures; and that traditional practitioners are not legally recognized. Most of the respondents were positive on involvement of traditional practitioners in scaling up safe male circumcision as an effort to reduce HIV infection. However, they were of the opinion that a study should be carried to identify, recognise and understand traditional practitioners and their practice. Most of the respondents recommended the traditional practitioners be registered. Majority of national level key informants were of the opinion that circumcision practices should not be compulsory regardless its importance as a measure to minimize the risk of contracting HIV and other sexually transmitted infections.

Conclusion: Findings of this study indicate that traditional male circumcision in Tanzania is there to stay for quite a long period of time. It is therefore recommended that traditional and clinical circumcision practices be allowed to continue and operate as parallel systems that will complement each other; an Act to formally regulate TMC should be enacted and that traditional practitioners should be registered. The government should develop clear guidelines on the referral linkages between traditional and clinical practitioners and should make available to traditional practitioners surgical tool kits and appropriate medical supplies sustainably. Registered traditional practitioners should be trained on good circumcision practices. Male circumcision should be voluntary and observe human rights and individual consent.

Key words: male, circumcision, traditional, clinical, practitioners, HIV/AIDS, Tanzania

2.0. INTRODUCTION

2.1. Background

HIV/AIDS is one of the major public health problems worldwide. It is estimated that in 2007 about 33.2 million people worldwide were living with HIV and about 2.1 million dying of AIDS. Of the estimated 2.5 million new infections in 2007 about two-thirds (68%) occurred in sub-Saharan Africa (UNAIDS/WHO, 2007; Kallings, 2008). Tanzania is among the countries affected greatly by the HIV/AIDS pandemic. In Tanzania, HIV prevalence in adult population is 7% and a total of 1.8 million adults and children were estimated to be living with HIV and AIDS by the end of 2003 (TACAIDS, 2004).

Currently, HIV/AIDS interventions are directed towards prevention, treatment, care and support among people living with HIV. The main preventative measures focus on behaviour and cultural changes to reverse the main routes of HIV transmissions that include sexual contact and exposure to infected body fluids or tissues and from mother to foetus or child during prenatal period. However, no single intervention on its own is reliable in the reduction of the impact of HIV/AIDS pandemic. This means, for a number of years, the prevention of HIV infection will continue to rely on the application of a combination of interventions that have been proven effective in reducing its transmission among populations.

Male circumcision is the surgical removal of all or part of the foreskin of the penis. It is the oldest known surgical procedures and widely practiced around the world, mostly for religious or social custom. It is estimated that globally and Africa, about 30-40% and 68% of men are circumcised, respectively (www.avac.org/; Hankin, 2006). The earliest documentary evidence for circumcision is from Egypt. According to the book of Genesis (Chapter 17, verse 11) the origin of the rite was among the Jews in the age of Abraham who lived around 2000 BC. Arab traders, who introduced Islam to eastern coast of Africa during the 19th century, also introduced male circumcision, mainly in trading centres. Islamic law necessitates that a male child be circumcised by the 40th day after birth. Circumcision could be obtained from a *ngariba* (an expert) who provided circumcision services for the Arab community. Male circumcision services were also later provided by hospitals, which probably led to the disappearance of the *ngariba* services along the coastal areas.

Global estimates in 2006 suggest that about 30% of males, representing a total of approximately 670 million men, are circumcised. Male circumcision is common in many African countries, and is almost universal in North Africa and most of West Africa (WHO/UNAIDS, 2007). The prevalence of male circumcision in East Africa varies from country to country. It is low (15%) in Burundi and Rwanda and it is high (70-84%) in Tanzania and Kenya (WHO/UNAIDS, 2007). In most African societies where males are circumcised between the ages 6 and 15 years, the main reason is ritual practice (Bailey & Egesah, 2006; Nnko et al., 2001). Circumcision is thought to enhance penile hygiene, reduce incidence of sexually transmitted infections (STIs) among men, and shorten the duration or lessen the infectiousness of STIs. In some instances, enhancement of sexual pleasure (Myers et al., 1985) was considered a secondary reason for male circumcision, in contrast with findings of studies from western countries, which emphasize reduction in sexual pleasure associated with removal of the sensitive foreskin (Collins et al., 2002).

Despite the fact that male circumcision is in most parts of Africa is done in health facilities, in some countries including Tanzania traditional male circumcision is still widely practiced. Traditionally, it is regarded as a rite of passage from boyhood to manhood. Male circumcision among Tanzanians varies

across different tribes and culture. It is common among pastoralists and tribes along the eastern coast (mostly Moslems). However, like in the other East African countries, the Bantu-speaking groups do not traditionally practice male circumcision (Bailey & Egesah, 2006). Similarly, circumcision is not a tradition among the Nilotic-speaking people of the Lake Victoria Basin comprising of large tribes of the Sukuma, Haya, Ha and Nyamwezi. Yet, it is a common tradition among smaller tribes of the Jita, Kwaya, Zanaki, Ikizu, and Kurya (Dogde & Kaviti, 1965). The growth of urban centres and the establishment of district capitals with government representatives from all over the country has led to increased mixing of circumcising and non-circumcising ethnic groups. Thus male circumcision has been adopted is now popular among traditionally non-circumcising tribes (Urassa et al., 2001). Some of the possible factors contributing to the present popularization of circumcision practices include health, sexual pleasure, religion, and ethnic mixing (Nnko et al., 2001).

Recently, there has been increasing interest in the practice of male circumcision in Africa because of its association with HIV infection. Available evidence indicates that male circumcision protects against HIV infection (Patterson et al., 2002; Donoval et al., 2006). Studies have shown that sub-Saharan countries with the highest HIV prevalence are those in which male circumcision is little practiced (Halperin & Bailey, 1999; Moses et al., 1990; Westercamp & Bailey, 2007). Recently, three randomized efficacy trials conducted in Orange Farm in South Africa (Auvert et al., 2005), Kisumu in Kenya (Bailey et al., 2007) and Rakai in Uganda (Gray et al., 2007) have shown that circumcised men were less than half likely to become infected with HIV than those who were uncircumcised. Further studies have demonstrated that male circumcision reduces HIV incidence in men by 50-60% without behavioural disinhibition. A mathematical modelling study, based on the South African trial, estimates that the male circumcision could avert two million new HIV infections and 300,000 HIV-related deaths over the next 10 years in sub-Saharan Africa (Williams et al., 2006). There is also indirect benefit for women and uncircumcised men by reduction in HIV prevalence among their circumcised male partners (Hallet et al., 2008). Moreover, male circumcision may be a cost-effective tool not only in the fight against HIV but also against other sexual and reproductive health problems (Mills et al., 2008).

Evidence show that circumcision reduces the risk of male HIV infection due to the fact that the foreskin is rich in HIV target cells (Langerhans' and dendritic cells, CD4+ T-cells, and macrophages), and the inner surface of the foreskin is less keratinised, making it vulnerable to HIV infection (Patterson et al., 2002; Donoval et al. 2006). The foreskin is retracted over the shaft during intercourse, hence exposing the inner mucosa to vaginal and cervical fluids. Also, abrasions in the mucosa can occur during intercourse, especially at the frenulum, and uncircumcised men are more susceptible to genital ulcer disease, which could increase HIV entry (Weiss et al., 2006). With latest research findings suggesting that circumcised men have a significantly lower risk of becoming infected with HIV, demand for safe, affordable, male circumcision is expected to increase rapidly.

2.2. Problem statement and rationale

Recent studies from Africa have indicated that male circumcision is highly protective of HIV (Mills et al., 2008). Following the compelling evidence from various studies, on March 27, 2007, the UNAIDS and WHO announced recommendations to scale-up male circumcision as an additional important intervention to reduce the risk of heterosexually acquired HIV infection in men (http://www.who.int/hiv/mediacentre/). The fact that the health care system in Tanzania is facing acute shortage of skilled health workers and working tools suggests that traditional male circumcision could be viewed as best alternative but complementary way for scaling up safe circumcision. However, traditional

male circumcision is not safe and is done in unhygienic and unsterile conditions and is associated with complications such as haemorrhage, infections, amputation of the penis, meatal stenosis and urethro-cutaneous fistula (Bailey & Egesah, 2006).

Since male circumcision is protective against HIV acquisition, there is a great need to explore and establish a way of improving traditional male circumcision in Tanzania. This is based on the fact that traditional male circumcision is viewed as a symbol of courage and represents a boy's respect for his family and community, bringing his relatives honour and is difficult to be abolished. Studies done in sub-Saharan Africa among non-circumcising communities have shown that the median acceptability was 65% among men, whereas 69% of women favoured their partners being circumcised, and 81% of both men and women were willing to circumcise their male children. The cost, pain, and complications were universal concerns and need to be addressed in scaling up male circumcision. Implementation efforts can address these concerns by ensuring that the procedure is affordable to those who need it, that pain is minimized through proper anaesthesia, and that complications are limited by proper training, procedure, and oversight.

Despite recommendation made by UNAIDS and WHO to scale-up male circumcision, there is limited crucial evidence-based information on how traditional male circumcision could be made feasible in providing safe and affordable services in support of prevention of HIV transmission in Tanzania. Therefore this study was carried out to gather information of bridging the gap by identifying factors that could limit or facilitate development of partnership between traditional and conventional health services for scale up safe male circumcision in the context of HIV prevention in Tanzania.

2.3. Objectives

The broad objective of this study was to underscore challenges and opportunities for the involvement of traditional practitioners in scaling up safe male circumcision in the context of HIV prevention in Tanzania. Specifically, the study aimed:

- To identify different categories and characteristics of recognized male circumcision practitioners.
- To establish factors that would facilitate or limit the development of partnership between the traditional and the conventional health practitioners for the scaling up of safe male circumcision for the prevention of HIV infection.
- To propose evidence-based strategies for the involvement of traditional practitioners in the scale up of safe male circumcision for HIV prevention while preserving the social context of male circumcision needs in the country.

3.0. METHODS

3.1. Study area, design and sample size

The study was conducted in Monduli, Mkuranga and Bahi districts of northern, eastern and central Tanzania, respectively (Figure 1). The selection of districts specifically targeted the Maasai (Monduli), Gogo (Bahi) and Zaramo (Mkuranga) who are known to practice traditional circumcision. A descriptive cross-sectional study design, employing both qualitative and quantitative techniques was used in data collection.

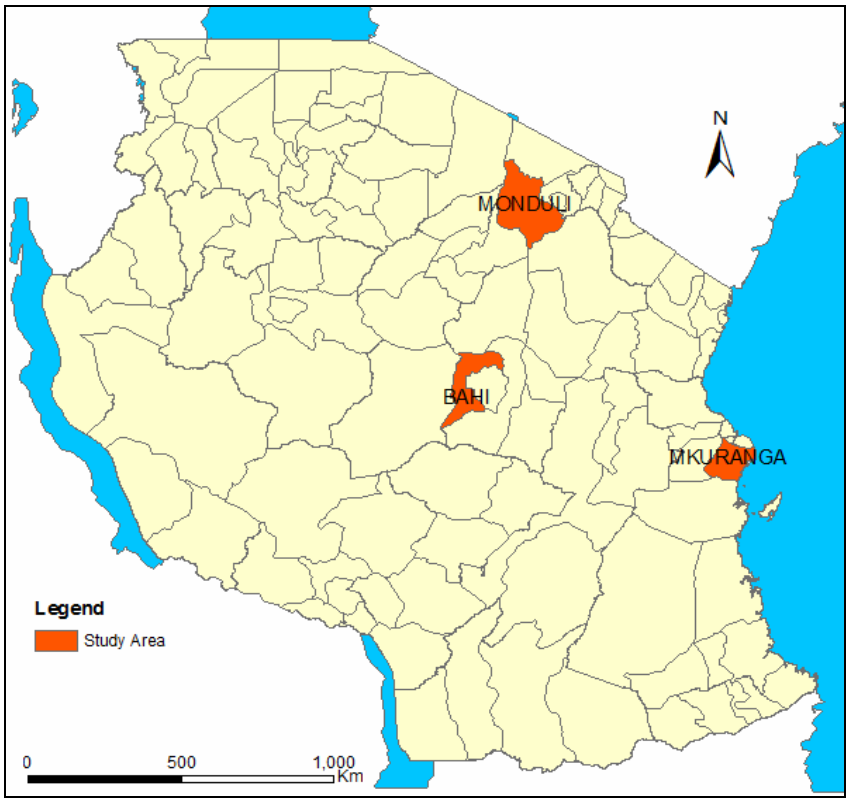

Figure 1: Study districts

The appropriate sample size for households survey was determined using WHO Sample Size Determination in Health Studies (Lwagwa & Lemeshow 1990-2000) basing on the following factors; 95% confidence interval (CI), anticipated population proportion (50%), precision (relative and absolute) and population size:

$$N = \frac{z^2_{1-\alpha/2}P(1-P)N}{d^2(N-1)+ z^2_{1-\alpha/2}P(1-P)} = 554$$

To account for drop up during the survey, 10% of the calculated sample size was added to get approximately 600 individuals to be recruited for household survey. Probability Proportional to Size was

used to determine the proportional sample of study participants to be interviewed from each of the three districts.

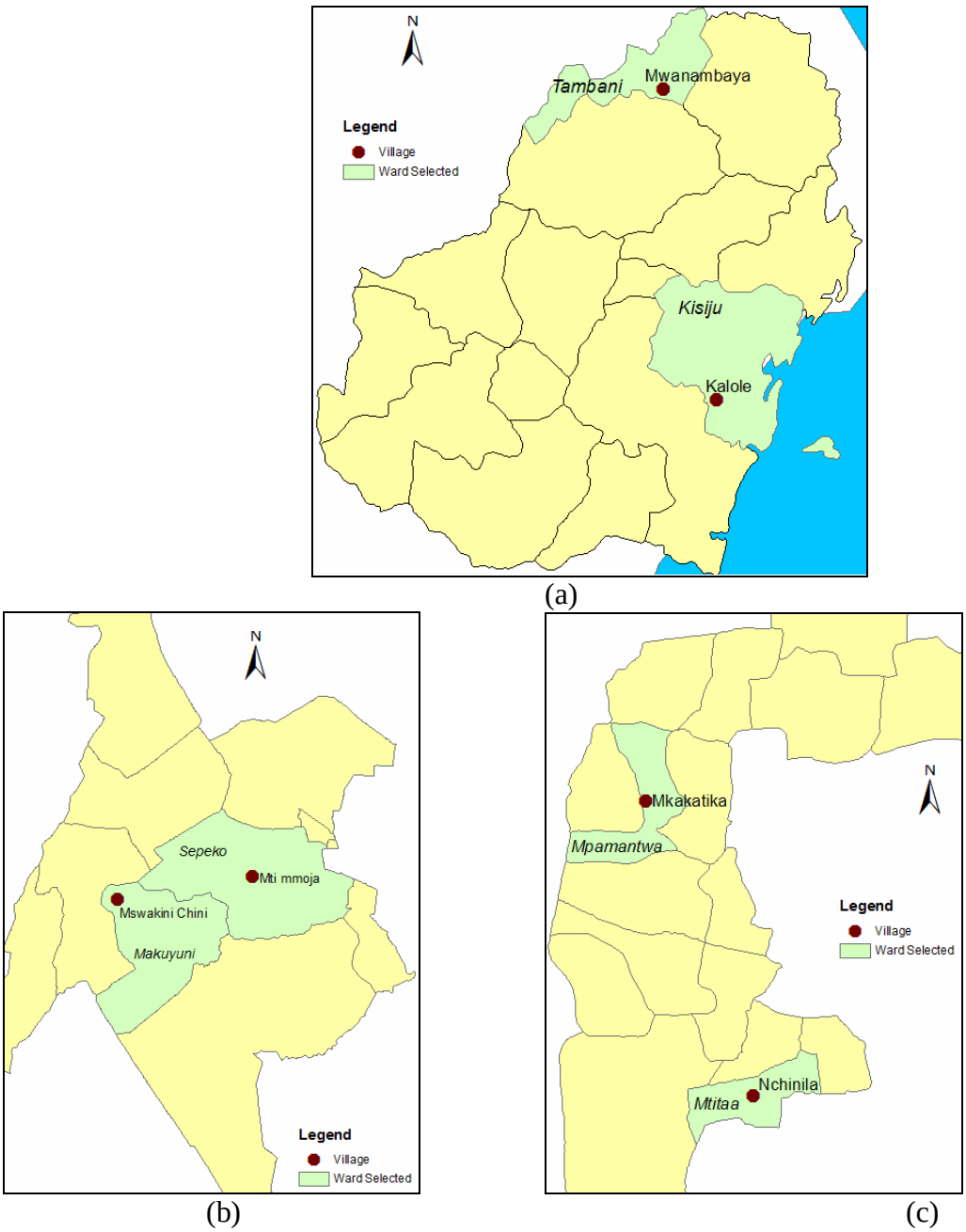

Figure 2: Ward and Village selected in (a)Mkuranga, (b) Monduli and (c) Bahi districts

For household survey, two villages from each district were selected using a table of random number Figure 2a,b,c). Households were then selected randomly whereby male and female adults were alternatively interviewed in each household. A convenience sample of men who had undergone circumcisions was also interviewed. At ward level, 10 traditional practitioners were purposely selected

and interviewed to identify categories and practices on male circumcision (including age of clients, pre- and post-operative care, cost of operation and other related issues). Traditional practitioners were identified by ward leaders and by young men who underwent circumcision. Practitioners (clinical circumcisers) from conventional health facilities (1 hospital, 2 health centres and 10% of all dispensaries) were selected and interviewed in each district, to assess their experience with the MC procedure, their level of training, their experience with dealing with complications, and the amount of money they charge for the procedure.

3.2. Data Collection tools

Research tools were developed, translated into Kiswahili, and pre-tested in Kibaha District, eastern Tanzania. Eight research assistants were recruited and trained on the research methodology and ethical issues. All investigators and research assistants participated in the field pre-testing of tools. Tools were developed according to the objectives of the study. Specific information was sought on the categories of traditional practitioners, their characteristics and practices as per cultural background. Factors that hinder or facilitate partnership between traditional and conventional health practitioners were explored. Similarly, their views on partnership with traditional practitioners and health workers were sought.

3.2.1. Household interviews

This aimed at getting general views about traditional male circumcision. In each house, the head of the household or the spouse was interviewed. All participants were asked questions regarding demographics, the time/period and nature of the procedure, their satisfaction, reported complications and knowledge of any peers who had experienced complications after the circumcision. For the purposes of this study, circumcisions performed at a health facility (hospital, health centre, and dispensary) by anyone considered by the participants to be a trained clinician was categorized as “clinical circumcision”. All others performed by non-medical personnel were categorized as “traditional circumcision”.

3.2.2. In-depth interview to key informants

This was conducted to key informants at national and district and facility levels. At national level Medical Stores Department, Ministry of Health and Social Welfare; Association of Traditional Health Practitioners (CHAWATIATA), Muhimbili National Hospital and Aga Khan Hospital were involved. At the district level interviews included members of the Council Health Management Team, District Planning Officer, District Administrative Secretary, Community Development and District Cultural Officers.

A number of personnel at health care facilities were involved. At district hospital, these included Medical Officer in charge, Laboratory personnel, Anaesthetist, pharmacist and nurses. At Health Centres, clinicians, nurses and laboratory technicians and at dispensaries, clinicians and nurses were interviewed. In-depth interview with traditional practitioners was also conducted at community level.

3.2.3. Focus Group Discussion

Focus Group Discussions were conducted to men who were circumcised by the traditional practitioners). In each district, four FGDs were conducted, two for elders and two for youths. The Respondent Driven Sampling (RDS) technique was used to get the targeted groups. This technique involved identification of the first participant who was traditionally circumcised who will later identify other participants with the same characteristics. Each group had 8-12 participants.

3.3. Data analysis

Quantitative data was double entered into a computer using EPIDATA software. Compilation was performed by a data manager and a statistician where different consistence and range aiming to have a high quality dataset before analysis was assured. The analysis was structured using both STATA and SPSS by creating analysis tables that were used to layout the tables used during data analysis. Qualitative data was transcribed immediately after fieldwork. The transcriptions were typed using MS Word XP Processor. The typed data was analyzed by the use of software for analysis of qualitative data (NVIVO8). Identification of major themes according to specific objectives and establishment of possible relationships was performed.

3.4. Ethical Considerations

Assessing the sensitive nature of the study and the willingness of the target populations to participate in the study, a number of ethical considerations were made to protect the privacy of the study participants and to maintain the confidentiality of the data. Every effort was made to protect participant's privacy. Research Assistants were trained in ethical procedures to ensure informed consent and protect confidentiality of participants. Information on purpose and procedure for conducting the study (including the right to refuse or withdraw at any time) was explained to all interviewees. In this study, no identifiable information was collected from individuals. During analysis and interpretation, individual names were not being linked to any data collected from the study.

This study received ethical approval from the Medical Research Coordinating Committee of the National Institute for Medical Research (NIMR/HQ/R. 8a/Vol IX/783 of 6th March 2009).

4.0. RESULTS

4.1. Household Respondents

4.1.1. Demographic information

Socio-demographic characteristics of adult household members interviewed are presented in Table 1. A total of 601 individuals were involved in the household interviews. Of this, 54.1% were males and 45.9% were females. The mean age (±SD) of the respondents was 36±12, 45±16, 38±15 years in Bahi, Mkuranga and Monduli district, respectively. Majority (51.1%) of the respondents had primary school education. However, individuals without formal education accounted for 45.6% of the respondents. The illiteracy rate was highest (55.5%) in Monduli district. Most (74.0%) of the respondents were peasants. Livestock keepers were common in Monduli (44.5%). None of the respondents was keeping livestock in Mkuranga district. Married individuals accounted for the majority (85%) of the respondents.

Table 1: Demographic characteristics of the household respondents

Variable	Bahi (N=257)	Mkuranga (N=144)	Monduli (N=200)	Total (=601)
Sex				
Male	153(59.5)	67(46.5)	105(52.5)	325(54.1)
Female	104(40.5)	77(53.5)	95(47.5)	276(45.9)
Mean age (SD)	36(12)	45(16)	38(15)	39(14)
Education status				
Primary education	157(61.1)	69(47.9)	81(40.5)	307(51.1)
No formal education	94(36.6)	69(47.9)	111(55.5)	274(45.6)
Secondary education	5(2.0)	4(2.8)	7(3.5)	16(2.7)
Higher education	1(0.4)	2(1.4)	1(0.5)	4(0.7)
Occupation				
Crop farming	236(91.8)	111(77.1)	98(49.0)	445(74.0)
Cattle keeping	5(2.0)	0(0.0)	89(44.5)	94(15.6)
Petty Business	3(1.2)	18(12.5)	4(2.0)	25(4.2)
Public service	3(1.2)	6(4.2)	2(1.0)	11(1.8)
Self employment	6(2.3)	2(1.4)	2(1.0)	10(1.7)
Home wife	2(0.8)	4(2.8)	4(2.0)	10(1.7)
Others	2(0.8)	3(2.1)	1(0.5)	6(1.0)
Marital status				
Married	213(82.9)	123(85.4)	175(87.5)	511(85.0)
Widow	13(5.1)	10(6.9)	7(3.5)	30(5.0)
Single	26(10.1)	8(5.6)	18(9.0)	52(8.7)
Separated	3(1.2)	1(0.7)	0(0.0)	4(0.7)
Divorced	2(0.8)	2(1.4)	0(0.0)	4(0.7)

4.1.2. Community practices

Traditional male circumcision (TMC) was mentioned as the most common traditional health-related practices in all the three districts (Figure 3). Female circumcision (female genital mutilation) was mentioned by 15.8% of the respondents. It was mostly (39.5) mentioned as a common practice in Monduli than in the other two districts.

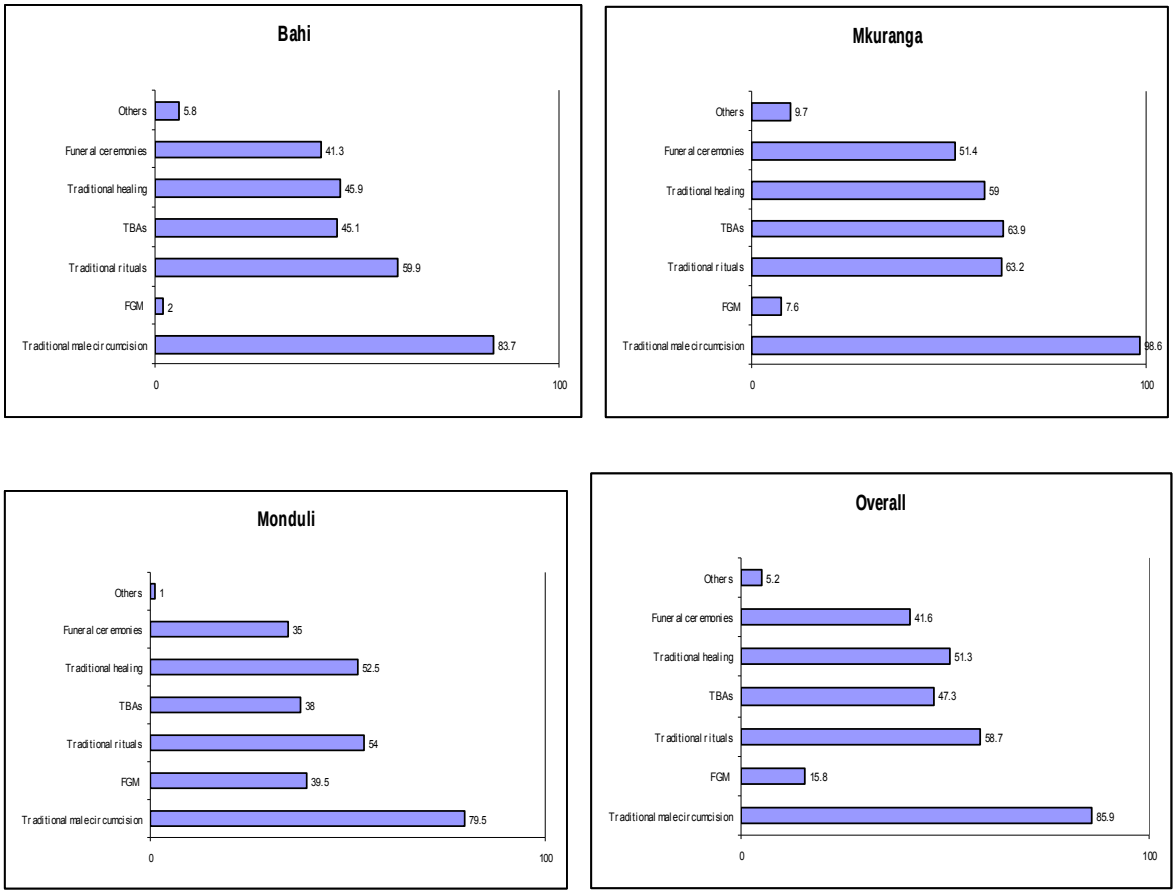

Figure 3: Most commonly community traditional practices

Of the 601 respondents, 88.2% (Bahi=75.1; Mkuranga= 99.3%; Monduli = 97.0%) admitted that circumcision is a common practice among their communities. When asked whether there was preference to the traditional versus clinical male circumcision (CMC), 71.4% mentioned traditional male circumcision was most preferred. Only 21.0% preferred CMC (Table 2).

Table 2: Proportion of respondents on preference of types of male circumcision practices

	Bahi (257)	Mkuranga (144)	Monduli (200)	Overall (601)
Traditional	124(48.3)	112(77.8)	193(96.5)	429(71.4)
Clinical	111(43.2)	12(8.3)	3(1.5)	126(21.0)
Both Traditional and Clinical	21(8.2)	18(12.5)	0(0.0)	39(6.5)
Don't know	1(0.4)	2(1.4)	4(2.0)	7(1.2)

When asked if TMC is accepted in the community, overall, 83.4% said yes. The majority were from Monduli (98.0%) followed by Mkuranga (93.8%) and Bahi (66.2%). Of the 601 respondents, only a quarter (25.8%) associated TMC with straditional beliefs. The proportions by district were 26.1% in Bahi, 36.8% in Mkuranga and 17.6% in Monduli.

Table 3: Community Responses on knowledge of type of operation of TMC

Circumcision ceremony type	Bahi (257)	Mkuranga (144)	Monduli (200)	Total (601)
In groups	128(49.8)	36(25.0)	118(59.0)	282(46.9)
Individual	60(23.4)	57(39.6)	45(22.5)	162(27.0)
Both group and Individual	51(19.8)	45(31.3)	35(17.5)	131(21.8)
Don't know	18(7.0)	6(4.2)	2(1.0)	26(4.3)

Group traditional male circumcision ceremony was most common (46.9%) among the communities in the three districts. It was most common (59%) among communities in Monduli and least common (25%) among those in Mkuranga district (Table 3). Individual traditional male circumcision practice was becoming common in Mkuranga. Overall, a total of 340 (56.6%) respondents were aware of the availability of traditional practitioners in their communities which was 92.4%, 55.3% and 32.5% of the respondents in Mkuranga, Bahi and Monduli, respectively. The majority of the respondents (83.7%) were of the opinion that traditional practitioners' practices were similar. Only 16.3%; i.e.; Bahi, 16%, Mkuranga 14.6 and Monduli (18%) said that there were some differences in practice.

Table 4: Reasons for preference of traditional male circumcision

Reasons	Bahi (n=137)	Mkuranga (n=96)	Monduli (n=167)	Overall (n=400)
Initiation school	80(58.4)	37(38.5)	119(71.3)	236(59.0)
Changing of boy to manhood (warrior)	0(0.0)	0(0.0)	110(65.9)	110(27.5)
Sense of community and solidarity with peers	19(13.9)	8(8.3)	59(35.3)	86(21.5)
As a gift from his family, relatives and friends	30(21.9)	26(27.1)	60(35.9)	116(29.0)
Other	16(11.7)	31(32.3)	26(15.6)	73(18.3)

When asked whether there are advantages for one to be traditionally circumcised, 66.6% of the total respondents mentioned at least one advantage. Majority of the respondents who could identify at least one advantage were from Monduli (83.5%) followed by Mkuranga (66.7%) and Bahi (53.3%). The most frequently mentioned reasons for preferring TMC was that the boy receives education on his role in the society and his responsibilities as a husband (Table 4). However, a number of disadvantages were mentioned. District-wise, 49%, 39.6% and 35.5% of the respondents in Bahi, Mkuranga and Monduli, respectively, knew at least one disadvantage of traditional male circumcision. The frequently mentioned reasons for not preferring TMC are presented in Table 5 which included: too much pain to the boys (63.4%) and high costs (50%).. Surprisingly high risk of HIV transmission was only mentioned by a small proportion (14.6%) of the respondents.

Table 5: Reasons for non-preference to Traditional male circumcision

Reasons	Bahi (n=126)	Mkuranga (n=57)	Monduli (n=71)	Overall (n=254)
Pains (no anaesthesia)	75(59.5)	32(56.1)	54(76.1)	161(63.4)
Higher costs	56(44.4)	24(42.1)	47(66.2)	127(50.0)
Burden of hosting people for elaborate ceremony	1(0.8)	0(0.0)	61(85.9)	62(24.4)
Fatigue due to long period of ceremonies	20(15.9)	6(10.5)	14(19.7)	40(15.8)
High risk of HIV infection through sharing of the knife	9(7.1)	21(36.8)	7(9.9)	37(14.6)
Disruption from school attendance	7(5.6)	3(5.3)	2(2.8)	12(4.7)
Traditional rites are against Christian teachings	4(3.2)	0(0.0)	3(4.2)	7(2.8)
Others	10(7.9)	5(8.8)	1(1.4)	16(6.3)

A total of 253 (42.1%) of the respondents knew at least one advantage of clinical male circumcision (CMC). The proportion was 54.1% in Bahi, 49.3% in Mkuranga and 21.5% in Monduli. As shown in Table 6, the most frequently reasons for preference of CMC mentioned were: safety (76.3%) and the wound healing fast and there is less HIV risk (38.7%).

Table 6: Reasons for preference to Clinical Male Circumcision

Reasons	Bahi (n=139)	Mkuranga (n=71)	Monduli (43)	Overall (n=253)
Safe	109(78.4)	61(85.9)	23(53.5)	193(76.3)
Less pain	45(32.4)	39(54.9)	14(32.6)	98(38.7)
Less risk of infection	52(37.4)	25(35.2)	10(23.3)	87(34.4)
Less risk of mutilation	36(25.9)	22(31.0)	11(25.6)	69(27.3)
Well organized	31(22.3)	12(16.9)	19(44.2)	62(24.5)
Privacy	23(16.6)	9(12.7)	0(0.0)	32(12.7)
Others	29(20.9)	6(8.5)	3(7.0)	38(15.0)

A total of 69 (11.5%) respondents mentioned at least one disadvantage of CMC. The respective proportion by district was 6.2%, 9.0% and 20% in Bahi, Mkuranga and Monduli. The most frequently mentioned reason for low preference CMC are given in Table 7 which include being against tradition and culture; that the initiates are unable to practice their traditional rites, and risk stigmatisation.

Table 7: Reasons for non-preference to Clinical Male Circumcision

Reasons	Bahi (n=16)	Mkuranga (n=13)	Monduli (n=40)	Overall (n=69)
It is against tradition/culture	8(50.0)	4(30.78)	40(100.0)	52(75.4)
Boys miss initiation school	4(25.0)	5(38.5)	20(50.0)	29(42.0)
Stigmatization	2(12.5)	0(0.0)	19(47.5)	21(30.4)
Others	3(18.8)	7(53.8)	1(2.5)	11(16.0)

Only 228 (37.9%) of the respondents were aware of the occurrence of adverse events associated with MC such as severe bleeding, amputation of the penis, infection and death. Most of respondents aware were from Bahi (49%) and Mkuranga (48.6%). Sixteen (2.7%) and 141 (23.5%) respondents were aware of individuals who experienced adverse event due to clinical and traditional circumcision, respectively. Most (N=7; 4.4%) of the adverse events due to clinical circumcision were reported from Mkuranga whereas adverse events due to traditional circumcision were frequently reported from Bahi (N=89; 34.6%) (Figure 4).

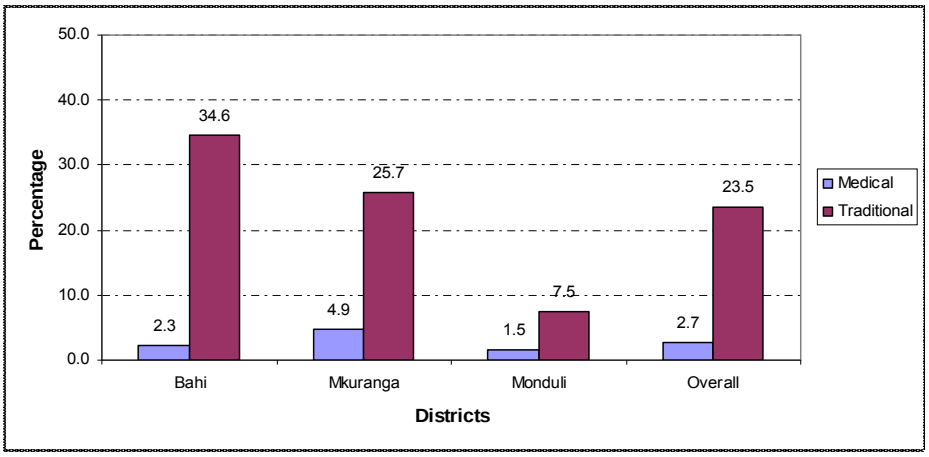

Figure 4: Proportion of respondents who were aware of adverse events due to TMC

Adverse events due to clinical circumcision reported included severe bleeding, wound sepsis and partial amputation of the penis. On the other hand, severe bleeding, delayed healing, amputation of the penis, wound sepsis were frequently mentioned in traditional circumcision (Table 8), and most of the adverse events were reported from Bahi district.

Table 8: Response on the frequency of types of adverse event due to traditional male circumcision

Type of adverse event	Bahi	Mkuranga	Monduli
Severe bleeding	64	21	8
Delayed healing	14	9	2
Amputation of the penis	3	0	0
Wound sepsis	5	5	2
Inflammation/Swelling	1	0	0
Meatal stenosis	1	0	0
Excessive pain	1	0	0
Urethro-cutaneous fistula	1	0	0
Shock	0	0	2
Death	0	1	2
Total	**91**	**36**	**16**

Less than a half (45.8%) of the respondents reported to know how CMC is performed. More respondents (59.9%) in Bahi than in Mkuranga (59.7%) and Monduli (17.5%) knew the procedure for performing CMC. The majority (98.2%; N=270) were knowledgeable that circumcision is been done under local anaesthesia. The proportion of respondents, by district, with knowledge of the use of anaesthesia during circumcision was highest in Bahi (98.7) than Mkuranga (97.7%) and Monduli (97.1%). In terms of preference for male

circumcision, 52.8% preferred conventional circumcision, with respondents from Bahi (77.8%) and Monduli (18.5%) accounting for the largest and smallest proportion, respectively.

Overall, about half (45.9%) of the respondents said that the father was the decision maker when it comes to circumcision of his son. Whereas the father was mentioned by the majority in Monduli district, both the father and mother were involved in making decision in Mkuranga district (Table 10). A larger proportion (23.5%) of the respondents in Monduli said that the initiate makes his own decision.

Table 9: Number (%) of the respondents and their choice between traditional (TMC) and clinical (CMC) circumcision

Response	Bahi	Mkuranga	Monduli	Overall
Conventional	200 (77.8)	80 (55.6)	37 (18.5)	317 (52.8)
Traditional	41 (16.0)	58 (40.3)	152 (76.0)	251 (41.8)
Any of the two	8 (3.1)	5 (3.5)	2 (1.0)	15 (2.5)
None	1 (0.4)	0 (0.0)	0 (0.0)	1 (0.2)
Don't know	7 (2.7)	1 (0.7)	9 (4.5)	17 (2.8)

A total of 304 (50.6%) respondents said that informed consent is normally sought from boys before circumcision. The proportion was relatively higher in Monduli district (80.5%) as compared to Bahi (47.5%) and Mkuranga (14.6%) districts.

Table 10: Number (%) of respondents as to who makes decision for male circumcision

Response	Bahi (257)	Mkuranga (144)	Monduli (200)	Overall
Father	106 (41.3)	58 (40.3)	112 (56.0)	276 (45.9)
Both mother and father	141 (54.9)	81 (56.3)	29 (14.5)	251 (41.8)
The boy himself	1 (0.4)	0 (0.0)	47 (23.5)	48 (8.0)
Mother	5 (1.9)	3 (2.1)	5 (2.5)	13 (2.2)
Grand Parents	0	0	1 (0.5)	1 (0.17)
Others	4 (1.6)	2 (1.4)	6 (3)	12 (2)

4.1.3. Linkages

Only 20.6% (124/601) of the respondents admitted to know an existence of collaboration between Traditional and Clinical circumcisers in their communities. The responses were higher in Bahi (24.5%), followed by Monduli (18.5%) and Mkuranga (16.7%). However, one-third of the respondents did not know if any collaboration existed. The type of collaboration mentioned to included (i) invite each other to attend meetings; (ii) health workers conduct trainings for traditional practitioners; (iii) health workers pay visits to traditional practitioners; (iv) traditional practitioners refer complicated cases to health facilities; and (v) sometimes, they interact freely.

A total of 405 (67.4%) of the respondents were of the view that it is important to create linkages between traditional and clinical male circumcisers. Most of them were from Mkuranga (75.7%), followed by Monduli (68.5%) and Bahi (61.9%). On average, 17.6% respondents (Bahi=18.7%; Mkuranga= 17.4%; Monduli= 16.5%) did not know the importance of collaboration between traditional and conventional practitioners.

4. 2: Focus Group Discussion

4.2.1. Demographic characteristics

A total of twelve focus group discussions were conducted in three districts of Bahi, Monduli and Mkuranga involving youths aged 18-25 years (unmarried) and adults aged 26 -95 years (married ones). All participants in the age groups selected were traditionally circumcised. A large proportion of them were livestock keepers. Each group had 8-12 participants. There moderator guided the discussion using the developed guide, the discussion was tape recorded and main points were taken by another researcher.

4.2.2. Awareness on Traditional Male Circumcision

Discussants reported that TMC was widely being practices in the study districts and it was reported that most cases circumcision is done by using the same knife after sterilization in boiling water. However, some reported that currently circumcision was being in an improved situation by using sterile instruments and traditional practitioners are medical personnel as stated by one of discussant from Monduli district:. "*However,...nowadays traditional circumcisers are medical personnel and have improved their services, they use gloves, and every boy being circumcised with his own knife. The circumciser would then clean his hand by using hot water before moving to another person...* " (Discussant, Mkakatika- Monduli).

It was revealed that traditional circumcision is done in both groups and individual ceremonies. However, in the Maasai communities individual circumcision ceremony is strictly not allowed. Concerning specific season for circumcision, circumcisions among the Maasai are performed after every seven years, whereby all young people aged 18-25 years are being circumcised and attend the initiation process in a group. This was also revealed in focus group discussion where members said: *"We do circumcise according to age groups after every seven years and each age group are given its own name. For instance we are* landiis *and the ones who will follow us were* koriyangi*. The aim is to enhance respect among age groups… if you are circumcised alone you will be segregated from the community…*" (FGD Adult, Monduli). However, in Bahi and Mkuranga districts, traditional circumcision is performed every year from June to July during school holidays. Although traditional practitioners are usually invited in specific areas to perform circumcision, they are not involved in preparatory activities.

All group discussants said that traditional circumcision is part of their customs and tradition. It has been practiced by their ancestors from time immemorial and hence it is difficult to change it. One had this to say: *"Traditional circumcision is part of our customs and tradition……. We cannot go against what we have inherited because in our Maasai community we cannot be circumcised in any other way like the Waswahili. If you isolate yourself you will not be respected"* (FGD, male adult, Monduli). On the other hand, traditional circumcision in Mkuranga was associated with Islamic faith as justified by this quote; *"for Muslims it is a sign of 'kuingia suna' where a person has to follow Islamic morals"* (FGD youth Mkuranga).

All group discussants perceived traditional circumcision as the best option. In Maasai communities, traditional circumcision brings different age grades together and builds respect with each other because through which each one understands his roles and responsibilities. Circumcision was also perceived by some discussants from Mkuranga and Monduli to prevent sexually transmitted infections.

4.2.3. Age at circumcision

Each district had its own age group for circumcision. In Monduli, they normally circumcise from 18-25 years because this age group is believed to be mature enough to learn lifestyle in adulthood (initiation) and can take care of their livestock and other properties. In Bahi however, circumcision is done to the younger groups from 7 years depending on the parent's decisions and availability of food, and is most often done around June. Contrary to the two districts, Mkuranga discussants said that nowadays there is no specific age group for circumcision as it was in the past days where it was from 12 years and above as one said: *"Nowadays the age criterion is ignored even the traditional arrangements are no longer adhered to. It is no longer a tradition rather it is more for hygiene and prevention against infections. Even very young children are circumcised"* (FGD adult, Mkuranga). This was also emphasized by one young discussant: *"The way I understand there is no a specific age category. It is very good for a person to be circumcised before starting sexual relationship. That means, before someone is 15 years old he should already be circumcised because at this age, most youths start sexual relationship. Circumcision will help him from getting infections like syphilis"* (FGD youth, Mkuranga).

4.2.4. Traditional circumcision practices

Traditional circumcision is practiced at the community by traditional practitioners as it part of the custom and tradition. Discussants said that community members believed the use of anaesthetics in clinical circumcision makes someone a coward. Locally made equipments are therefore used for circumcision. The knife used for circumcision in Mkuranga is named as '*simba*'. It is through these traditional practices where there is formation of different age grades *('rika')* like '*Morani'* for Maasai. Initiation school is also provided during this time. In both districts, there are specific areas that are identified for circumcision (Figure 5). In Bahi one had this to say: *"Traditional circumcision is done in this community mostly in June and there is a specific identified area for circumcision. Identification of the area depends on the preference of traditional circumcisers and parents of the respective boy. Usually the area must be under a big tree. The area under the tree is cleaned before circumcision and around 50 children can be circumcised at a time"* (FGD, adult, Bahi).

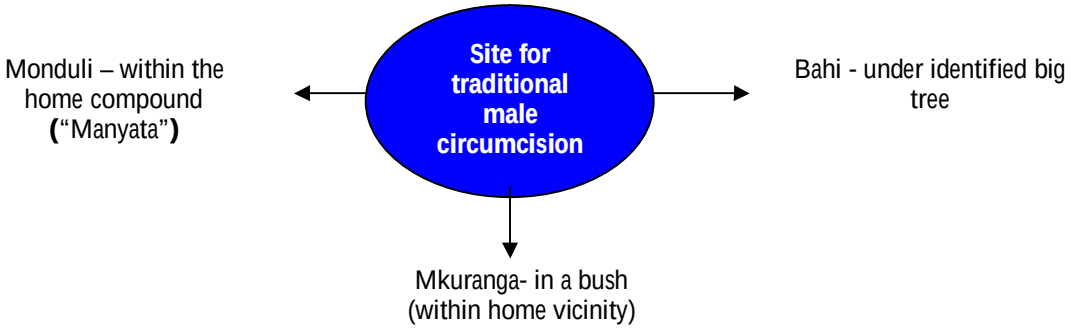

Figure 5: Site for used for traditional male circumcision

All group discussants said that their communities have traditional practitioners who are recognized because of their practice. In Bahi and Mkuranga, traditional practitioners are indigenous people who are living within the community members. In Monduli, they were living far away that they are invited when needed. Discussants said that the availability of traditional practitioners among the communities simplifies the process in terms of distance and facilitates regular follows up of clients after circumcision (Table 11). Other discussants opted for traditional circumcision because they have not experienced any complication with the procedure, as one discussant said: *"Traditional circumcision is more safe as there is no any complication that have had happened. Our traditional circumciser take precautions and use knives or razor*

blades for a number of boy and then change to avoid transmission of diseases such as HIV/AIDS" (FGD, adult Monduli).

In all districts, the pre-circumcision preparations include preparing local brews and performing traditional practices. Two discussants in Bahi said that some community members usually consult traditional healers to predict if it is safe to circumcise that season and if there is any indicative sign of quick healing. After circumcision, the circumcised candidate is given traditional medicine according to their culture to fasten the healing process. For example in Bahi *'kangara'* which is the combination of urine of an elderly mother and porridge is given to the circumcised candidate. A close follow up is made until one heals. There is a specific person assigned to take care of circumcised boy. These include cleaning of the wound, making sure that they sleep properly to avoid injuries to the wound. Traditional ceremony is done after healing of the wound.

Concerning categories of traditional practitioners, all groups said to have no special categories although during the circumcision process, some of them work together with specific assigned responsibility like circumcising, help in applying medicine on the circumcised penis and dressing of the wound. Discussants in Monduli however, clarified that traditional practitioners differ on their experience and the time spent to circumcise a single client (short versus long time). In Bahi, discussants said that there are traditional practitioners who are believed to have *'good hands'* in which the wound heal quickly after circumcision.

Table 11: Discussants' reasons for preference for traditional circumcision

District	Reasons
Monduli	Custom and tradition More safe Sign of recognition and respect Initiation of boys to become a warriors
Bahi	Custom and tradition More safe It is cheap More privacy
Mkuranga	Traditional practitioners are specialists and have a special way of circumcising Traditional Practitioners are close to people Custom and tradition More safe Cheap Easy follow up of clients after circumcision

Regarding decision making, in Bahi and Mkuranga, discussants said that both parents (father and mother) discuss and agree before informing other relatives. Among the Maasai, the head of the household (father) usually makes decision and inform other traditional elders without involving the mother. In both districts, children were usually informed of what will happen in the last stage to reduce fear.

Discussants said that healing period depends on age and whether a candidate has already engaged in sexual intercourse or not. In Monduli, for example, discussants said that it takes two weeks for the

wound to recover if the candidate has not yet engaged sexual intercourse and 1-2 months for the exposed ones. Severe bleeding was reported as the main complication in all districts. However, if it happens, traditional practitioners usually re-examine the wound and control bleeding by applying traditional medicine. The candidate is only sent to the health facility if there is no recovery. Severe bleeding and later wound healing in Mkuranga was associated with witchcraft. The victim will only be sent to health facility if the health provider is a man: "*……if part of the penis is cut accidentally, the case is not referred to the health facility rather the traditional circumciser use traditional medicine to heal the part although it's already a disability"* (FGD, youth, Mkuranga).

4.2.5. Linkages

Discussants in all groups said that there is no collaboration between traditional practitioners and conventional health workers. Yet, traditional practitioners would refer complicated cases to the health facilities. One had this to say: *"I think it is important to strengthen the relationship between the two so that if there is a complication during circumcision, traditional circumcisers can refer the case and be attended appropriately. The relationship will also improve the circumcision process"* (FGD, adult, Monduli).

The following proposals were put forward on how to strengthen the linkages between the two practitioners:

(i) Conduct meeting involving traditional practitioners and conventional health workers so that they can help each other when a need arise;
(ii) Traditional practitioners to be recognized and respected; and
(iii) (iii) Clinicians to learn traditional practices in circumcision.

All groups commended the efforts to use traditional practitioners in scaling up circumcision for HIV prevention. They supported the idea as they believed that the traditional practices will be improved and children will be safer as one said: *"It is a good idea because traditional circumcision will be improved. For example in this village the traditional circumcisers do not use gloves during circumcision, …. Protective gears at all. They risk getting HIV*" (FGD youth, Bahi).

Other advantages of taking traditional practitioners on board were mentioned to include the fact that community members will build more trust as the traditional practitioners will get more education and improve their expertise and that HIV infection rate will be reduced. When asked on how to involve traditional practitioners in the programme, they responded by saying that:

(i) Traditional practitioners should be registered;
(ii) Education should be provided to traditional practitioners on how to prevent HIV transmission to themselves and their clients;
(iii) Government should provide equipment and supply to avoid use of the same instrument for more than one client, identify clean and safe environment for circumcision and should strengthen relationship between the two practitioners;
(iv) Communities and traditional practitioners should be sensitized on the need for safe and hygienic circumcision.

4. 3: Traditional Practitioners

4.3.1. Demographic characteristics

A total of 24 traditional practitioners (23-85 years old) from three districts were involved in the survey, these included 13 from Mkuranga, 7 from Bahi and 4 from Monduli. Over half of the informants (14/24) had no formal education and farming was their main (20/24) income generating activity. In all the three

districts there were no traditional practitioners association. However, in some instances, there was cooperation between individual practitioners.

4.3.2. Male circumcision experience

Overall, traditional practitioners had adequate skills in performing circumcision. The reason behind this could be due to the long experience they have. Most of them have been engaged in this activity for more than three years and they have been circumcising between 20 and 200 clients per year. There was a general agreement from all traditional practitioners that members of their communities preferred traditional male circumcision as opposed to clinical male circumcision. Cultural backgrounds were reported to be the main reason for them to prefer and retain this traditional practice. Boys are circumcised traditionally in order to adhere to the society norms from pre-arranged ceremonies that go with circumcision exercises. During circumcision ceremony boys are taught on their roles and responsibilities in their society.

4.3.3. Male circumcision skills

Most traditional practitioners learned the practice from their father or grandfather, few of them admitted to have learnt by seeing other people performing circumcision. All traditional practitioners admitted to have no formal training on their work. However, they had informal training from their father or grandfather through watching the circumcision procedures as revealed in the following statement: *"I learned from my father, he taught me how to circumcise and how to use both traditional and modern medicine*" (Traditional Practitioner, Mkuranga). Another respondent had these to say: "*...three years ago I was taught how to dress wounds and how to use traditional herbs to heal the wounds…*" (Traditional Practitioner, Bahi)

4.3.4. Equipment used in traditional male circumcision

There were various responses on the equipment used for circumcision. Most of the Traditional practitioners were using razor or knives for circumcision and cotton wool for dressing wounds. A few practitioners used the same knife to circumcise more than one person. This was especially found in Mkuranga district, as confirmed by the following expression: "*…Yes, I do use the same knife to circumcise three boys. Then I would take another knife…after I circumcise another I wash the knife and rub it using a cotton wool, before using in another person*…" (Traditional Practitioner, Mkuranga). However in recent years (since 2000), some traditional practitioners started using one knife for one child. Re-use of the knife after sterilization was mostly observed in Monduli district. *"…nowadays we are using one knife for one person, but before the year 2000 we were using one knife to more than one person and a knife was not sterilized we just rub it to remove blood and circumcise other persons (TC Monduli).*

Traditional practitioners said that traditional circumcision is done either in groups and individual. However, among the Maasai communities, individual circumcision is not allowed, because it is performed after every seven years, when all young people aged 18-25 are being circumcised together. *Circumcision is done in groups after every seven years and one boma might have 3-5 youths for circumcision* (TC Monduli). However, in Bahi, group circumcision may bring together a larger number of boys: *"We circumcise* once *per year in groups and one group might have 40-50 youth"* (TC Bahi). "*It depend on the harvesting season, sometimes we circumcise in groups or individual"* (TC Mkuranga).

4.3.5. Costs for male circumcision

The costs for the circumcision practices differ from one practitioner to another within the same district. Most of the traditional practitioners performed were charging between TShs 5,000 and 10,000 per person. Payments may be also in material thing or in-kind. Payments were done after circumcision procedure has been completed.

4.3.6. Record keeping

Most of the traditional practitioners do not keep records of their clients, but they understand the importance of keeping records, as one said. "*I always keep memory in my brain, but I think keeping records in writings is good because it helps to understand the number of clients circumcised…*" (Traditional Practitioners, Bahi). Few traditional practitioners said to keep records of their clients in order to protect themselves and to avoid false accusation from the community in case of complications. One traditional practitioner had these to say: "*I always keep records by writing names and places where they come from, because if there is any complication it is easy to identify who was the circumciser*" (Traditional Practitioner, Monduli).

4.3.7. Categories of traditional practitioners

Although all informants reported to have no categories, their practices vary from one district to another because of cultural differences. Both Maasai and Gogo leave a small piece of foreskin which is used as a tribal identification. The Zaramo remove the whole foreskin as they believe it is an unhygienic and against their religious beliefs.

4.3.8. Adverse events and post-circumcision management

The most commonly encountered complications during circumcision were severe bleeding and amputation of the penis and infection of wound. They usually apply traditional herbs as their first option before referring the client to health facility. Transferring of cases to health facilities is only provided if a patient takes too long to recover: *"…if a client gets severe bleeding I always used traditional herbs, and if the wound is delayed to heal I transfer him to a health facility* (Traditional Practitioners, Mkuranga district). Another Traditional Practitioner had these to say: *"…if a client bleeds severely we give him cow's blood, if the wound delay healing, we use oil mixed with traditional herbs (*lodua*), if there are more complication we transfer him to a health facility..."*

Traditional practitioners declared to make follow up of their clients after circumcision. The follow-up is intended to monitor the healing process and provide any assistance required. *"…I usually make follow up of my clients after circumcision. If I notice delayed healing of the wound I always apply PPF powder* (Traditional Practitioner, Bahi).

4.3.9. Knowledge of Traditional Practitioners on circumcision and HIV transmission

Traditional practitioners were asked if there were any association between circumcision and HIV infections. The findings revealed that, few respondents could associate circumcision and HIV/AIDS. Majority couldn't associate between the two and believed that HIV/AIDS exist only is rampant in urban areas. "*I personally don't know if there is any relationship and I don't use any protective measure against HIV/AIDS..."* (Traditional Practitioner, Bahi). *"...It's not possible for a person to acquire HIV infection through circumcision because HIV/AIDS is prevalent in urban than rural areas...*" (Traditional Practitioner, Monduli). Sadly some traditional practitioners knew about HIV infection but were not using any protective gear like gloves because their finger nails are usually used when cutting the foreskin of the penis. Those who could associate circumcision and HIV infection admitted to have received education on HIV/AIDS, as one said: *"There is a relationship. For instance, if you circumcise a boy who is HIV positive and you cut yourself accidentally you will be infected"* (Traditional Practitioner, Mkuranga). *"I received HIV education, I never use the same equipment in more than one person, and after circumcision I sterilize my equipment"* (Traditional Practitioner, Mkuranga).

4.3.10. Linkages between traditional and conventional practitioners

Traditional practitioners said to have no formal relationship with conventional practitioners, though sometimes they consult health personnel when they have complicated cases or request for drugs. The poor relationship with health workers has resulted in fear to transfer their clients to health facility. It has also made difficult for them to get equipment and medicine. Strategies on how to strengthen linkage between traditional and conventional practitioners were mentioned to include provision of education on:

(i) HIV prevention;
(ii) How to perform safe circumcision;
(iii) How to use injectable drugs;
(iv) How to take care of client's wounds; and
(v) How to use modern equipment.

They emphasized the need to forums for information exchange between the groups.

To improve the traditional circumcision practices, the following were opinions from traditional practitioners:

(i) Traditional practitioners should be given more education on circumcision techniques and prevention from HIV;
(ii) Government should provide equipments for them to perform their work safely;
(iii) Community members should be educated on HIV/AIDS infections and be sensitized on safe male circumcision.

4. 4. District Level Key Informants

4.4.1. Demographic Characteristics

A total of 18 informants were interviewed in the three districts. These include District Medical Officers, District Health Officers, Health Officers, Community Development Officers, District Planning Officers, District Health Secretaries, District Administrative Secretaries and District Cultural Officers. They had a good educational background as one had a Master degree, four had first degrees, 10 had advanced diploma and three had certificates.

4.4.2. Awareness about male circumcision

The key informants admitted that traditional practitioners do exist in their districts. All informants reported that registration of traditional practitioners doesn't exist so it was not possible for them to know the correct numbers of traditional practitioners. However, in Bahi they estimated to be 40-50 traditional practitioners in the whole district. Most informants in all districts acknowledged the existence of beliefs towards traditional circumcision among community members (Table 12).

Table 12 Reasons for preference to traditional male circumcision

District	Reasons for traditional circumcision
Bahi	People feel proud of They are taught how to be self dependent and how to take care of the family It a sign of a warrior Can not afford clinical circumcision (Poverty - people have no money) It increases sexual pleasure during love making

Mkuranga	Believed to be more safe than CMC Sign of recognition in the community Sign of bravery and endurance
Monduli	A sign of a bravery and endurance and qualification of becoming a warrior The place to be taught on adulthood issues and how to manage women Initiation school and rite of passage to manhood Sign of recognition and respect in the community

All informants in the three district said that majority of people prefer traditional circumcision as part of their customs and traditions. One had this to say: *"people believe that traditional circumcision is safe because it makes youth to be recognized in the community and becomes a warrior. Those who go to the HF do not enjoy the taste as for the case of traditional'* (District Key Informant, Mkuranga). Another key informant had these to add: *"They believe that if a boy is circumcised at a health facility, he will lose his sexual potency when he grows older"*. One added *"many fear to be isolated from the rest of the community if they won't undergo traditional circumcision"* (District Key Informant, Monduli). *"You cannot be a leader if you are not traditionally circumcised"* (District Key Informant, Monduli). In the same district, another key informant said that sometimes traditional circumcision is done with the assistance of medical personnel. The eligible age group for circumcision varied from district to district (Bahi 7-15 year, Mkuranga 5-18 years, Monduli 12-20 years). However, in Mkuranga one key informant said that currently age is not an issue as during the past, you could have your son circumcised at any age. Traditional herbs are used to facilitate safe circumcision.

4.4.3. Categories of traditional practitioners

In the three districts, two types of practitioners were identified: (i) traditional circumcisers per se; and (ii) traditional circumcisers cum traditional healers. In Bahi, all key informants reported to have no special categories though there are some who are more famous than the other. In Mkuranga two categories were identified as the quotes say. *"There are clans which are superior to others and are famous for circumcising very fast and the wound heal quickly. These traditional practitioners are believed to have 'good hands'. There are other TC who have bad hands, they circumcise slowly and a person bleeds severely and the healing process is delayed"* (District Key Informant, Mkuranga).

In Monduli, most informants could not tell but one believed that TC should come from the clan with no evils, should be adult enough and a person who is respected by the majority. One had this to add: *There are two types; the first one is both a Traditional Circumciser and a healer (who circumcise, treat and divine). The second one can only circumcise nothing else.* (District Key Informant, Monduli).

4.4.4. Traditional male circumcision practices

According to key informants, in all districts traditional circumcision ceremony is done in groups. All eligible groups (5-15) are brought in an identified place ready for circumcision followed by a traditional ceremony. However, in Mkuranga some informants said that some few parents send their own sons for circumcision when they feel that they deserve to be circumcised. In Bahi district, circumcision is usually done annually during the harvesting season while in Monduli it is during a specific season after every 7 years. According to the district key informants there is no specific season for circumcision in Mkuranga. The initiates in Bahi are called '*Nyamluzi*' while in Monduli "*morani*". Only in Bahi key informants admitted to have attended/witnessed circumcision ceremonies.

Equipment used in circumcision process were forceps, scissors, surgical blades, haemostatic forceps, sutures, gauze and cotton wool, gloves, antibiotics, Eusol solution, bandage and local anaesthetics. All these are provided by Medical Stores Department through the District Medical Officer's (DMO) office. Very few informants were aware of the Traditional and Alternative Medicine Act of 2002. They said there is no specific department or section at the district which addresses traditional circumcision. They added that since traditional practitioners are doing health issues they should fall under the DMO who can easily monitor their practices. However, one key informant in Monduli said that traditional practitioners are not registered but operate under the instruction of community leaders '*laigwanani'.* In Mkuranga one said: *'I don't know where they fall because I have never seen their involvement in any activity done at the district"*

4.4.5. Record keeping

In all three districts information on circumcision at health facilities was recorded as minor surgical procedure in the Health Management Information System (MTUHA) book under *'surgical procedure'* section. The register book is kept in the theatre room. The data is latter compiled and sent to the district with other reports. However in Mkuranga, one informant said that some information are not recorded as the clinicians do circumcision secretly and take the money for their own. In Mkuranga, some thought that it is important to keep the information from traditional practitioners as it will help to know their practices, and the number of people circumcised. All health facilities with clinical officers and equipment were said to qualify to carry out circumcision. Circumcision is only required to be performed by Medical or clinical officers who have received special trainings.

4.4.6. Linkage between traditional and conventional practitioners

All informants, except one, supported male traditional male circumcision as it is part of the customs and traditions Meanwhile they insisted that the practice must be performed in hygienic environment. They were of the opinion that the practice should be done at a health facility. This will ensure the practice is safe, clean and availability of drugs to control bleeding and can reduce risk of acquiring HIV infection. They insisted that traditional practitioners should be involved as it is for the traditional birth attendants so that they can start doing their practices openly and in a safe way.

Some informants in Bahi said that there have been some efforts by the district to urge traditional practitioners to bring children for circumcision at a health facility and later continue with their traditional procedures. If there are complications like severe bleeding they do transfer them to the health facilities. When doing circumcision, clinicians usually visit to see if there is any problem and provide assistance as much as possible. In Mkuranga there is indirect relationship because the traditional practitioners usually communicate with clinicians and they usually request drugs from them. All insisted the importance of having good relationship with traditional practitioners to facilitate monitoring of their activities and simplify their identification because in some places they are viewed as witches

As regards to the WHO initiatives to strengthen collaboration, all key informants supported the idea. However, it was seen important for both groups to be sensitized on the importance of such collaboration. In addition, they recommended for the government to identify and register traditional practitioners. To do this, it was thought that district authorities, village leaders, health workers influential leaders (e.g. *Laigwanan*) be involved:

(i) To identify TC (how many, where are they) and register them. The village leaders, health officers and use Community respected people in their respective areas to facilitate identification of TC and their locations

(ii) Carryout need assessment to know how they are practicing in order to identify areas for improvement
(iii) District authorities to plan and meet traditional practitioners
(iv) Education to be provided to both to conventional and traditional practitioners (this to include effect/impact of the unsafe practices, how to use safe instruments or to advise every client to come with his instrument, and risk of getting HIV through the practices)
(v) Be given the motivation as it was for the case of traditional birth attendants (surgical circumcision kits).

One key informant was of the opinion that before any action is taken; there should a village meeting to discuss about the interventions and the TC to be informed of the decisions. This will enable TC to collaborate with conventional ones due to support from the rest of community members. Most key informants were of the opinions that, since traditional practitioner working environments are not clean and safe, they should bring their clients to a health facility then after circumcision they can go back to their villages and proceed with other traditional practices. One said;

Most key informants were of the opinions that, since traditional practitioner's working environments are not clean and safe, they should bring their clients to a health facility then after circumcision they can go back to their villages and proceed with other traditional practices. One said; *"Their working environments are not hygienic. They are using traditional bed '*kitanda cha kamba*' so it's good to improve the hygiene to reduce infections*" (Key Informant, Bahi). "*They are using unsterile instruments and we have received several cases of tetanus"* (Key Informant, Monduli). The following were suggested:

- Workplaces should be clean, maintain privacy;
- Traditional Practitioners should have enough water to facilitate personal hygiene;
- Since traditional practitioners perform their practice in bushes, then they should select areas where there is high sterility and hygiene otherwise should be sent to the HF;
- Instruments to be sterilized.

In terms of payment, most said that traditional practitioner should be paid but the rates will depend on the present environment because most traditional practitioner usually receives materials things instead of cash. However the average rates range from TShs. 5,000-20,000 depending on the economic level of the client. Nevertheless, one key informant was not in favour of traditional practitioner. He said that traditional practitioner shouldn't be paid to discourage their practices.

4. 5: Health Care Providers

4.5.1. Demographic Characteristics

A total of 38 healthcare providers from 10 dispensaries, six health centres and two district hospitals participated in the study. This covered different cadres which included clinical officers, laboratory assistants/technicians, nursing assistants/officers, Pharmacists/pharmaceutical technicians, Medical Officers in charge of district hospitals.

4.5.2. Awareness of Traditional Male Circumcision Practice

Out of 38 health workers interviewed, 31 were aware that the community prefer traditional male circumcision as opposed to conventional. The main reasons for TMC preferences were: Cost - The community think that traditional circumcision cost less as compared to conventional; Culture and traditional values - Traditional circumcision observes the community cultural values and is part of ritual

where young males (boys*)* receive adulthood training and it is the sign of being a brave man; Sexual power - It is believed that use of anaesthesia during circumcision reduces sexual desire; Sexual urge - The remaining part of the foreskin increase sexual pleasure; and Inconveniences - Conventional circumcision involves taking the child to health facility where there is less cooperation from health workers, a lot of unfulfilled appointments and is against the traditional values.

According to health workers, reasons for CMC were that the procedure is safe with minimum risk of transmission of infection (such as HIV), control of bleeding or minimum risk of adverse events. When they were asked about availability of specific categories and characteristics of male traditional practitioners, health workers were not aware of any specific categories. However, it was noted that there were traditional practitioners who are also traditional healers. Otherwise, it was reported that, traditional practitioners could be characterized based on experience, speed of operation and the art of circumcisions (‘*good-hand)*’. These three factors were associated with fast healing of wound.

Most of health workers had a positive outlook of traditional male circumcision although some described it as unsafe. It was noted that, circumcisions were done in poor hygienic environment and using unsterilised knives. These were said to contribute to poor wound healing or post-circumcision complications. It was pointed out that, traditional practitioners are not much aware of modes of HIV/AIDS transmission hence they use the same cutting instruments (ritual knives) to more than one clients without sterilization. The possibility of using the same instrument fro circumcision was also argued to be associated with high number of clients as traditional male circumcision is normally done in a group. In Monduli district it was narrated that during circumcision initiates sit down on an animal skin in a dusty area (normally in the bush away from homes). Therefore there are chances of contamination of the wounds. In case of infection, herbs, cow dung or PPF powder would be topically applied on the wound.

4.5.3. Perception on Traditional Male Circumcision

Eleven of the 38 health workers interviewed reported to have performed male circumcision. Most (8) of them were clinical officers. Others included three Assistant Medical Officers and one nursing officer. Of those who had not performed male circumcision, 21reported to had assisted in the procedure. The experience of practicing male circumcision among health workers varied from individual to individual. It ranged from 5 years to 34 years. Only four of the health workers reported to have performed at least one circumcision in 2009.

There was no specific age for either conventional or traditional male circumcision. However, in CMC was most common for any age group, while traditional male circumcision was preferred for young boys because clients need to stay away from home for a long period, but it ranged from 6-20 years. It was reported that the cost for male circumcision ranged from TShs 1,000 to 5,000 (US$1-5) for conventional circumcision. According to health workers, in-kind payment, or monies were the mode of payment in traditional male circumcision. When were asked about number of cases they could circumcise per month, the number varied but the highest number was reported to be during school holidays, harvest season and cold season (June-August). It was believed that healing of circumcision wound was faster during the cold season, while harvest season was the time most families could afford for ritual cerebrations.

Few health workers reported to experience complications as a result of male circumcision. The frequently reported complications were excessive bleeding and wound infection. Only one health worker reported to experience urethra stricture and the case was referred to a urologist for further management. For other complications, most of cases were managed within the health facilities. A total of 19 health workers

reported to have attended cases with complications from traditional practitioners. The most complications attended were excessive bleeding and septic wounds. Two health workers reported to receive cases of amputation of the penis.

Health workers reported to have a follow-up system for clients being circumcised by making appointment for them to visit health facility at interval of at least two days for about 1-2 weeks post circumcision. For traditional male circumcision, some health workers reported to be aware of follow-up for either traditional practitioners themselves or special old people visiting the circumcised young men as they stay out of homes for a period of time. In both systems the follow-up schedules were reported to aim at monitoring the progress of wound healing and to attend to complications that might arise after circumcision. For example in Monduli district, an old man would monitor the progress of wound healing and in case there is delay in healing the old man would spit on the wound as pointed out by one of respondents: "*There is follow-up, in each Maasai boma there would be an old man who monitors progress of the wound every morning"* (Health Worker, Mswakini Dispensary, Monduli).

4.5.4. Records keeping

Male circumcision records were hardly kept at health facilities. At district hospitals in Monduli and Mkuranga, some few health centres and dispensaries in Bahi workers reported to keep records of circumcision. In most cases, the records are kept as minor surgical operations in *MTUHA* register book. According to some health workers record keeping was important to establish the number of cases per year, the season and age at circumcision, and to monitor the outcome of circumcision (complications).

4.5.5. Capacity of Health Facilities to Perform Male Circumcision

Of the 38 respondents, 23 reported that their health facilities had adequate human resource capacity to carry out circumcision. Two female health workers from Monduli district stated that the Maasai culture does not allow circumcision to be performed by females. Inability to carry out circumcision at the dispensary level was because of lack of human capacity and lack of theatre facilities including lack of surgical supplies and equipment. The following were challenges faced by health workers in carrying out CMC were:

(i) Inadequate surgical equipments and supplies
(ii) Poor sterilization system (boiling using firewood as there is no electrical power)
(iii) Shortage of human resources
(iv) lack of theatre facilities.

4.5.6. Linkages between Traditional Practitioners and Health Workers

About one third 12/38of health workers mentioned that there was some kind of informal collaboration between traditional practitioners and conventional practitioners. Often the collaboration was on friendly basis. Such collaboration was not mentioned by health workers in Monduli. Twelve 12 health personnel from Bahi and 8 from Mkuranga mentioned that some collaboration existed in following areas:

(i) Traditional practitioners seek medical advices specifically in management of circumcision associated complications;
(ii) (ii) Traditional practitioners transfer some clients to health facilities for further management;
(iii) (iii) Traditional practitioners seek equipment mostly syringes and needles, and medicine from health workers.

Health workers said that the use of procaine penicillin fortified (PPF) powder for topical application on circumcision wounds was very common among traditional practitioners. They admitted that this was misuse of medicine and that most often they would advice the traditional practitioners to bring the clients

to health facility for proper management. One of the clinical officers had these to say: "*Traditional practitioners do get some medicines and equipment from health facilities, but their major interest is to get PPF powder which they prefer to apply topically on the circumcision wound. We advice them not to use as it….. and we ask them to bring the affected clients to healthcare facilities for proper management* (Informant, Mkuranga).

Lack of formal collaboration between health workers and traditional practitioner was said to be due to the fact that the later fear the former would interference with traditional values associated with circumcision and that there is conflict of interest between the two groups. However, the following were proposed to be possible areas of collaboration:

- Referral of cases from traditional practitioners
- Training and sensitizing of traditional practitioners on safety and hygienic circumcision procedures
- Provision of surgical operation kits to traditional practitioners
- Involvement of health personnel during traditional male circumcision in order to address issues related to safety and to provide professional assistance in case there are any surgical complications.
- Improving records keeping
- Traditional practitioners to bring clients at health facilities for circumcision and thereafter continue with traditional rituals and adulthood coaching.

When given opportunity to meet, share and learn from traditional practitioners the 35 health workers would like to learn from TMC on how to control breeding; how to follow up and manage complications; use of local herb in circumcision (for anaesthesia, wound healing); and how to carry out traditional male circumcision. The health workers would like to share with TMC on challenges encountered and solutions before, during and post male circumcision; and the circumcision procedures in terms working environment, preparation, supplies and equipment used. They would also like to discuss on the importance of conventional male circumcision in term of safety and measures taken to minimize chances of HIV transmission and other infections and the responsibilities for circumcision (to identify which activities to be done by traditional practitioners and health personnel).

4.5.7. Involvement of traditional practitioners in scaling up of circumcision

When healthcare providers were asked their opinion on the recommendation of scaling-up male circumcision by creating partnership between traditional practitioners and conventional practitioners as an effort to reduce HIV infection, all of them (38 interviewees) were in favour of the recommendation. The main reasons given were that the linkage would fill the existing gaps between the two practitioners; would minimize chances of HIV transmission by using sterile equipment and would improve management of wound and complications. As prerequisites to this partnership, health workers suggested, for the government and other partners to sensitize traditional practitioners and the community of the advantages of clinical male circumcision and highlight the need of safe and hygienic circumcision by observing culture and customs. The health workers reported that in order to accommodate traditional practitioners, the following should be done:

- Educating traditional practitioners on the need for safe and hygienic procedures so as to minimise transmission of infections including HIV/AIDS
- Health personnel to supervise the safety and hygienic issues without interfering the cultural and customs procedures
- Educating traditional practitioners and community sensitization on use of modern medicine as opposed to local herbs in management of wounds and complication

- The government should support traditional practitioners with required supplies (surgical kits) for circumcision and train on how to use them efficiently.
- Extend conventional male circumcision up to dispensary level to strengthen the collaboration between traditional practitioners and health workers
- Enlightening traditional practitioners and the community on the importance of using anaesthesia in line with culture and customs.

In support of the recommendation one respondent had the following to say: "*This recommendation is good, because traditional practitioners are afraid of us (health workers), but with this strategy will be able to narrow the existing gap and work together. It will reduce the rate of infection as well as getting accurate records for those circumcised* (Clinical Officer, Bahi).

To improve hygiene and minimize transmission of HIV they suggested that: (i) The government should construct special premises (sterile condition) for traditional male circumcisers at community level and equip then with required supplies (surgical operation kits, chairs, tables, beds); (ii) Traditional male circumcision should be done within health facility buildings by traditional male circumcisers under supervision of health personnel.

Most health workers suggested that the cost for circumcision should be one of the areas of discussion with traditional practitioners. However, few health workers suggested a charge of TShs 1,000-15,000 per person to be fair.

4.6: National Level Key Informants

4.6.1. Demographic Characterization

In-depth interviews were conducted to 16 key informants from the Ministry of Health and Social Welfare (4), Medical Stores Department (2), Tanzania Food and Drugs Authority (2), Association of Traditional Health Practitioners (CHAWATIATA) (1), Muhimbili National Hospital (4) and Aga Khan Hospital (3). The duration of the current position of the officials interviewed ranged between 6months and 18 years.

4.6.2. Policy and guidelines

Majority of respondents said there are no policy guidelines on circumcision in Tanzania. Also there is no responsible department or person to oversee all activities regarding circumcision in Tanzania. They were of the opinion that it is important for the country to have such department or person to provide guidance of the traditional male circumcision practice. However some respondents said there is no need to have a policy on circumcision because, circumcision is not a disease, but a procedure which is not considered as a health issue.

Regarding the responsible ministry, most of the respondents proposed to have traditional male circumcision fall under the Ministry of Health and Social Welfare. However, one respondent note that since the procedure is considered not a health issue and that it is regarded as a dangerous practice, it is not wise to have it under Ministry of Health and Social Welfare. Traditional male circumcision practitioners are not covered under traditional and Alternative medicine act of 2002, the act is about traditional medicine generally.

On whether, the male circumcision be compulsory, besides acknowledging the need of formulation of a policy on male circumcision, majority of national level key informants were of the opinion that

circumcision practices should not be compulsory regardless its importance as a measure to minimize the risk of contracting HIV and other sexually transmitted infections. The reasons given included:

- It might violet human rights as it a personal issue
- Interfering with culture and norms in areas where circumcision in not traditionally done
- It might be refused by monogamous males by demanding of having minimal risk of contracting HIV/AIDS
- The prepuce is used for urethroplasty, skin grafting and repair of congenitally abnormal penises

Most of the respondents recommended that people should be made aware on importance of male circumcision on diseases prevention particularly HIV/AIDS. People at risk should be sensitized and made aware of the benefits of circumcision on diseases prevention and make informed decision on whether to circumcise or not. Very few respondents recommended circumcision to be compulsory in the context of HIV and other sexually transmitted infection.

Regarding male circumcision record keeping in hospitals it was said that circumcision falls under minor surgical procedure hence recorded on general surgical procedure register and kept in Health Management Information System registers.

4.6.3. Instruments used for male circumcision

In health facilities, there are no kits specific for male circumcision as the procedure falls under minor surgery; instruments used are assembled as male circumcision sets. Instruments for male circumcision are available in both private and public markets. At the Medical Stores Department (MSD) the instruments for circumcision are assembled on request and health facilities purchase them by tendering, based on government procurement procedures Act of 2004. At health facility level instruments for circumcision are tailor made sets which consists of forceps, cutting instruments, suture, anaesthetics (local or general for children). On traditional male circumcision, it was reported that there is no authority/institution responsible for regulation and approve of equipments and medicine used as the practice is not recognized legally and the source of their consumables is not known. One of the respondents said there is no need to have such authority because of the unknown source of the tools that are used.

4.6.4. Challenges for collaboration between traditional practitioners and health workers

All respondents said there is no formal relationship between traditional practitioners and conventional practitioners. Most of the respondents pointed out the following challenges to hinder collaboration between traditional and conventional practitioners: Conventional practitioners and traditional practitioners are two different disciplines, each one with its own principles and procedures. For instance, traditional practitioners are not transparent on how they carry out the procedure, what they use in the management of wounds, etc. There is no use of anaesthetics during traditional male circumcision, as tolerance to pain is a considered as a measure of bravery. Traditional practitioners do believe that the use anaesthetics will negatively affects the initiate sexual potency.

Traditional practitioners are not legally recognized. In traditional practice there is no documentation therefore there is no way to get information on their practice, on how many people they serve and complications encountered. They do their procedures in remote, bushy places and usually in secrecy, in unhygienic conditions, they use the same instrument for all clients (the instrument is inherited from their ancestors) and believe that if they use other instruments for example disposable ones, the procedure will not be successful, the client will get a lot of complications or may even die. Even if they are necessitated to use other instruments, the one inherited must be used to draw medication from the pot for applying on

the wound for ritual purpose. Traditional practitioners have no skills on caring of wounds and management of complications and their willingness for training should be assessed.

There is no forum or platform which links between traditional and conventional practitioners. There are no policy guidelines which direct the two parties on how to work together. Funds are not available for organizing events that will bring together the traditional practitioners and conventional practitioners. Some respondents pointed out that, conventional practitioners have superiority complex over traditional practitioners they even ridicule and criticize them, and regard them as witchdoctors; hence some feels that conventional practitioners haven't thought of approaching or consulting traditional practitioners and wouldn't agree to collaborate with them.

On the other hand traditional practitioners consider conventional practitioners as colonialists and also they are diluting circumcision practice as there is no training component in conventional circumcision. In this regard some respondents suggested a longer time is needed for the two parties to well understand each other's principles and practice in order to collaborate. Advancement of medical technology is also a challenge because, communities would like to take advantage of the modern technology hence prefer conventional circumcision.

4.6.5. Opportunities for Collaboration between traditional practitioners and health workers

Regarding the opportunities for collaboration majority of the respondents said, Traditional practitioners are part and well known to the community and they are accepted therefore it is possible to identify, mobilize and train them. The presence of Traditional and alternative medicine department, national programs for AIDS at the Ministry of Health and Social welfare, Traditional practitioners' association (CHAWATIATA), gives a good opportunity as these organs will serve a coordination purpose.

Other opportunities mentioned were the presence of a law, plan and policy on Traditional and Alternative Medicine, presence of media which will create awareness. Traditional practitioners do their procedures accordingly with no known adverse effects, they do transfer patients with complications to health facilities and they are willing to collaborate with conventional practitioners.

4.6.6. Involvement of traditional practitioners in scaling up safe male circumcision

Most of the respondents were positive on involvement of traditional practitioners in scaling up safe male circumcision as an effort to reduce HIV infection because health system is weak to serve the whole community. Furthermore, the accessibility to the health facilities in some areas is difficult therefore the involvement of traditional practitioners will be helpful. However, they recommended that Traditional practitioners should be transparent on their practice; they should be trained on hygiene and protection of themselves and their clients from diseases. They should be trained on how to identify eligibility for circumcision e.g. those with penile malformation to be transferred to hospital. Their working premises (environment) should be improved. On implementation, values of the society should be considered (should not neutralize traditional practice), the traditional practice should coexist with the conventional one and not be eliminated. The government should create a good environment for the two parties to collaborate (MOHSW should coordinate) and funds should be made available.

Some respondents didn't recommend involvement of traditional practitioners in scaling up safe male circumcision because: The community practicing traditional circumcision in Tanzania is not large (covers a small population) therefore the coverage is low. Also there are some areas where there is no traditional male circumcision and still HIV prevalence is low as compared to the societies practicing male circumcision, therefore scaling up male circumcision for reducing HIV infection alone won't be feasible.

The message sent to the community was wrong because it has been regarded that circumcision alone prevent HIV, therefore people don't see any importance of using condoms. Scaling up male circumcision using traditional practitioners might lead to catastrophe, because even trained and experienced hand encounters complications, also older people might not be willing to be circumcised by a practitioner known to them (due to fear of stigma) and go to streets where there is even higher risk of complications. This is also reported to promote Female Genital Mutilation (FGM). Therefore they recommended encouraging and promoting strengthening of health system e.g. local health facilities at low levels should be strengthened by creating conducive environment and increasing workforce, building capacity of medical assistants and rural medical aid for these activities. Traditional practitioners can only serve a purpose of transferring clients intending to do circumcision to health facilities. Encourage use of condoms and other preventive strategies.

4.6.7. Issues to be considered as prerequisite in involvement of traditional practitioners

As pre-requisite for involvement of traditional practitioners in scaling –up safe traditional male circumcision the following were suggested by most of respondents: To conduct a study to find out where Traditional practitioners are, recognize them, approach them to understand what they do and plan together. There is a need to know their environment and practices and improve, know their tools/equipment and do improve them but shouldn't be changed, assess traditional practitioners' knowledge of their practice and risk of diseases transmission particularly HIV/AIDS. Also there is a need to assess societies' culture and belief. Training emphasis should be put on prevention of diseases transmission especially safety use of equipments e.g. one knife should be used for one person. Provision of education on hygiene in general and safety, provision of equipment and protective tools such as disposable consumables (gloves, surgical blades), in order to facilitate this, assessment should be done to whether traditional practitioners will accept to use medical equipments e.g. surgical blades, assessment if they will accept to use improved special premises, assess at what time of the year they do circumcision, assess community perception and acceptability.

Training on the importance of circumcision and HIV prevention is of paramount importance. Forces should not be used in implementation of the intervention. Premises should be improved, but they should not be shifted to another place. Their association (CHAWATIATA) should be consulted for mobilizing and train the traditional practitioners. Conventional practitioners should also teach traditional practitioners on what they do (sharing knowledge and experiences). A baseline survey on coverage of circumcision in Tanzania should be conducted

4.6.8. Taking Traditional Practitioners on board

Most of the respondents recommended the following be considered: The association for traditional practitioners (CHAWATIATA) is consulted first for coordination. Identification of the traditional practitioners, forward their names to relevant organs and train them on control and care of wound, hygiene and prevention of transmission of diseases to themselves and their clients. They should be registered, regulated and supervised. Improvement or provision of environment used for circumcision. There should be improvement or provision of equipments and protective tools such as gloves. Specific time for conducting circumcision should be set so that health system be alert in case there are any complications. Payments and incentives in form of money and equipments should be considered.

4.6.9. Registration of Traditional Practitioners

Most of the respondents recommended the traditional practitioners be registered in order to know who does what, with the existing Traditional and alternative medicine practitioners' council board. Very few respondents said there is no need to register the traditional practitioners because first of all they are not

recognized legally therefore the law has to be changed first. They are doing their job seasonally e.g. the Maasai do traditional circumcision after every 3 years and the practitioners might not be involved in the consecutive cohorts.

5. DISCUSSION

The majority of the household respondents admitted that circumcision is a common practice among their communities; and that traditional male circumcision was most preferred. Comparatively, traditional male circumcision was less preferred among the communities in Bahi than among their contemporaries in Mkuranga and Monduli. Cultural backgrounds were reported to be the main reasons for the preference of traditional circumcision. In Bahi and Monduli, circumcision is an integral part of a rite of passage to manhood, and is a test of bravely and endurance especially among the Maasai. Similar to the findings in this study, available literature indic ates that among, a number of groups in both East and West Africa, circumcision has tribal significance as a rite of passage (Myers et al., 1985; Ajuwon et al., 1995; Doyle, 2005). In some West African groups, circumcision is taken to represent a removal of "feminine" aspects of the male, turning boys into fully masculine males or it is symbolic of a boy entering into manhood (NECEP, 2006; Agberia, 2006). Even in East Africa, among the Kalenjin and Maasai, circumcision is a rite of passage observed collectively by a number of boys every few years, and boys circumcised at the same time are taken to be members of a single age set. Ethnicity has been described as the major determinant of circumcision world wide (WHO/UNAIDS, 2007).

Circumcision is also associated with factors such as social cohesion with boys of the same age who become circumcised at the same time, self-identity and spirituality. The right of passage has been extensively described by van Gennep (1909). Similar to our findings, in the majority of 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 (WHO, UNAIDS, 2007).

The rite of passage to manhood is so strong among the Maasai such that the word *emorata* (circumcision) means the end of low-status boyhood and the entrance into the world of the *morani*. They become the young, strong, courageous protectors and providers of their people, and the handsome, virile heroes of the young women. The boys are presented to the laibon (or *ol-oiboni*), the witchdoctor or visionary, who, if the signs are right, gives his permission to start the *ngipataa*, the ceremony preparatory to the day of circumcision. Ceremonies vary among clans, but common to all is the feature that the boys are shaved of hair on all parts of their bodies. Thus they are stripped naked, ready for their rebirth into the adult world. They are then daubed in patterns of white chalk, red ochre and black charcoal and spend the night dancing and celebrating. The next day an ox, goat or sheep from each boy's family is slaughtered and everybody feasts (Van Gennep, 1909; http://www.masaikenya.org).

Like in our study, culture and tradition play major roles for many ethnic groups elsewhere in Africa. Among ethnic groups of Bendel State in southern Nigeria, men's motivation for circumcision is to maintain their tradition. Similar to the findings in Monduli, in some settings among communities where circumcision is the norm, there is discrimination against non-circumcised men. Already studies have shown that among the, the Lunda and Luvale tribes in Zambia (Lukobo & Bailey, 2007), the Bagisu in Uganda (Bailey et al., 1999) or the Yao in Malawi (Ngalande et al., 2006), it is unacceptable to remain uncircumcised, to the extent that forced circumcisions of older boys are common.

Male circumcision is also undertaken for religious, social as well as medical reasons. Male circumcision is an embedded religious norms among many communities throughout the world. For example, circumcision is commonly practiced in the Jewish and Islamic faiths. Jewish law states that circumcision is a '*mitzva aseh* ("positive commandment" to perform an act) and is obligatory for Jewish-born males (Glass, 1999). Similarly, the Moslems consider circumcision is recommended as part of the *Sunnah* and

hence, it is obligatory (al-Sabbagh, 1996). Islam is the largest religious group to practice male circumcision, and Islamic people practice circumcision as a confirmation of their relationship with God (Rizvi et al., 1999), and the practice is also known as 'tahera', meaning purification. It is most probably that the Kiswahili word "tohara" originated for the Arab word "tahera".

Only a few respondents in this study associated male circumcision with social reasons. In some parts of the world, circumcision is also considered as a social statement. In a study in the Philippines, where circumcision is almost universal and among adolescents, the majority of boys chose to be circumcised simply 'to avoid being uncircumcised". Social concerns were also the primary reason for circumcision in South Korea with two thirds of respondents in one study believing they would be ridiculed by their peer group unless they were circumcised. In a number of countries, socio-economic factors also influence circumcision prevalence. When male circumcision was first practiced in the United Kingdom in the late 19th and early 20th century, it was most prevalent among the upper classes (Coulter & McPherson, 1985). Perceived health and sexual benefits were also mentioned as among the reasons for circumcision in the three districts. In more recent times, perceptions of improved hygiene and lower risk of infections through male circumcision have driven the spread of circumcision practices in the developed world. In Ghana, male circumcision has been reported as cleansing the boy after birth (Owusu-Danso, 2006). Improved penile hygiene and to prevent conditions such as penile cancer, sexually transmitted diseases and HIV have also been cited by a number of boys circumcised in the Philippines and in South Africa ((http://www.unaids.org/en/). In western Kenya, the majority of uncircumcised men and women irrespective of their preference for male circumcision perceive that it is easier for circumcised men to maintain cleanliness (http://artmatters.info/).

While male circumcision is being promoted as HIV prevention tool in high-risk heterosexual populations, there is concern about the procedure's effect on sexual function. In a study to assess how adult male circumcision impacts male sexual function and pleasure in Kisumu, Kenya, adult male circumcision was not associated with sexual dysfunction. In this study, circumcised men reported increased penile sensitivity and enhanced ease of reaching orgasm (Krieger et al., 2009).

Perceived improvement of sexual attraction and performance has also been reported to motivate circumcision. In the Philippines, boys believe that women like to have sexual intercourse with a circumcised men, while in South Korea circumcision is believed to increase sexual pleasure (Oh et al., 2004). In northwest Tanzania, younger men associated circumcision with enhanced sexual pleasure for both men and women (Nnko et al., 2001), and in South Africa, about half of men were reported to believe that women preferred circumcised partners (http://www.unaids.org/en).

In all the three districts there was no specific age for circumcision. However, most circumcisions were performed to include young adolescents ranged from 7-25 years. Some other studies among the Maasai indicate that the male circumcision ceremony for boys takes place mostly between the age of 16 or 17 years old and that in the old days, boys were not circumcised until they were considered mature (until the boy is old enough to carry a newborn calf home on his shoulders). Among the Maasai, the elders wait until there are enough of them to be regarded as efficient, sufficient and capable men to guard the community (http://circlist.com/rites/maasai.html). It is becoming more common for circumcision to be delayed until the individual can give informed consent themselves.

Age at circumcision varies by country. Neonatal circumcision is common in Ghana (Owusu-Danso, 2006), but in other countries median age at circumcision varies from boyhood (median age 5–7 years in Burkina Faso) (DHS, 2006), age 7–10 years in Zambia (Bowa, 2006), and age 8–16 years in Kenya (Agot & Bailey,

2006) to the late teens or twenties in South Africa (Rain-Taljaard et al., 2003; Auvert et al., 2001). Age at circumcision can also vary considerably within a country. For example, in Burkina Faso, families of higher socioeconomic status and education level or living in urban areas are more likely to circumcise their sons at a young age (13). Like in Ghana, in the Jewish religion, male infants are traditionally circumcised on their eighth day of life (Glass, 1999). There is no clearly prescribed age for circumcision in Islam, although the prophet Muhammad recommended it be carried out at an early age and reportedly circumcised his sons on the seventh day after birth. Similar to our findings in Mkuranga (Muslim-dominated) some respondents perform the rite early in the childhood age, although majority said to be between birth and puberty.

It was revealed that traditional circumcision is done in both groups and individuals ceremonies. Overall, group circumcision ceremonies were most common among the communities in the three districts; but more particularly among communities in Monduli and least common among those in Mkuranga district. Among the Maasai, usually, a home is constructed in which the boys are going to dance and perform certain rituals. They dance for four days, two of the days being known as "white" days and the other two as "red" days (References). After this a bullock is slaughtered. While this dancing is going on, the Chief Councillor, known as Olaiguenani, is selected from among the boys. After this ceremony is over the boys are circumcised in their individual homes, and they remain initiates for a period of time until they are ready to start their training as warriors. (source: http://www.maasaieducation.org/maasai-culture/maasai-circumcision-ceremony.htm). Group circumcision ceremonies are likely to lead to the use of one unsterilised surgical knife for more than one initiates which was common in both three districts. Similar experiences have been reported elsewhere (Naude, 2002; Mayatula & Mavundla, 1997).

The findings that there is a 7-year lapse between one period of circumcision and the next were quite common among many respondents and discussants in Monduli. This was described to be important because at times boys have to wait until they are in their mid 20's while their younger brothers catch up with them in the same age-group. While the Maasai perform male circumcision after every seven years, in Bahi and Mkuranga districts, traditional circumcision is most often performed every year during school holidays or the harvesting season. This has an implication in planning for the scaling up exercise to align the exercise with the already established season.

Some changes from group to individual circumcision were described by respondents in Mkuranga and Bahi districts. One of the main reasons was costs incurred in traditional circumcision ceremonies. It should be noted that when scaling up of male circumcision is going to be implemented, the practice is likely to increase demand for circumcision. It is likely that the cost of male circumcision will be prohibitive for those who are most economically vulnerable in especially among the poor portion of the population. Already, Rennie et al. (2007) has indicated the that circumcisions in clinical settings—with effective anaesthesia, postoperative care and counselling—will initially be affordable only for relatively privileged groups in sub-Saharan Africa. The less privileged groups may only be able to access cheaper circumcision services and face higher complication risks and potential risk of HIV infection that are common with traditional circumcision. A review by Rennie et al. (2008) has also pointed out that popular demand could also give rise to self-appointed practitioners offering dubious services at low prices.

Respondents were aware of the occurrence of adverse events associated with MC. The most frequently encountered complications during circumcision were excessive bleeding, wound infection and amputation of the penis. Death was also a common complication following traditional circumcision in the three districts. Other long term post operative adverse events of circumcision include disfigurement of the penis when too much skin is removed and erectile curvature from uneven skin loss and meatal

stenosis. However, these were not mentioned by either the healthcare practitioners or the communities. Meatal stenosis is a relatively common acquired condition occurring in 9-10% of males who are circumcised. It is characterized by an upward deflected, difficult-to-aim urinary stream and, occasionally, dysuria and urgent, frequent, and prolonged urination (Angel, 2006). After circumcision, a child who is not toilet trained persistently exposes the meatus to urine, resulting in inflammation (ammoniacal dermatitis) and mechanical trauma as the meatus rubs against a wet diaper. In a prospective study of circumcised boys, Van Howe (2006) found meatal stenosis in over 7% of children older than 3 years, making meatal stenosis the most common complication of circumcision.

Since the majority of male circumcisions in the world are not done in a medical setting, but in unsanitary conditions with rudimentary and/or unsterilized cutting tools, there is a strong likelihood that the complication rate are high. In Africa, accounts of serious complications or adverse events after circumcision in traditional settings are many. For instance, Peltzer et al. (2008) reports that every circumcision season in South Africa, there are articles in mass media depicting cases of advanced infection, severe loss of blood, mutilation, and even deaths due to events attributable to male circumcision. Other workers have also reported incidences of advert events (Meintjies, 1998; Mayatula & Mavundla, 1997; Ahmed et al., 1999; Crowley & Kesner, 1990; Magoha, 1999). A number of respondents in this study reported death as one of the complications associated with circumcision. Elsewhere, circumcisions undertaken in non-clinical settings have been associated with significant risks of serious adverse events, including deaths due to septicaemia and gangrene (Peltzer et al., 2008). Amputation of the penis was one of the adverse events described by our respondents. Permanent disability from complete or partial amputation of the glans or shaft has been described by other workers (Meissner & Buso, 2007).

An informal and weak collaboration exists between conventional and traditional practitioners. Areas of collaboration were listed to include having common meetings, visits to each others and referral of complicated cases to health facilities. Traditional practitioners admitted to have no formal relationship with health workers, though sometimes they would consult the later when they have experienced complicated cases or request for drugs. Most often the collaboration was described to be on friendly basis. It was common for traditional practitioners to seek medical advices especially as regards to management of adverse events. Lack of good collaboration between health workers and traditional practitioner was said to be due to mistrust between the two groups. Similarly, historical suspicion and mistrust that have divided traditional healers and health-care workers, both of whom deliver care to people with diseases including HIV/AIDS has been reported from other studies (Nyumbu, 2003). Healing the rift between these two groups is critical: throughout much of the continent, as many as eighty percent people consult traditional healers before seeking out clinical medical care; and a larger number of boys are circumcised by traditional practitioners.

Despite a number of challenges in building up collaboration between traditional and conventional practitioners, most respondents agreed that there are opportunities for collaboration between the two groups. It was proposed that traditional practitioners should be involved in scaling up safe male circumcision as an effort to reduce HIV infection; mainly because the health system is weak and can not serve the whole community. It is important that an Act on Traditional Circumcision is promulgated to allow formal traditional circumcision practices. Traditional practitioners should now be required by law to be officially recognized and registered. This has been done in Eastern Cape of South Africa where a law known as "Application of Health Standards in Traditional Circumcisions Act No. 6 of 2001, which regulates traditional male circumcision, was enacted (Peltzer et al., 2008). Traditional practitioners should

also be provided with a tool box including surgical (scalpel) blades, scalpel handles, latex hand gloves, sterilizing instruments, and paper towel rolls) to facilitate safe circumcision.
Strategies on how to strengthen linkage between traditional and conventional practitioners include provision of health education on HIV prevention; safe circumcision; use anaesthetics; post-operation care of wounds. To improve traditional male circumcision practices a number of issues need to be addressed. These include circumcision techniques; availability of surgical tool kit, health education especially on HIV/AIDS transmission and post-operative care.

Respondents in this study emphasized the need to establish/strengthen collaboration between traditional and clinical practitioners. This was proposed to be through identification and registration of traditional practitioners; assessing and identification their needs; and provision them with surgical kits and medicines.
A number of challenges towards scaling up of male circumcision were identified. These included: (i) Inadequate surgical equipments and supplies; (ii) Poor sterilization system (boiling using firewood as there is no electrical power); (iii) Shortage of human resources; (iv) and lack of theatre facilities and surgical equipment. The fact that female workers were not accepted by the community to carry out male circumcision was also identified as a challenge. Some others challenges include: conflicts between circumcision as medical intervention and marks of ethnic identity; current scarcity of formal economic justifications for circumcision relative to other HIV-prevention strategies; potential burdens of the intervention on already fragile health systems; differences between results of acceptability studies and actual circumcision acceptance; the impact of male circumcision promotion on the women's ability to negotiate condom use with circumcised partners; perception of ethical double standards if the policy is targeted exclusively at resource-poor countries; and potential confusion with policies forbidding female genital mutilation (Rennie et al., 2007).

Record keeping was another challenge in both clinical and traditional male circumcision. Most of the traditional practitioners do not keep records of their clients, although they understand the importance of keeping records. On the other hand, in all three districts information on circumcision at health facilities was rarely recorded and if recorded only as minor surgical procedure.

Other challenges include the fact that: Conventional practitioners and traditional practitioners are two different disciplines each one has principles and procedures which are very different, there are specific practices which hinders collaboration such as Traditional practitioners are not transparent on what they do while conventional practitioners. Anaesthesia is also another challenge on collaboration, in traditional circumcision there is no use of anaesthetics, as tolerance to pain is a measure of one being brave and fearless on the other hand it will make a circumcised men obedient and observant of what have been taught during "*jando*". Traditional practitioners do believe that anaesthetics use will impair erectile potency to circumcised men. However, the non-use of anaesthesia conflicts the objective of reducing pain in medical practice. The use of anaesthesia is likely to change the meaning of having brave and fearless individual to an extent that some local communities may resist (Rennie et al. 2007).

Traditional practitioners are not legally recognized; and that their practice is not documented therefore, difficult for others to make reference to. There is no forum or platform which links together traditional and conventional practitioners and also there is no policy or guidelines which direct the two parties how to do things together, there is no guidelines for harmonization. Conventional practitioners were described to have superiority complex over traditional practitioners they regard them as witch-doctors. On the other hand traditional practitioners consider conventional practitioners as arrogant. There are no policy guidelines for male circumcision in Tanzania.

Various reports indicate that male circumcision in Africa is typically practiced as a rite of passage from boyhood to manhood. This provides an opportunity for its acceptability when it is to be scaled up as an HIV-prevention strategy. Already a model that integrates HIV-prevention into pre-adolescent circumcision traditions has been successfully implemented on a small scale in eastern Kenya (Grant et al., 2004). However, as Rennie et al. (2007) pointed out large-scale preadolescent circumcision presents serious challenges. These include the facts that some aspects of traditional practices will need to be modified in order to align them with the goals of HIV prevention. Some traditional activities need to be discouraged. For instance, the use of unsterilized equipment and places should be discouraged. The fact that in some communities, sexual activity is encouraged soon after circumcision in order to complete the transition to manhood needs to be discouraged. This is likely to put an individual at a greatly increased risk of HIV acquisition.

6.0. CONCLUSION

Male circumcision should always be considered as part of a comprehensive HIV prevention package. Moreover, wherever male circumcision services are offered, registration, training and certification of providers, as well as careful monitoring and evaluation of programmes, is necessary to ensure that these meet their objectives and that quality services are provided safely, with adequate equipment and with appropriate counselling and other services. Traditional practitioners should be officially recognized and registered. Our findings indicate that traditional circumcision will still have a role to among many communities in Tanzania. However, there it is required to improve the safety of circumcision practices ensure that safety and avoid health risks associated with male circumcision. Training and sensitization among traditional practitioners and the community is equally important before scaling up of traditional circumcision is initiated in Tanzania. It is also equally important that a careful monitoring of the quality of follow-up care; national commitments to low-cost circumcisions to facilitate equitable access; flexible policies informed by concerns of local communities regarding if, when, where and how circumcisions should be performed; careful attention to the consent process and sustained condom promotion to minimise the risk of behavioural disinhibition; monitoring of circumcision promotion messages to ensure that prospective clients are aware of potential benefits and limits should be part and parcel of the scaling up programme.

7.0. LESSONS LEARNT AND RECOMMENDATIONS

7.1. Community preference of male circumcision

The study population is aware that the communities in the study districts prefer traditional male circumcision as opposed to conventional as it is against traditional and culture. The main reasons for preference were:

- People feel proud of it (observing cultural values and norms)
- Initiation of manhood (roles and responsibilities in the society and family)
- It a sign of a warrior
- It is cheap compared to conventional circumcision
- It increases sexual pleasure/urge during love making (the remaining part of the foreskin increases sexual pleasure)
- It maintains sexual power as it is believed that conventional circumcision using anaesthesia leads to loss of sexual power
- Convenient (it is not subjected to unfulfilled appointments like that done in health facilities)

Few respondents did not prefer traditional male circumcision and the following were the main reasons:

- It is unsafe as it is done in poor hygienic environment and using unsterilized knives
- High risk of HIV infection through sharing of circumcision (ritual) knife
- Higher costs and it is a burden hosting people for elaborate ceremony
- Clients (boys) experience too much pain
- Fatigue due to long period of ceremonies
- Disruption from school attendance
- Traditional rites go against Christian teachings

Among respondents who were in favour of CMC, the main reasons included:

- Safe
- Hygienic condition hence less risk of infection
- Less risk of complications such as excessive bleeding, mutilation and wound sepsis
- Wound heals faster
- Minimal risk of HIV infection
- Less pain due to use of anaesthesia
- Privacy
- No sexual activity during recovering process (common with TMC)

7.2. Categories and characteristics of traditional practitioners

There is no formal training to become a traditional surgeon but mainly the skills are acquired through inheritance of father of grandpa's practices. There are no specific categories of traditional surgeon identified in all surveyed districts but the following were mentioned: (i) Traditional practitioners per se; (ii) Traditional practitioners cum traditional healers. In general traditional practitioners were characterised based on experience, speed of operation and art of circumcision (*good hand*) which were associated with fast healing of wound without complications.

7.3. Practices of male circumcision

According to adult household members, in most cases the father and, both father and mother are the ones who make decision for the boy to be circumcised. The practices of traditional male circumcision varied from one district to another due to cultural differences. Maasai and Gogo communities usually leave a

small flap of foreskin which is used as identification, while the Zaramo remove the entire foreskin. Mass or group circumcisions were common and unsterilized unwashed knife may be used on more than one initiate in a single session. Traditional practitioners were using razor/surgical knives for circumcision and cotton wool for dressing wounds. Some practitioners use the same knife to circumcise more than one client without being sterilised. Traditional male circumcision is done in group normally away from home. The interval varies; it was reported to be seven years in Monduli district and every year (during harvest, school holidays, and during cool seasons) in Mkuranga and Bahi districts. The eligible age group for circumcision varies from one district to the other (Bahi 7-15 year, Mkuranga 5-18 years, Monduli 12-20 years). In-kind payment, barter systems or monies (TSh. 5,000-30,000) were the modes of payment in traditional male circumcision.

7.4. Record keeping

Traditional practitioners do not keep records for circumcised clients, but they understand the importance of keeping records, whereas at health facilities male circumcision information are recorded under minor surgery and reported into HIMS

7.5. Adverse events and management

Excessive bleeding, delay healing, wound sepsis, and amputation of penis were the most frequently mentioned by both traditional practitioners and health workers to be the main complications of circumcision. Traditional herbs are normally used for treatment of wounds and other complications but some traditional practitioners use procaine penicillin fortified powder for topical application on the surgical wound. Referral of complicated cases to health facilities by traditional surgeon is made after failure of their effort to use herbal medicine.

7.6. Male circumcision and HIV/AIDS transmission

Only a few traditional practitioners and the adult household members interviewed could associate male circumcision as one of the recommended preventive measure to reduce HIV/AIDS transmission.
No protective gears are used by traditional practitioners to protect themselves from HIV infection.

7.7. Challenges of male circumcision in health facilities

Several challenges were reported facing health facilities to accommodate the scale-up of male circumcision. The mentioned challenges include:

- Inadequate surgical equipment and supplies
- Poor sterilization system (boiling using firewood as there is no electrical power)
- Shortage of human resources
- Lack of theatre facilities.
- Gender barrier- female practitioners are not accepted to perform male circumcision
- A formal collaboration collaboration between traditional practitioners and health facility workers does not exist. This is because of conflict of interest between the two groups and fear of traditional surgeon of interference with traditional values.

It was reported that there is no kits specific for male circumcision as the procedure falls under minor surgery, hence the instruments used are available from private companies and at MSD.

7.8. Male circumcision policy and guidelines

There is no policy guidelines regarding male circumcision in Tanzania and surprisingly, the responsible Ministry was not known. In the MoHSW, the department of Traditional Medicine, denied to be responsible for overseeing activities of traditional male circumcision as the procedure doesn't fall under

the Traditional and Alternative Medicine Act of 2002 and it is considered as a dangerous procedure. There is no authority/institution responsible for regulation and approve of equipments and medicine used in traditional circumcision as the practice is not recognized legally. However, the need for formulation of a policy and guidelines was recognized b**y** majority of key informants at national level.

7.9. Opportunities for involvement of traditional practitioners

Relationship between traditional surgeon and health workers

A non-official collaboration does exist, mainly on friendly basis. The main areas of relationship include:

- Traditional Practitioners refer complicated cases to health facilities
- Traditional Surgeon seek equipment mostly syringes and needles, and medicine from health workers
- Health workers provide assistance in nursing of wounds and other complications
- Health workers pay visits to traditional practitioners

Proposed areas of collaboration between traditional surgeon and health workers:

- Referral of cases from traditional practitioners
- Training and sensitizing of traditional practitioners on safety and hygienic circumcision procedures
- Provision traditional practitioners with surgical operation kits for circumcision
- Involvement of health personnel during traditional male circumcision in order to address issues related to safety and to provide professional assistance in case there are any surgical complications.
- Improving records keeping
- Traditional practitioner to bring clients at health facilities for circumcision and thereafter continue with traditional rituals and adulthood coaching.

Opinion to scale-up male circumcision

There is a positive outlook on the WHO/UNAIDS recommendations of scaling-up male circumcision by strengthening partnership between Traditional Surgeon and conventional healthcare practitioners. It was reported that such linkage would:

- Fill the existing gaps between the two practitioners
- Minimize chances of HIV transmission by using sterile equipment
- Improve management of wound and complications
- Increase and build community trust to traditional surgeon

Pre-requisites

Strategies on how to strengthen linkage between traditional and conventional practitioners were mentioned to include:

- Identification of traditional practitioners (how many, where are they) and register them.
- Carrying out needs assessment to know how they are practicing in order to identify areas for improvement and involve them in planning
- District authorities to plan and sensitization meetings of traditional practitioners and the community
- Developing teaching and learning materials as well as key messages to educate traditional practitioners on: effect/impact of the unsafe practices, how to use safe instruments or to advise every client to come with his instrument, and risk of getting HIV through the practices
- To assess societies' culture and belief.

- Consultation with the traditional practitioners' association (CHAWATIATA) for mobilizing traditional practitioners

Areas of improvements

To improve the traditional circumcision practices, the following were the proposed areas of improvement:

- Traditional surgeon should be given more education on circumcision techniques and identification of eligibility for circumcision e.g. those with penile malformation to be referred to hospital.
- The government should educate traditional practitioners on the need for safe and hygienic procedures so as to minimise transmission of infections including HIV/AIDS
- The government should support traditional practitioners with required supplies (surgical kits) for circumcision and train on how to use them efficiently.
- Community should be educated on HIV/AIDS infections and the community members should be sensitized on safe male circumcision
- Health personnel to supervise the safety and hygienic issues without interfering the cultural and customs procedures
- Educating traditional practitioners and community sensitization on use of modern medicine as opposed to local herbs in management of wounds and complication
- Extend conventional male circumcision up to dispensary level to strengthen the collaboration between traditional practitioners and health workers
- Enlightening traditional practitioners and the community on the importance of using anaesthesia in line with culture and customs

7.10. Recommendations

Realizing the preference of traditional male circumcision and the need for its scaling up in the context of HIV prevention, the following recommendations are been made:

- Traditional and clinical circumcision practices should be allowed to continue to operate as parallel systems that will complement each other
- An Act that promulgate application of health standards in traditional circumcision should be enacted (Policy guidelines to be developed as regards to the standard operating procedures including premises, equipment and other services)
- The government should develop and provide clear guidelines on the roles and referral linkages between traditional and clinical practitioners
- Traditional practitioners should be required by law to be officially recognized and registered
- Government should make available to traditional practitioners surgical tool kits and appropriate medical supplies sustainably
- Government should establish/strengthen record keeping for both traditional and conventional practitioners
- Government should strengthen the capacity of health care facilities (all levels) in terms of human resources, finance and equipment
- Supportive supervision of the traditional practitioners through the Council Health Management Team should be introduced.
- Registered Traditional practitioners should be trained on:
    - traditional circumcision initiation rites;
    - statutory regulation of traditional male circumcision;
    - anatomy and physiology of the male sex organs;
    - procedure of safe circumcision and infection control;
    - sexually transmitted infections/diseases including HIV/AIDS;

    - pre- and post-operative care of initiates;
    - detection and early management of common complications of circumcision;
    - code of conduct and ethics for traditional health practitioners; and
    - reproductive health education.
    - How to identify individuals eligible for circumcision but require special medical attention
- The community should be sensitized on the importance and needs for male circumcision
- Male circumcision should be voluntary and observe human rights and individual consent.

8.0. REFERENCES

Agberia, J.T. (2006) Aesthetics and rituals of the opha ceremony among the Urhobo people. *Journal of Asian and African Studies* 41, 249–260.

Aggleton, P. (2007) Roundtable: "Just a snip"?: A social history of male circumcision. *Reproductive Health Matters* 15, 15–21.

Agot, K. & Bailey, R.C. (2006) *Strategies and approaches for male circumcision programming.* WHO meeting report: Strategies and Approaches for MC Programming, Geneva, 5-6 December 2006.

Ahmed, A.A., Mbibi, N.H., Dawam, D. & Kalayi, G.D. (1999) Complications of traditional male circumcision. *Annals of Tropical Paediatrics* 19, 113–117.

Ajuwon, A.J., Brieger, W.R., Oladepo, O. & Adeniyi, J.D. (1995) Indigenous surgical practices in rural south-western Nigeria: Implications for disease. *Health Education Research* 10, 379–384.

al-Sabbagh, M.L. (1996) *Islamic ruling on male and female circumcision*. World Health Organization. p. 16.

American Academy of Pediatrics Task Force on Circumcision (March 1, 1999). Circumcision Policy Statement. *Pediatrics* 103 (3), 686–693.

Angel, C.A. (2006) Meatal Stenosis. *eMedicine*. http://www.emedicine.com/PED/topic2356.htm. Retrieved on 09 June 2009.

Auvert, B. et al., (2001) HIV infection among youth in a South African mining town is associated with herpes simplex virus-2 seropositivity and sexual behaviour. *AIDS* 15, 885-898.

Auvert, B., Sobngwi-Tambekou, J., Cutler, E., Nieuwoudt, M., Lissouba, P., Puren, A. & Taljaard, D. (2009) Effect of male circumcision on the prevalence of high-risk human papillomavirus in young men: Results of a randomized controlled trial conducted in Orange Farm, South Africa. *Journal of Infectious Diseases* 199 (1), 14–19.

Auvert, B., Taljaard, D., Lagarde, E., Sobngwi-Tambekou, J., Sitta, R. & Puren, A. (2005) Randomized, controlled intervention trial of male circumcision for reduction of HIV infection risk : the ANRS 1265 trial. *PLoS Medicine* 2, 1-11.

Bailey, R.C., Neema, S. & Othieno, R. (1999) Sexual behaviours and other HIV risk factors in circumcised and uncircumcised men in Uganda. *Journal of Acquired Immune Deficiency Syndrome* 22, 294-301.

Bailey, R.C. & Egesah, O. (2006) *Assessment of clinical and traditional male circumcision services in Bungoma District, Kenya: Complications Rates and Operational Needs*. Special Report submitted to USAID, PSI, AIDSMark.

Bailey, R.C.; Moses, S., Parker, C.B., Agot, K., Maclean, I., Krieger, J.N., Williams, C.F.M., Campbell, R.T. & Ndinya-Achola, J.O. (2007) Male circumcision for HIV prevention in young men in Kisumu, Kenya: a randomised controlled trial. *The Lancet* 369 (9562), 643–656.

Barongo, L.R., Borgdorff, M.W., Mosha, F.F., Nicoll, A., Grosskurth, H., Senkoro, K.P., Newell, J.N., Changalucha, J., Klokke, A.H., Killewo, J.Z., *et al.* (1992) The epidemiology of HIV-1 infection in urban areas, roadside settlements and rural villages in Mwanza Region, Tanzania. *AIDS* 6 (12), 1521–1528.

Bowa, K. (2006) Strategies and approaches for male circumcision programming. WHO meeting report: Strategies and Approaches for MC Programming, Geneva, 5-6 December 2006.

Cathcart, P., Nuttall, M., van der Meulen, J., Emberton, M. & Kenny, S.E. (2006) Trends in paediatric circumcision and its complications in England between 1997 and 2003. *British Journal of Surgery* 93 (7), 885–890.

Collins, S., Upshaw, J., Rutchik, S., Ohannessian, C., Ortenberg, J. & Albertsen, P (2002) Effects of circumcision on male sexual function: debunking a myth?" *Journal of Urology* 167 (5), 2111–2112.

Coulter, A. & McPherson, K. (1985) Socio-economic variations in the use of common surgical operations. *British Medical Journal (Clin Res Ed)* 291 (6489), 183-187.

Crawford, D.A. (2002) Circumcision: a consideration of some of the controversy". *Journal of Child Health Care* 6 (4), 259–270.

Crowley, I.P. & Kesner, K.M. (1990) Ritual circumcision (umkhwetha) amongst the Xhosa of the Ciskei. *British Journal of Urology* 66, 318-321.

DHS (2006) *Demographic and Health Surveys.* MEASURE DHS, 2006 (http:www.measuredhs.com). Accessed 7 June 2009.

Dogde, O.G. & Kaviti, J.N. (1965) Male circumcision among the people of East Africa and the incidence of genital cancer. *East African Medical Journal* 42, 98-105.

Donoval, B.A., Landay, A.L., Moses, S., Agot, K., Ndinya-Achola, J.O., Nyagaya, E.A., MacLean, I. & Bailey, R.C. (2006) HIV-1 target cells in foreskins of African men with varying histories of sexually transmitted infections. *American Journal of Clinical Pathology*, 125, 386-391.

Dowsett, G.W. & Couch, M. (2007) Male circumcision and HIV prevention: is there really enough of the right kind of evidence?. *Reproductive Health Matters* 15, 33–44.

Doyle, D. (2005) Ritual male circumcision: a brief history. *Journal of the Royal College of Physicians Edinburgh* 35, 279-285.

Drain, P.K., Halperin, D.T., Hughes, J.P., Klausner, J.D. & Bailey, R.C.. (2006) Male circumcision, religion, and infectious diseases: an ecologic analysis of 118 developing countries". *BMC Infect Disease* 30 (6), 172.

Fergusson, D.M., Lawton, J.M. & Shannon, F.T. (1988) Neonatal circumcision and penile problems: an 8-year longitudinal study. *Pediatrics* 81, 537–541.

Fink, K.S., Carson, C.C. & DeVellis, R.S. (2002) Adult circumcision outcomes study: effect on erectile dysfunction, penile sensitivity, sexual activity and satisfaction. *Journal of Urology* 167, 2113–2116.

Gerharz, E.W. & Haarmann, C. (2000) The first cut is the deepest? Medicolegal aspects of male circumcision. *BJ U International* 86 (3), 332–338.

Glass, J.M. (1999) Religious circumcision: a Jewish view. *BJU International* 83 (Suppl. 1), 17–21.

Grant, E., Brown, J., Michen, K., *et al.* (2004) Seizing the day: right time, right place and right message for adolescent reproductive sexual health. Lessons from the Meru of Eastern province Kenya. *International Journal of Men's Health*3, 189–196.

Gray, R.H., Kigozi, G., Serwadda, D., Makumbi, F., Watya, S., Nalugoda, F., Kiwanuka, N., Moulton, L.H., Chaudhary, M.A., Chen, M.Z., Sewankambo, N.K., Wabwire-Mangen, F., Bacon, M.C., Williams. C.F., Opendi, P., Reynolds, S.J., Laeyendecker, O., Quinn, T.C. & Wawer, M.J. (2007) Male circumcision for HIV prevention in young men in Rakai, Uganda: a randomised trial. *Lancet* 369 (9562), 657-666.

Hallett, T.B., Singh, K., Smith, J.A., White, R.G., Abu-Raddad, L.J., Garnett, G.P. (2008) Understanding the impact of male circumcision interventions on the spread of HIV in southern Africa. *PloS One* 3 (5):e2212.

Halperin, D. & Bailey, R.C. (1999) Male circumcision and HIV infection: Ten years of counting. *Lancet* 354, 1813-1815.

Hankin, C. (2006) Overview of the current evidence on male circumcision and HIV prevention. UNAIDS. http://www.global-campaign.org/

Hirji, H., Charlton, R. & Sarmah, S. (2005) Male circumcision: a review of the evidence". *Journal of Men's Health* 2 (1), 21-30.

Holman, J.R. & Stuessi, K.A. (1999) Adult circumcision. *American Family Physician* 59, 1514–1518.

Kallings, L.O. (2008) The first postmodern pandemic: 25 years of HIV/ AIDS *Journal of Internal Medicine* 263, 218-243,

Krieger, J.N., Mehta, S.D., Bailey, R.C., Agot, K., Ndinya-Achola, J.O., Parker, C. & Moses, S. (2009) Adult Male Circumcision: Effects on Sexual Function and Sexual Satisfaction in Kisumu, Kenya. *The Journal of Sexual Medicine* 5, 2610-2622.

Lukobo, M. & Bailey, R.C. (2007) Acceptability of male circumcision for prevention of HIV infection in Zambia. *AIDS Care* 19, 471-477.

Magoha, G.A. (1999) Circumcision in various Nigerian and Kenyan hospitals. *East African Medical Journal*, 76, 583–586.

Masai of Kenya". http://www.masaikenya.org/. Retrieved on 6-6-2009.

Mattson, C.L., Bailey, R.C., Muga, R., Poulussen, R. & Onyango, T (2005) Acceptability of male circumcision and predictors of circumcision preference among men and women in Nyanza Province, Kenya. *AIDS Care* 17, 182–194.

Mayatula, V. & Mavundla, T.R. (1997) A review on male circumcision procedures among South African blacks. *Curationis* 20, 16–20.

Medical Ethics Committee (2006) The law and ethics of male circumcision – guidance for doctors. British Medical Association. http://www.bma.org.uk/ethics/consent_and_capacity/malecircumcision2006.jsp. Retrieved on 7 June 2009.

Meintjies, G. (1998) Manhood at a price: socio-medical perspectives of Xhosa traditional circumcision. *Volume 1.* Institute of Social and Economic Research. Rhodes University, South Africa.

Meissner, O. & Buso, D.L. (2007) Traditional male circumcision in the Eastern Cape – scourge or blessing? *South African Medical Journal* 97, 371-373.

Mills, E., Cooper, C., Anema, A. & Guyatt, G. (2008) Male circumcision for prevention of heterosexually acquired HIV infection: a meta-analysis of randomized trials involving 11,050 men. *HIV Medicine* 9, 332-335.

Milos, M.F. & Donna, M. (1992) Circumcision: A medical or a human rights issue?". *Journal of Nurse-Midwifery* 37 (2 S1), S87–S96.

Moses, S., Bradley, J.E., Nagelkerke, N.J.D., Ronald, A.R., Ndinya-Achola, J.O. & Plummer, F.A. (1990) Geographical patterns of male circumcision practices in Africa: Association with HIV seroprevalence. *International Journal of Epidemiology* 19, 693-697.

Myers, R.A., Omorodion, F.I., Isenalumhe, A.E. & Akenzua, G.E. (1985) Circumcision: It's nature and practice among some ethnic groups in southern Nigeria. *Social Science and Medicine* 21, 581-588.

Naude, J.H. (2002) Reconstructive urology in the tropical and developing world: a personal perspective. *BJU International* 89 (Suppl. 1), 31-36.

NECEP (2006) Circumcision amongst the Dogon. *The Non-European Components of European Patrimony (NECEP) Database*. 2006. http://www.necep.net/articles.php?. Retrieved on 29 May 2009.

Ngalande, R.C., Levy, J., Kapondo, C.P. & Bailey, R.C. (2006) Acceptability of male circumcision for prevention of HIV infection in Malawi. *AIDS and Behavior* 10, 377-385..

Nnko, S., Washija, R., Urassa, M., & Boerma, J.T. (2001) Dynamics of male circumcision practices in northwest Tanzania. *Sexually Transmitted Diseases* 28, 214–218.

Nyumbu, M. (2003) Traditional healers and health workers partner in Zambian care. *Global AIDSLink* 82, 10.

Oh, S.J. Kim, K.D.,, Kim, K.M., Kim, K.S., Kim, K.K., Kim, J.S., Kim, H.G., Woo, Y.N., Yoon, Y.L., Lee, S.D., Han, S.W., Lee, S.I. & Choi, H (2004) Knowledge of and attitude towards circumcision of adult Korean males by age. *Acta Paediatrica* 93, 1530-1534.

Owusu-Danso, O. (2006) *Strategies and approaches for male circumcision programming.* WHO meeting report: Strategies and Approaches for MC Programming, Geneva, 5-6 December 2006.

Patterson, B.K., Landay, A., Siegel, J.N., Flener, Z., Pessis, D., Chaviano, A. & Bailey, R.C. (2002) Susceptibility to Human Immunodeficiency Virus-1 infection of human foreskin and cervical tissue grown in explant culture. *American Journal of PathologyAmerican Journal of Pathology* 161(3): 867–873.

Peltzer, K., Nqeketo, A., Petros, G. & Kanta, X. (2008) Traditional circumcision during manhood initiation rituals in the Eastern Cape, South Africa: a pre-post intervention evaluation. *BMC Public Health* 8, 64.

Rain-taljaard, R.C., Lagarde, E., Taljaard, D.J., Campbell, C., Macphail, C., Williams, B. & Auvert, B. (2003) Potential for an intervention based on male circumcision in a South African town with high levels of HIV infection. *AIDS Care* 15, 315-327.

Rennie, S., Muula, A.S. & Westreich, D. (2007) Male circumcision and HIV prevention: ethical, medical and public health tradeoffs in low-income countries. *Journal of Medical Ethics* **33** (6): 357-361.

Rizvi, S.A.H., Naqvi, S.A.A., Hussain, M. & Hasan, A.S. (1999) Religious circumcision: a Muslim view. *BJU International* **83** (S1), 13–16.

Siegfried, N., Muller, M., Volmink, J., Deeks, J., Egger, M., Low, N., Weiss, H., Walker, S. & Williamson, P. (2003) Male circumcision for prevention of heterosexual acquisition of HIV in men. *Cochrane Database of Systematic Reviews* (3). doi: http://www.mrw.interscience.wiley.com/cochrane/clsysrev/articles/CD003362/frame.html. Retrieved on 3 June 2009.

TACAIDS (2004) National AIDS Commission Tanzania (2005). *Tanzania HIV/AIDS indicator survey 2003–2004*. March. Dar es Salaam and Calverton, Tanzania Commission for AIDS, National Bureau of Statistics, ORC Macro.

The Maasai People: Maasai Circumcision Rites. Avalable at : http://www.circlist.com/rites/maasai.html

Tobian, A.A.R., Serwadda, D., Quinn, T.C., Kigozi, G., Gravitt, P.E., Laeyendecker, O., Charvat, B., Ssempijja, V., Riedesel, M., Oliver, A.E., Nowak, R.G., Moulton, L.H., Chen, M.Z., Reynolds, S.J., Wawer, M.J. & Gray, R.H. (2009) Male Circumcision for the Prevention of HSV-2 and HPV Infections and Syphilis. *New England Journal of Medicine* 360, 1298–1309.

UNAIDS/WHO (2007) AIDS Epidemic Update. (available from http:// dataunaidsorg/pub/EPISlides/2007/2007_epiupdate_enpdf).

Urassa, M., Todd, J., Boerma, J.T., Hayes, R. & Isingo, R. (1997) Male circumcision and susceptibility to HIV infection among 12,551 men in Tanzania. *AIDS* 11:73-80.

Van Gennep, A. (1909) *The Rites of Passage*. Chicago, University of Chicago Press.

Van Howe (2007) neonatal circumcision and penile inflammation in young boys. *Clinical Pediatrics* 46, 329–333.

Van Howe, R.S. (2006) Incidence of meatal stenosis following neonatal circumcision in a primary care setting. *Clinical Pediatrics* 45, 49-54.

Weiss, H.A., Quigley, M.A. & Hayes R.J. (2000) Male circumcision and risk of HIV infection in sub-Saharan Africa: a systematic review and meta-analysis. *AIDS* 14, 2361–2370.

Weiss, H.A., Thomas, S.L., Munabi, S.K. & Hayes, R.J. (2006) Male circumcision and risk of syphilis, chancroid, and genital herpes: a systematic review and meta-analysis. *Sexually Transmitted Infections* 82, 101-110.

Westercamp, N. & Bailey, R.C. (2007) Acceptability of male circumcision for prevention of HIV/AIDS in Sub-Saharan Africa: A review. *AIDS and Behavior* 11, 341-355.

Williams, B.G., Lloyd-Smith, J.O., Gouws, E., *et al.* The potential impact of male circumcision on HIV in sub-Saharan Africa. *PLoS Medicine* 3:e262.

Williams, N., & Kapila, L. (1993) Complications of circumcision. *British Journal of Surgery* 80, 1231–1236.

WHO/UNAIDS (2007) *Male circumcision: global trends and determinants of prevalence, safety and acceptability*. World Health Organization and Joint United Nations Programme on HIV/AIDS. UNAIDS/07.29E/JC 1320E.