KNOWLEDGE AND ATTITUDE TOWARDS MALE CIRCUMCISSION AND HIV PREVENTION AMONG PEOPLE OF MAKETE DISTRICT, TANZANIA

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A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF ART IN RURAL DEVELOPMENT OF SOKOINE UNIVERSITY OF AGRICULTURE. MOROGORO, TANZANIA.

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ABSTRACT

The study was conducted to assess knowledge and attitude towards male circumcission and HIV prevention among people of Makete District. Specifically the study assessed the knowlegde towards HIV/AIDS and male circumcission as well as attitude towards male circumcission for HIV prevention. The study also assessed the effects of social economic characteristics on male circumcission. A cross-sectional survey using structured questionaires was used in collecting quantitative data, while qualitative data was collected using key informants chekilist as well as the focus group discussion guide. A total of 420 respondents were inteviewed. It was observed that the majority (99.3%) of respondents have heard an illness called AIDS. On the other hand 60% male respondents reported to be uncircumcised while 40% reported to be circumcised. The study also determined the prevalence rate of HIV infection in Makete District by 2011 to be 11% (MDC, 2012). It was also observed that majority (51%) of respondents had high knowledge on HIV/AID transmission and prevention. On other hand a significant proportional (31.9%) of respondents had low knowledge towards male circumcission. Furthermore about (59.7%) of respondents had a negative attitude towards male circumcission while (32.7%) had a positive attitude. Positive attitude of men and women were found to be an important aspect towards male circumcission. The study findings also observed that cultural factors hinder male circumcission since 67.9% of uncircumcised male reported that they were not circumcised because they feel they should not get circumcised because this practice is not part of their culture. The study results could contribute to devising and implementing the planning of male circumcission and HIV prevention strategies that focus on the identified gaps in Makete Distrct and elsewhere in and out of Tanzania.

DECLARATION

I, ABRAHAM, P. SANGA, do hereby declare to the Senate of Sokoine University of Agriculture that, this dissertation is a result of my own original work done within the period of registration and that it has neither been submitted nor being concurrently submitted in any other institution.

..... 11/10/2013

Abraham. P. Sanga — Date

(MARD - Candidate)

The above declaration is confirmed by

..... 11/10/2013

Dr. Anna Sikira — Date

(Supervisor)

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I devote this work to my parents Paskali and Andimbile who laid the basis for my education. I also dedicate this work to my much-loved son Ibrahim A. Sanga in which his existence and love turned my vision, mission, ambition and determination to real bright future, apart from suffering various consequences in the course of my studies. May this work become an inspiration for him to reach this academic stage one day in his life.

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AIDS	Acquired Immunodeficiency Syndrome
CBO	Community Based Organization
CHAC	Council HIV and AIDS Coordinator
CSO	Civil Society Organization
DHS	Demographic Health Survey
DMO	District Medical Officer
DSI	Development Studies Institute
FBO	Faith Based Organization
HIV	Human Immunodeficiency Virus
HSSP	Health Sector Strategic Plan
IDU	Injecting Drug User
IDYDC	Iringa Development of Youth, Disabled and Children Care
MARD	Masters of Art on Rural Development
MC	Male Circumcission
MDC	Makete District Council
MDG	Millennium Development Goal
NBS	National Bureau of Statistics
NGOs	Non – Governmental Organizations
NMSF	National Mult –Sectoral Strategic Framework
NSGRP	National Strategy for Growth and Poverty Reduction
PEPFAR	President's Emergency Plan for AIDS Relief
PLHA	People Living with HIV/AIDS
PMTCT	Prevention of Mother To Child Transmission
SPSS	Statistical Package for Social Science

STI	Sexual Transmitted Infection
SUA	Sokoine University of Agriculture
TACAIDS	Tanzania Commission for AIDS
THIS	Tanzania HIV/AIDS Survey
THMIS	Tanzania HIV/AIDS Malaria Indicator Survey
UNAIDS	United Nations on AIDS
UNDP	United Nation Development Program
USAID	United State Agency for International Development
VCT	Voluntary Counseling and Testing
VMM	Voluntary Medical Male Circumcission
VMMC	Voluntary Medical Male Circumcission Campaign
WHO	World Health Organization
WPP	Work Place Program
ZAC	Zanzibar AIDS Commission

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

The AIDS epidemic claims the lives of millions of people in their productive ages. In 2009, there were 2.6 million new HIV infections in the world (UNAIDS, 2010). According to UNAIDS (2010) this is 19% fewer than 3.1 million new infections in 1999. However, the HIV incidence has fallen by more than 25% between 2001 and 2009 in 33 countries in the world, out of them 22 countries is in sub-Saharan Africa (USAID, 2009). In some parts of sub- Saharan Africa the majority of new HIV infections continue to occur with an estimation of 1.8 million people in 2009; considerably lower than the estimated 2.2 million people in sub-Saharan Africa newly infected with HIV in 2001. The number of people newly infected with HIV appears to have peaked in the mid-1990s, and there is evidence of declines in incidence in several countries in sub-Saharan Africa. However despite the recent achievements, the gains are fragile (UNAIDS, 2010).

The epidemics in East Africa have declined since 2000, as the national HIV prevalence in Kenya decreased from about 14% in the mid-1990s to 5% in 2006. The HIV prevalence in Uganda has stabilized at between 6.5% and 7.0% since 2001, in case of Rwanda HIV prevalence has been about 3.0% since 2005 (UNAIDS, 2010).

For Tanzania HIV prevalence among women and men with the age between 15 and 49 has decreased from 5.7% in 2007- 08 Tanzania HIV/AIDS Malaria Indicator Survey (THMIS) to 5.1% in 2011-12 THIMS. There is high prevalence among women (6.2%) than men (3.8%). Compared with HIV prevalence data from the 2003 - 04 Tanzania HIV/AIDS Survey (THIS), there has been a slight dwindle in overall prevalence of HIV among

adults, from 6.5 percent in 2003 - 04 to 5.1 percent in 2011 - 12 albeit the decrease is insignificant (TACAIDS *et al.*, 2012). HIV prevalence among youth aged between 15 - 24 years is 2.0 % (TACAIDS *et al.*, 2012). According to THIMS 2007 – 08 youth HIV prevalence differed by location, sex and age. For youth aged 15 - 24 prevalence was two percent, almost three percent for Mainland Tanzania and less than one percent for Zanzibar. Similarly prevalence was four percent among women of the age between 15 - 24 years to one percent among men of the same age. Among women, prevalence generally increases with age, while for men there is no regular pattern (TACAIDS, 2008).

HIV prevalence by regions ranges from a low of less than one percent in Pemba and 1.2% in Unguja to a high of 14.8% in Njombe region (TACAIDS *et al.*, 2012). According to the results of the Tanzania HIV/AIDS Malaria Indicator Survey (THMIS) for 2007/2008, Iringa region had the highest (15.7%) HIV prevalence in the country. This was almost two times worse than the second highest prevalence regions (Dar es Salaam and Mbeya with nine percent each) and was close to three times higher than the National average (5.7%). Other regions which had high prevalence rate included Mara (7.7%), Shinyanga (7.4%) and Coast region (6.7%). The regions with low HIV prevalence rate included Pemba (0.3%), Unguja (0.8%), Manyara (1.5%), Arusha (1.6%), Kigoma (1.8%), Kilimanjaro (1.9%) and Singida (2.7%) (TACAIDS *et al.*, 2008). Iringa and Njombe regions have higher HIV prevalence due to the prevailing social factors which include multiple concurrent partners, cross generation sex, substance abuse and gender inequality (TACAIDS *et al.*, 2012). According to TACAIDS, 2012 economic factors include low income among people of the region which lead to transactional sex which is accelerated by presence of Malawi and Zambia high way road which have many truck drivers who are involved on transactional

sex with the region residents. The cultural factors include widow inheritance, polygamy and low level of male circumcission practice. These factors increase vulnerability of people in the regions to new HIV infection (TACAIDS *et al.*, 2012).

The response of the Tanzanian government to the high HIV prevalence is recognized on several national initiatives; including promotion of abstinence, delayed sexual debut, partner reduction as well as correct and consistent condom use. Others include reducing the risk of HIV infection among the most vulnerable populations, prevent, treat and control other sexually transmitted infections (STI), promote HIV testing and counseling services. Furthermore prevention of mother to child transmission of HIV, expand workplace program (WPP) with special attention to mobile and migrant workers are among government interventions towards HIV prevalence reduction. The government is also involved on preventing HIV transmission through blood transfusions and introducing new prevention interventions like male circumcission (TACAIDS, 2008).

There is a convincing evidence of three randomized clinical trials which indicated that circumcission reduces men's risk of becoming infected with HIV through heterosexual contacts (Auvert *et al.*, 2005; Bailey *et al.*, 2007; Gray *et al.*, 2007). One of the randomized controlled trial indicated that male circumcission reduces sexual transmission of HIV from women to men by 60% offering an intervention of proven efficacy for reducing the sexual spread of HIV (Williams *et al.*, 2006). However, circumcission has not been shown to directly protect females from acquiring HIV from infected male partners (Wawer *et al.*, 2009). There are also biological studies of the foreskin which show a high concentration of cells very susceptible to HIV infection (Patterson *et al.*, 2002). This fact is one of the potential biological explanations as to why male circumcission may reduce HIV infection while the other two being a reduction in Sexual

Transmitted Infections and a reduction in the likelihood of micro tears and trauma to the foreskin during sex (Williams *et al.*, 2006).

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

Male circumcission is common in Tanzania with 72% of men aged between 15 and 49 reported having been circumcised (TACAIDS *et al.*, 2012). Male circumcission is mainly conducted as a cultural or religious practice in sub Saharan Africa and Tanzania. In regions like Mara, Arusha, Manyara, Singida, Dodoma, Morogoro, Tanga and Coast region about 75% of males are circumcised (TACADS, 2008). The remaining regions in the mainland have very low prevalence of male circumcission. According to TACAIDS (2008), regions with lowest prevalence of male circumcission are Shinyanga (21%), Mwanza (21%), Kagera (26%) and Iringa (29%).

Tanzania has advocated male circumcission for HIV prevention for some years. The national high volume campaign was initiated in 2010, in which the Ministry of Health, with support from President's Emergency Plan for AIDS Relief (PEPFAR) through USAID's Maternal and Child Health Integrated Program, conducted the campaign in Iringa region (MDC, 2011). During the six weeks of the Voluntary Medical Male Circumcission Campaign (VMMC) 10 352 adolescent and adult males were circumcised

in Iringa Region. Only 24% of clients served during the Iringa Region campaign were older than 20 years indicating less demand of VMM by adults'. Regardless of the campaign initiatives male circumcission in the region is still stumpy (Mahle *et al.*, 2011).

Male circumcission could play an important role in HIV prevention in regions like Iringa and more distinctively in Makete District where male circumcission is not culturally practiced. Low knowledge and negative attitude towards male circumcission among people in the district are probably the factors contributing to low prevalence of male circumcission. For that case this study intended to determine if there is a gap of low knowledge and negative attitude towards male circumcission for HIV prevention.

1.2 Problem Statement

HIV/AIDS pandemic poses the greatest health challenge in Tanzania. According to the National HIV testing campaign (2007) the overall prevalence rate of HIV for Makete District was 16.9% (MDC, 2008). This would have a wide range of negative impact in particular; the demographic factors of population growth, age structure, dependency ratio, the economy, health care system and education system (Lamptey, 2002). There are many factors leading to high prevalence of HIV in Iringa region including the culture of not performing male circumcission. Various National campaigns have been in place, indicating the association of male circumcission and HIV/AIDS prevalence. In Makete District male circumcission promotion have been done by HIV/AIDS prevention stakeholders even though there is no information on the achievement of those male circumcission campaigns in the district. Also there are few studies on male circumcission conducted in the district. The response of male circumcission by people in the district is still near to the ground (MDC, 2011). Low response toward male circumcission is probably due to lack of knowledge about male circumcission. Therefore there was a need

to conduct a study on assessing knowledge and attitude towards male circumcission for HIV prevention.

1.3 Justification of the Study

The study intended to assess the knowledge and attitude towards male circumcission among people of Makete District. A systematic understanding of the knowledge gaps and factors hindering people towards male circumcission will increase the rate of male circumcission and in turn reduce HIV prevalence rate. For that case the Government and HIV/AIDS prevention stakeholders should develop applicable set of strategies, program goals and objectives which targets to change peoples' attitude and on another hand change people's culture and practice towards male circumcission for HIV prevention.

This study is inline with Millenium Development Goal (MDG) 6 which emphasizes on prevention practises towards HIV/AIDS (URT, 2001). The governmrent of Tanzania aims to reduce the rate of new HIV infections. The commitment of the nation toward HIV prevention is reflected in the second National Multisectoral HIV and AIDS Framework 2008-2012 (NMFS II), developed in 2007. In turn the NMSF II support the National Health Policy (2007), The National HIV policy (2001), the National Strategy for Growth and Poverty Reduction (NSGPR 2005-2010), and Health Sector Strategy Plan (HSSP 2009 - 15).

The beneficiaries of the study results includes, people of Makete District and all over Iringa Region as well as any where in and outside Tanzania. The study results is also important to organizations dealing with HIV and AIDS prevention, government and reseachers. The study provides some recommendations on appropriate strategies for addressing male circumcission for HIV prevention.

1.4 Objectives

1.4.1 General objective

To assess knowledge and attitude among community members of Makete District towards male circumcision for HIV prevention.

1.4.2 Specific objectives

(i) To determine the knowledge of people on HIV transmission and prevention.

(ii) To determine the knowledge of people on male circumcision for HIV prevention.

(iii) To assess the attitude of people on male circumcision for HIV prevention.

(iv) To assess the effects of social economic characteristics on male circumcision.

1.4.3 Research questions

(i) What is the prevalence rate of HIV infection in Makete District?

(ii) What is the prevalence rate of male circumcision in Makete District?

(iii) What is the knowledge of people on HIV/AIDS transmission and prevention?

(iv) What is the knowledge of people on male circumcision for HIV prevention?

(v) What is the attitude of people towards male circumcision?

(vi) Which are the effects of social economic characteristics on male circumcision?

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Definitions

2.1.1 HIV/AIDS

HIV - the **Human Immunodeficiency Virus** - is a virus that attacks immune system, resulting in a chronic, progressive illness that leaves people vulnerable to opportunistic infections and cancer. When the body can no longer fight infections, the disease is known as **AIDS**, which stands for **Acquired Immunodeficiency Syndrome**. On average, it takes more than 10 years to progress from initial HIV infection to AIDS (UNAIDS, 2010).

2.1.2 Male circumcission

Circumcission in male refers to the surgical removal of the entire foreskin (prepuce) of the penis. It involves removing the foreskin; a loose fold of skin that covers the head of the penis. The procedure can be carried out at any stage; during infancy, childhood, adolescence or adulthood. Many societies have been practicing male circumcission for hundreds of years, and circumcision is often seen as a mark of belonging to a particular tribal or religious group (WHO, 2007).

2.2 HIV Pandemic in Tanzania

Tanzania has a mature, generalized epidemic, caused by specific and changing sexual behavior (TACAIDS, 2008). The national adult HIV prevalence peaked at 8% in 1995, and then gradually decreased to 6.5% in 2004 then to 5.7% in 2007 and 5.1% in 2012 (TACAIDS *et al.*, 2012). This prevalence masks massive variation of prevalence of HIV infection between regions. For instance, the prevalence of HIV infection was high in Iringa (15.7%), Dar -Es-Salaam (9.3%), Mbeya (9.2%), Mara (7.7%) and Shinyanga

(7.4%) while it was low in Manyara (1.5%), Kigoma (1.8%) and Kilimanjaro (1.9%) (TACAIDS *et al.*, 2008). In Makete District the problem of HIV and AIDS have been existing for more than twenty two years. According to the national HIV testing campaign (2007), the prevalence rate of HIV in 2007 was 16.9% (MDC, 2008).

2.3 Risk Behaviour for HIV Transmission

The risk of HIV infection is highest among young people. Young people in our social and cultural environment are more vulnerable to HIV infection as they do not have control over their sexuality due to poor behavioral inhibition (TACAIDS, 2008). Poverty increases the burden to HIV infection as some young people engage in high-risk sexual behavior since they are motivated by money (URT, 2001). In Tanzania Mainland, approximately 80% of HIV infections are attributed to sexual contact between HIV-infected and uninfected individuals. Vertical infections from mothers to newborns represent 18% of HIV infections, and medical transmission for 1.8%. Less than 1% of infections might be due to Injecting Drug Users (IDUs) and homosexual (TACAIDS, 2008).

The risk behavior to HIV infection includes multiple concurrent partnerships which take several forms, including extramarital and casual sexual relationships. According to the 2007 - 2008 Tanzania HIV/AIDS Malaria Indicator Survey; 3% of women and 27% men reported having more than one sexual partner in the previous 12 months. HIV prevalence increases with the number of sexual partners over a lifetime; HIV prevalence of 1.4% men and 3% women with one life-time sexual partner; HIV prevalence of 11.4% men and 21.5% women with 10 or more life-time sexual partners; 29% men and 16% women of married or cohabiting reported having extramarital sex and 29% men and 16% women ages 15-49 reported having casual sex (TACAIDS, 2008).

Many youth, particularly females, engage in cross-generational sexual relationships, often, motivated by money, gifts or an inspirational social standing. According to the 2007 - 2008 Tanzania HIV/AIDS Malaria Indicator Survey, 8% of young women had sexual relationships with men of 10 years older or more. This indicated a high level of cross generation sex also 38% of male and 47% female aged 15 – 24 years are sexually active. Youth also start sex at early age, 38% unmarried male and 47% of unmarried female youth aged 15-24 years are sexually active and 11% of youth under the age of 15 had sex (TACAIDS, 2008).

HIV transmission is also influenced by abuse of substances such as alcohol and injected drugs. There is little data on the breadth and depth of substance abuse in Tanzania. It seems that the number of Injecting Drug Users (IDUs) is increasing in urban areas along the coast of mainland Tanzania, although they could be increasing in-land as well. There is also little data on excessive alcohol consumption, or risk behaviors and HIV vulnerability when under the influence of alcohol or drugs. Nonetheless, alcohol and drug consumption are associated with risky behaviors which increase vulnerability to HIV infection. Sharing of needles, drawing blood from one another, multiple concurrent partnerships including transactional sex, and unprotected sex are practiced among IDUs. Of IDUs surveyed in Dar es Salaam and Zanzibar, during the last sexual encounter, 69% of women reported male condom use, compared to 28% of men. These women also reported having over 12 times the number of sexual partners than men. Men who consume alcohol have HIV prevalence rate 3 times higher than those who do not drink (20% vs 7%). Women who drink alcohol have HIV prevalence rate 2 times higher than those who do not drink (14% vs 7%). There is 27% of male and 58% female IDUs in Tanzania who are HIV positive (TACAIDS, 2008).

Condom use is a sensitive issue within most communities in Tanzania and evasiveness about condom use hampers open discussion about their use especially among married couples. Many Tanzanians are uneasy with the idea of promoting condom among individuals, even if they are sexually active and at risk of acquiring HIV. According to the 2007 - 2008 Tanzania HIV/AIDS Malaria Indicator Survey, women who reported having higher risk sex in the past 12 months, 43% used a condom during the last act. Among men who reported having higher risk sex in the past 12 months, 53% used a condom during the last act. These levels were higher among younger respondents, where men of the ages ranging from 15 - 49 who paid for sex in the past 12 month 60% used a condom (TACAIDS, 2008).

2.4 Male Circumcision and HIV Infection

Male circumcission has revealed to considerably reduce the risk of sexually acquired HIV infection (WHO, 2007). Three randomized controlled trials in South Africa, Kenya and Uganda have been performed, in which men with a foreskin were randomly assigned to either receive circumcission or not, and then followed over time to see if one group had a higher rate of acquiring HIV infection. The risk reduction was about 60% (Gray *et al.*, 2007). As a result, circumcission must be well thought-out a possible intervention, everywhere, in the prevention of sexually transmitted HIV infection. This is due to its vital role on reducing HIV infection from female to male.

There are several ways in which the foreskin acts as HIV's main 'entry point' during penetrative sex between an uninfected man and HIV-infected person. The inner surface of the foreskin contains a higher proportion of the cells that are HIV targets, such as T-cells (WHO, 2007). Conversely, the inner foreskin has less keratin, a protein found in the skin, which has a protective effect (Gray *et al.*, 2007). A study of Ugandan men before and

after circumcission concluded that observed decreases in anaerobic bacteria may play a role in reducing the risk of HIV acquisition (Quinn *et al.*, 2000). Circumcission can reduce the likelihood of genital ulcers, which increase HIV-risk. In addition, any small tears in the foreskin that occurs during sex make it much easier for the virus to enter the body, albeit male circumcission has imperative cultural and service provision implications (Reynolds *et al.*, 2004).

Population based observational studies conducted in Tanzania have also reported that circumcission was significantly associated with a reduced risk of HIV infection (Wambura, 2007) cited in (URT, 2009). It is also realized that, areas with high prevalence of circumcission tended to have lower HIV prevalence (TACAIDS, 2008). In Tanzania acceptance on male circumcission is not liable to be a major challenge as beforehand, male circumcission is common among the majority of ethnic groups and it is projected that almost 72% of adult males are circumcised (TACAIDS *et al.*, 2012). Although, serious issues for Tanzania are safety of current male circumcission services, given that it is primarily delivered through traditional ways which need further study. The issue for Tanzania therefore, is how to make safe the traditional practice and part of the formal public health delivery system and how to scale up and deliver the service to the remaining 28% of males who are mainly from non-circumcising belt including southern highlands (URT, 2006). Male circumcission among youth in Tanzania is performed at the beginning of adolescence (teen ages years) as a ceremonial procedure of passage into maturity, for spiritual and cleanliness reasons (Wambura, 2007) cited in (URT, 2009).

2.5 Knowledge Towards Male Circumcission for HIV Prevention

The study conducted in Bukoba and Tarime Districts shows that, people of those areas are somehow knowledgeable about the relationship between HIV and male circumcission.

Majority (78%) of respondents in the two districts underscored the relationship between the two. More than 50% of the respondents underscored the protective effect of circumcision against other STIs. However, 14% of informants, irrespective of their educational levels categorically stated that they disagreed with the relationship between HIV infection and male circumcision (URT, 2009).

2.6 Religious Conviction

Muslims are the key religious group to practice circumcision in Tanzania. The 2003/04 DHS data in Tanzania showed that 96.8% of Muslims, 60 - 70% Christians and 25% of men with local values were circumcised. Muslims practice circumcision as their confirmation of their relationship with God. A man has to be circumcised to legally make the Hajj to Mecca, one of the five pillars of Islamic belief (Rizvi *et al.*, 1999). However, not all Muslims are circumcised. For instance, in Mwanza region, a traditionally non-circumcising population, circumcission was not widespread among Muslim Sukuma men (74%) suggesting a continuing influence of the non-circumcising culture among Muslims in this setting (Nnko *et al.*, 2001). There is no clearly prearranged age for circumcission in Islam, although Prophet Muhammad suggested to be carried out at an early age and reportedly circumcised his sons on the seventh day after birth (Rizvi *et al.*, 1999).

2.7 Cultural Influence on Male Circumcission

Traditionally, circumcission appears to have been a general customary practice in most parts of Tanzania with exception of the continuous area of the West and Southern parts of Lake Victoria running through inland Central Tanzania to the South West Tanzania. In the greater part of the circumcising cultures, circumcission is an essential part of a rite-of passage to adulthood, even though originally it may have been a test of heroism and endurance. Circumcission is also associated with factors such as maleness, social solidity

with boys of the same age who become circumcised at the same time, self-identity and spirituality (TACAIDS, 2008). In the customarily circumcising populations, there is stigmatization of non-circumcised men. In some cultures such as the Gogo in Dodoma Region or the Kurya in Mara Region, it is unacceptable for a man of the circumcising culture to remain uncircumcised. The non-circumcising region in dark shade is inhabited by Bantu some of whom gradually stopped the practice many centuries ago and the Nilotic subgroup that are traditionally not circumcising (URT, 2009).

2.8 Social Influence on Male Circumcission

Currently, circumcission is performed for a series of reasons mainly social or health-related, in addition to religion and ethnicity. The desire to match is an important motivation for circumcission in places where there is an interaction between two cultural circumcission practices. For example, in Mwanza city, which is in a traditionally non-circumcising area, there are changing practices regarding circumcission. Now that boy's mix with circumcising ethnic groups at school, the practice is more acceptable, with an estimated prevalence of 17 - 21%. The situation is different for rural areas like Makete District where there is minimal interaction of dwellers and individuals from ethnic groups practicing male circumcission this is due to remoteness of the area and poor transportation (URT, 2009).

2.9 Education and Economic Influence on Male Circumcission

According to Tanzania HIV/AIDS Indicator Survey 2003 - 04, data shows that education and economic factors influence circumcission in Tanzania. However the association of education and living in urban areas may be confounded by social mixing. The prevalence of male circumcission was 90.8% in urban areas and 60.6% in rural areas. Higher rates of circumcission are seen among men with higher levels of education, higher socio-economic

status and those living in urban areas. The reason on the different level of male circumcission between rural and urban is due to more male circumcission information in urban than rural areas (URT, 2009).

2.10 Advantages of Male Circumcission

One of the driving determinants in the increase of circumcission practices in Tanzania especially in traditionally non-circumcising areas has been the awareness that it improves penile hygiene and lower risk of infections. Additional benefits for circumcission included; a decreased risk of urinary tract infections in children (Wiswell and Hachey, 1993); a reduced risk of some sexually transmitted diseases in men especially ulcerative diseases like chancroid and syphilis (Nasio *et al.*, 1996). Furthermore, randomized controlled trials have revealed that male circumcission reduces the risk of HIV transmission from women to men (Agarwal *et al.*, 1993). The other advantages of male circumcission are the protection against penile cancer, if circumcission is done in the neonatal period (Dodge and Kaviti, 1965); and a reduced risk of cervical cancer in female sex partners (Agarwal *et al.*, 1993).

2.11 Theoretical Frame Work

Social psychologist Leon Festinger developed the cognitive dissonance theory "Cognitive dissonance is the perception of incompatibility between two cognition, which can be defined as any element of knowledge, including attitude, emotion, belief, or behavior". The theory of cognitive dissonance holds that contradicting cognition serve as a driving force that compels the mind to acquire or invent thoughts or belief or to modify existing beliefs, so as to reduce the amount dissonance (conflicting) between cognition (Festinger, 1957). Therefore this study borrowed some idea from this theory. Negative attitude and low knowledge towards male circumcission for HIV prevention among Makete people

might be due to incorrect information (conflicting cognition). In order to expertise positive attitude and high knowledge towards male circumcission for HIV prevention accurate information have to be provided to the community members for behavioral change towards male circumcission for HIV prevention. For that case the study intended to determine if there are knowledge and attitude gaps on male circumcission. The identified gap if exists will help to expertise positive attitude and high knowledge towards male circumcission for behavioral change among Makete people and anywhere in and outside Tanzania.

2.12 Conceptual Framework

The conceptual framework provided the variables to be investigated and likely relationship between dependent and independent variables. The study conceptual framework borrowed some idea from the cognitive dishonance theory. Negative attitude and low knowledge towards male circumcission for HIV prevention among Makete people might be due to inaccurate information (conflicting cognition). In order to expertise positive attitude and high knowledge towards male circumcission for HIV prevention, truthful information has to be provided to the community members for behavioral alteration towards male circumcission for HIV prevention.

The study made use of independent indicators of knowlegde towards HIV/AIDS as well as male circumcission and attitude towards male circumcission for HIV prevention. Background variables included age, sex, religious affiliation, education level and occupation. Dependent variable is male circumcission for HIV prevention. The independent variable have direct linkage with the dependent variable, since if the community members will have high knowledge on HIV/AIDS transmission and its relationship with male circumcission they will vuluntarily practice male circumcission for

HIV prevention. The conceptual framework helped to indicate the most useful reserch areas in which analysis and limited resources focused. It was developed to meet the information needed for the objectives and identify the variables for data collection as shown in Fig. 1.

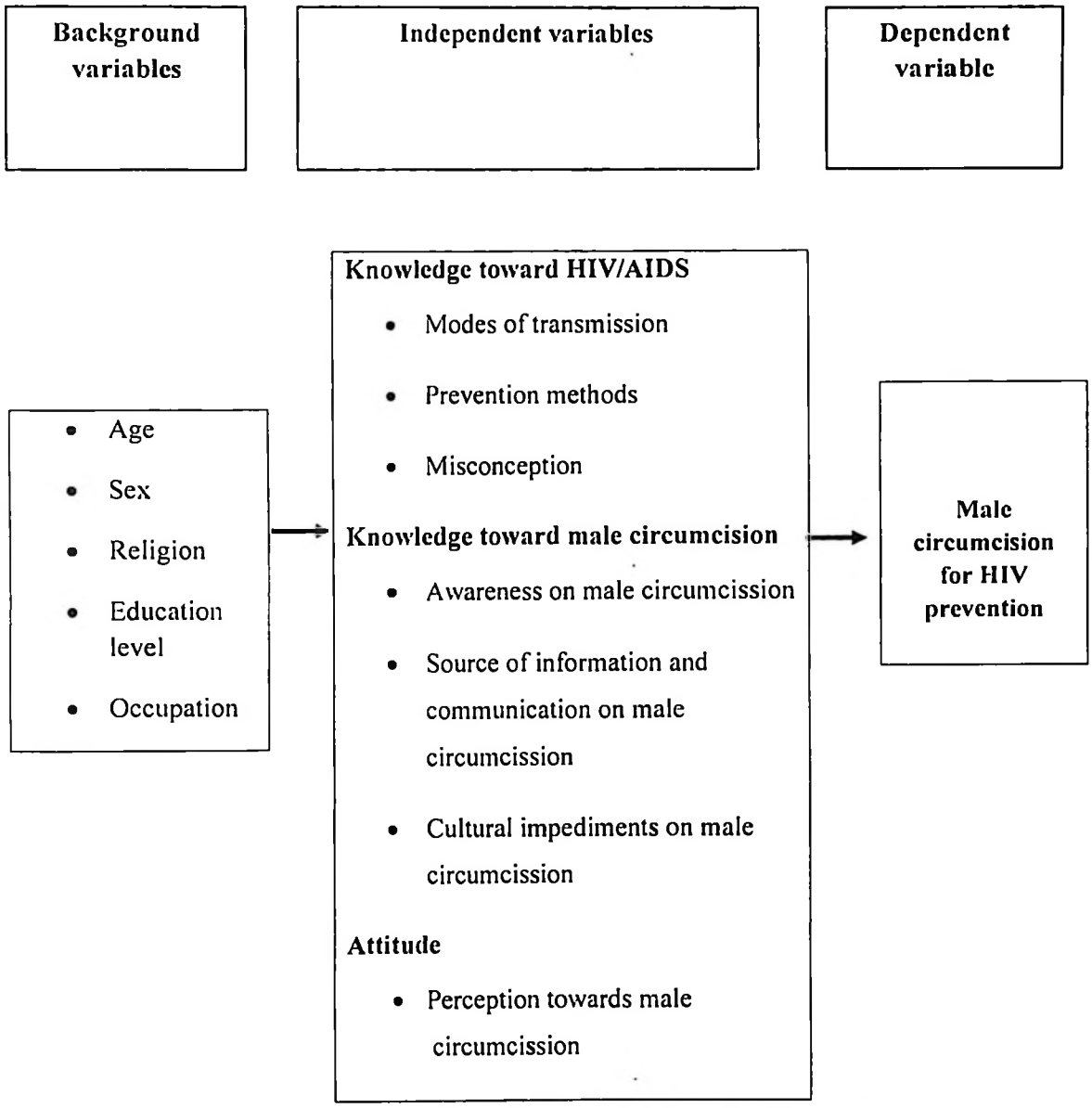

Figure 1: Conceptual framework for the assessment of knowledge and attitude towards male circumcision and HIV prevention

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Description of the Study Area

Iringa is one of Tanzania's thirty administrative regions, it is found in the Southern highlands of Tanzania. Before June, 2010 the region was divided into seven districts which was Iringa Rural, Iringa Urban, Kilolo, Mufindi, Njombe, Ludewa and Makete. However, currently Iringa is divided into two regions in the creation of Njombe Region. Njombe Region is divided into four districts which are Njombe, Ludewa, Makete and Wanging'ombe which is a new district. Iringa Region remains with four districts (Mahle *et al.*, 2011).

Makete District is located at the extreme Western end of Njombe Region, about 110 km from the regional headquarters. The District, however, is bordered with Njombe District on the East, Mbarali District on the North, Ludewa and Lake Nyasa on the South, while Rungwe District is located on the Western side of the district. Moreover, the district area as located using latitude and longitude International identification, lies between $08^{0}45'$ and $09^{0}40'$ South of Equator and between $33^{0}85'$ and $34^{0}30'$ East of Greenwich, covering a total surface area of 5800 sq. km. The district is comprised of 22 wards and 98 villages (MDC, 2011).

3.2 Justification of the Study Area

The study was conducted in Makete district due to low prevalence of male circumcision and towering prevalence rate of HIV. The overall prevalence rate of HIV for Makete District in 2007 was 16.9% (MDC, 2008). Little information on male circumcission is

available, further more , no baseline study on male circumcission in Makete has been conducted (MDC, 2011).

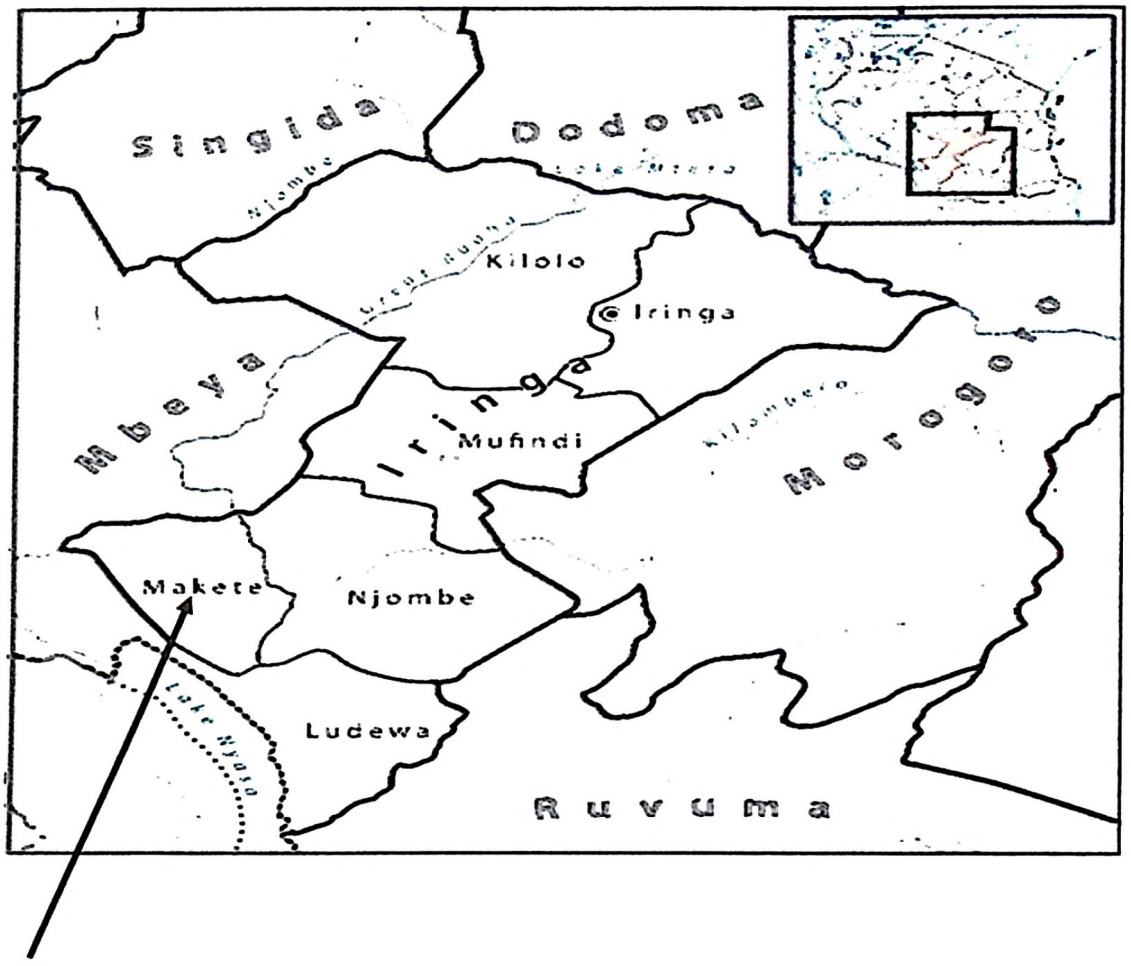

Figure 2: Location of the study area

Source: MDC, (2011)

3.3 Research Design

A cross-sectional research design was employed. The research design allowed data collection at a single point in time (Bailey, 1994). This method is considered useful because of time limit and resource available to fulfill objectives of the study.

3.4 Population

During 2011 Makete District had the population of 120 818 males being 56 276 and females being 64 542 as per projections (MDC, 2011). According to 2012 Tanzania Population and Housing Sencus the District has the population of 97 266 males being 45 300 and females being 51 966. The target population of the study was male and female of Makete District (MDC, 2013).

3.5 Sampling Procedures

3.5.1 Sample method

Makete District was purposively sampled. Simple random sampling method was used to select 1 ward from each of the 6 divisions and 1 village from each of the selected wards. The sampled divisions, wards and villages are as seen in the Table 1.

Table 1: Sampled divisions, wards and villages

Division	Ward	Village
Lupalilo	Iwawa	Ivalalila
Ukwama	Ukwama	Utweve
Bulongwa	Bulongwa	Ilolo
Magoma	Iniho	Mwakavuta
Matamba	Matamba	Mahanji
Ikuwo	Ikuwo	Ikuwo

Community members including traditional elders, traditional healers, influential community members including youth and faith leaders participated in the focus group discussions. Focus group discussion participants were purposively selected from each village. The number of males and females participated in the FGD are as shown in the Table 2.

Table 2: Community members participated in the FGD

Village	Male	Female
Ivalalila	6	5
Utweve	7	6
Ilolo	5	6
Mwakavuta	6	7
Mahanji	7	6
Ikuwo	5	6
Sub-total	**36**	**36**

3.5.2 Sample size

Since the total population of Makete District by 2011 was 120 818 which are more than 10 000, Fisher formula was used to determine the sample size. The total sample size for the study was 420 respondents. The sample size which was needed to measure a given proposition with a given degree of accuracy at a given level of statistical significance was calculated by using a simple Fisher formula, provided that the total population size was greater than 10 000 (Fisher *et al.*, 1991).

$$n = \frac{z^2pq}{d^2} \quad \ldots\ldots (1)$$

Where:

n = the desired sample size (when population is greater than 10,000).

z = the standard normal deviate usually set at 1.96 (or simply more than 2), which corresponds to the 95 percent confidence level.

p = the proportion in the target population estimated to have a particular characteristic. If there is no reasonable estimate, then use 50 percent (0.50).

q= 1.0 - p.

d = degree of accuracy desired, usually set at 0.05 or occasionally at 0.02.

$$n = \frac{(2.05)^2(0.5)(0.5)}{(0.05)^2}$$

$$n = 420.25$$

$$n = 420$$

A sub sample of about 70 respondents from each village was obtained. The study also involved 72 participants for focus group discussion. Two sex disaggregated focus group discussion were conducted in each village with almost 5 - 7 participants per group.

3.6 Data Collection Method

3.6.1 Primary data

Both quantitative and qualitative data were collected. Quantitative data were those in numerical form and was gathered using questionnaire with closed and open –ended questions. Questions in the questionnaire were related to knowledge towards HIV/AIDS and male circumcission as well as attitude towards male circumcission for HIV prevention. Qualitative data gathered were those not in numerical forms. Qualitative data were collected through FGD and key informant's checklists.

3.6.1.1 Knowledge index on HIV transmission and prevention

Knowledge on HIV transmission and prevention was measured by using knowledge index. Positive and negative statements on knowledge about HIV/AIDS were included in the questionnaire, in which for each statement the respondents indicated whether they agree or disagree to the statement. The statements were if HIV/AIDS can be transmitted by sexual intercourse, mosquito bites, transfusion with HIV infected blood, vertical transfusion, unsterilized piercing instruments, cough/sneezing, handshake with an AIDS patient, breast feeding, sharing toilet cleaning facilities and sharing clothes. Their responses to each variable statement were initially recorded as "Agree" and "Disagree". Then for each

variable statement a value of "1" was given for the correct response and "0" for the incorrect response. The knowledge index was calculated as follows:-

$KI = \sum (Xij/Xn)$ (i=1 ...X, j=1, 2.....n) ..... (2)

Where;

KI= Knowledge index of the i^{th} respondent

X_{ij} = frequency of responses on HIV transmission and prevention knowledge

X_n = number of statements on HIV transmission and prevention

X = number of responses considered as indicator of knowledge

n= sample size

3.6.1.2 Knowledge index on male circumcission

Knowledge on male circumcission was also measured by using knowledge index. Statement used were if male circumcission reduces the risk of male being infected with HIV and other sexual transmitted diseases; being circumcised is enough on its own to protect from HIV infection and circumcised men should not continue using other forms of protection; male circumcision avoid the problem of the foreskin becoming too tight around the penis; male circumcission helps to reduce the risk of cervical cancer in female sex partners; male circumcission reduce the risk of urinary tract infection in children; male circumcission prevent cancer of the penis; uncircumcised male partner cause bacterial vaginosis in women; uncircumcised male partner increase a woman's risk of breast cancer; male circumcision is for men with higher levels of education; male circumcission is for male with higher socio-economic status and if male circumcission is for males who are living in urban areas. Their responses to each variable statement were initially recorded as "Agree" and "Disagree". Then for each variable statement a value of "1" was given for the

correct response and "0" for the incorrect response. The knowledge index was calculated as follows:-

$KI = \sum (Xij/Xn)$ (i=1 ...X, j=1, 2.....n) ..... (3)

Where;

KI= Knowledge index of the i^{th} respondent

X_{ij} = frequency of responses on male circumcission knowledge

X_n = number of statements on male circumcission

X = number of responses considered as indicator of knowledge

n = sample size

3.6.1.3 Attitude towards male circumcission

Attitude was measured by using bipolar Likert scaling. The format of a typical five –level Likert was used in which the respondent was asked to; strongly disagreed, disagreed, neither agreed nor disagreed (uncertain), agreed or strongly agreed against the statements. Statements that were used to construct the Likert scale included assumption that; male circumcission lead to infidelity among men; circumcission makes the male sexual organ firm, not easily prone to cuts and bruises thus reducing the chances of contracting other sexually transmitted diseases; the belief that men who practice male circumcission were Muslim but not Christian and that male circumcission improves hygiene for men. The aforementioned assumption was among of the fourteen (14) statements developed to assess the respondents' attitude in relation to different aspects of male circumcission. A numerical score was given by each respondent for each question indicating their negative, neutral or positive attitude towards male circumcission. The score for each respondent for

each question was recorded, and their total score was computed. The proportional of respondent falling under each of the five categories (scoring 1 to 5) was then determined.

3.6.1.4 Focus group discussion

Focus group discussions were made in the open space using interview guide. The researcher facilitated the FGD and takes notes during the discussion. The discussion revealed information of knowledge on HIV/AID and male circumcission as well as attitude towards male circumcission for HIV/AIDS prevention.

3.6.1.5 Key informants

By using checklist of questions, interview was conducted to the District Medical Officer (DMO), Council HIV/AIDS Coordinator (CHAC) and to the Director of the NGO called Iringa Development for Youth, Disabled and Children Care (IDYDC). The interview focused on the district initiatives and programs concerning HIV/AIDS prevention and male circumcission.

3.6.1.6 Questionnaires pretesting

Pre-testing of the questionnaire was done before actual data collection to determine their clarity, relevance to the objective of the study. Pre testing was done for the purpose of ensuring the quality of questions. The questionnaires for pre testing were administered to 20 community members who were picked from Ndulamo Village which is at Iwawa Ward of Lupalilo Division. The village involved in pre testing was excluded from the actual survey. After pre testing the questionnaire was modified to incorporate the lessons learned from pre testing.

3.6.2 Secondary data

Secondary data sources were the district health facilities, TACAIDS, Ministry of Health and Social Welfare. Other sources were the internet, Government HIV/AIDS documentation and other materials available in libraries.

3.7 Data Processing

After data cleaning, coding, editing and entry, data processing was done electronically. Statistical Package for Social Science (SPSS) was employed.

3.8 Data Analysis

Data analysis was done by using SPSS window software Program version 16. Descriptive statistics including the frequencies of occurrence and percentages of various responses that included the description of the knowledge towards HIV and male circumcission as well as attitude towards male circumcision for HIV prevention were determined. Cross tabulation was employed on determining the significance of association between variables. Mult-Way ANOVA was employed in assessing the effects of social economic characteristics (age, education, religion and occupation) on male circumcission.

3.9 Qualitative Data Analysis

Qualitative data was analysed using content analysis through determination of the presence of concepts concerning knowledge and attitude towards male circumcission for HIV prevention within texts or set of texts. This included conceptual and relational analysis. Conceptual analysis involved establishing the existence and frequency of concepts while relational analysis examined the relationships among concepts.

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION

4.1 Characteristics of the Respondents

The background characteristics of the respondents included age, sex, religion, education and occupation. These variables were used to assess their influence on knowledge towards HIV/AIDS and male circumcission as well as attitude towards male circumcision for HIV prevention among community member of Makete District.

4.1.1 Age of the respondents

The age of respondents is summarized in Table 3. The youngest respondent was 17 years older while the oldest respondents were of the age above 60 years. Almost one third (34%) of respondents were in the age of 25-35 years. The age categories of 36-45 years were 29.3%. This indicates that majority of respondents are in the reproductive age and are also sexually active, henceforth were in the risk of acquiring HIV infection (TACAIDS, NBS and Macro, 2005). For that case male circumcission to males under that age is vital for HIV prevention.

4.1.2 Religion of the respondents

The findings as presented in Table 3 show that the majority (65.5%) of respondents were protestant, followed by Roman Catholic (29%) the traditional and Muslim religion. This implies that, HIV prevention and male circumcission education provision through involvement of Protestant and Roman Catholic religious leaders will be fruitful since most of people in the study area belong to those denominations. The involvement of religious

leaders on male circumcission sensitization programs, enable high diffusion of knowledge to their followers.

Table 3: Age and religion of respondents (n= 420)

Characteristics	Percent
Age	
25 -35	34.0
36 – 45	29.3
46 -60	20.2
18 – 24	10.5
60>	5.0
<18	1.0
Religion	
Protestant	65.7
Roman Catholic	29.0
Traditional	4.0
Muslim	1.2

4.1.3 Sex of the respondents

The findings as indicated in Fig. 3 show that there were more males (52%) and few females (48%). This implies that views of both male and female on male circumcission were gathered. Views of female on male circumcission enabled determination of their attitude towards male circumcission and their influence on HIV prevention. Correct information on male circumcission should be provided to both male and female so as to minimize their negative attitude towards male circumcission. One female discussant during FGD in Ivalalila Village had this to say *"the greatest risks of male circumcission I know is that circumcised men will misunderstand or exaggerate the degree to which they are protected from HIV and stop using condoms"*. Women could play a role in motivating

their male partners to be circumcised and continue using all other methods of HIV prevention (URT, 2009).

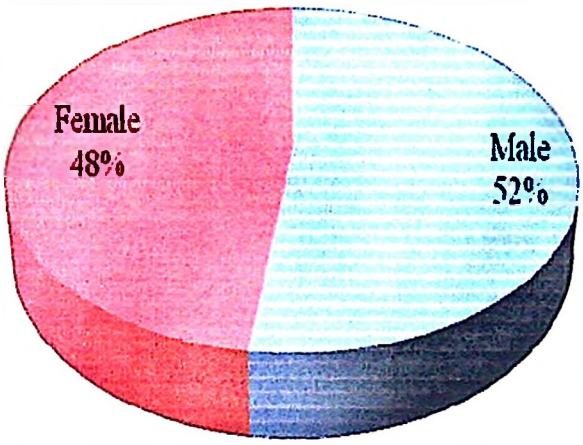

Figure 3: Sex of respondents

4.1.4 Education level of the respondents

As seen in Fig. 4 majority (80.2%) of respondents had standard seven level of education. Respondent's education influences community knowledge and attitude towards male circumcission and HIV prevention. This is reported by Wolfe and Behrman (1987) who pointed out that education is a key determinant of the lifestyle and status an individual will attain in society. Education attainment has a positive effect on health – seeking behavior and attitudes. According to NBS and Macro (2000) education provides people with knowledge and skills that can lead them to a better quality of life. It was shown that education attainment has a strong effect on reproductive behavior. Furthermore education attainment is strongly related to awareness, knowledge, attitude and behavior towards prevention, care and support regarding HIV/AIDS.

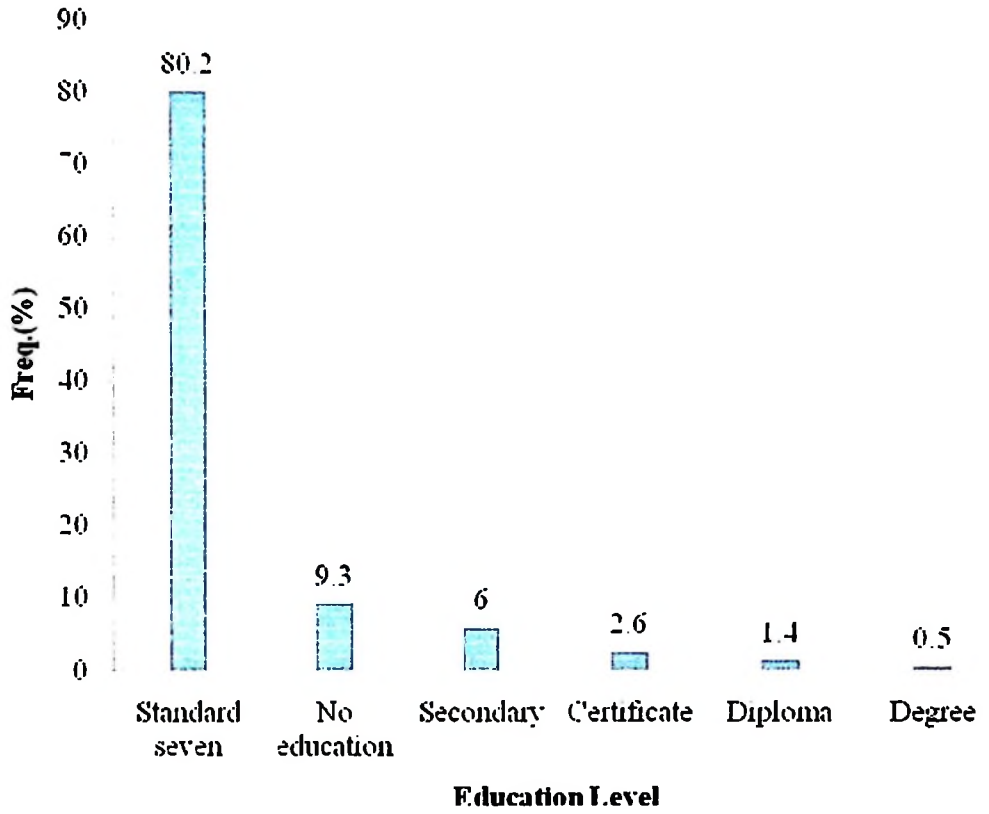

Figure 4: Education level of respondents

4.1.5 Occupation of the respondents

Results as presented in Fig. 5 show that majority (89%) of respondents were peasant; followed by those who are employed (5%), while those who were businessman/women were only 6%. The study results imply that majority of respondents are farmers who might face challenges on information accessibility due to low income level. Since the financial status of the individual is critical determinants for reproductive health and male circumcission information accessibility. Low income is connected with higher likelihood to engage in risky behaviour, hence increased vulnerability to HIV infection (Gupta *et al.*, 2003).

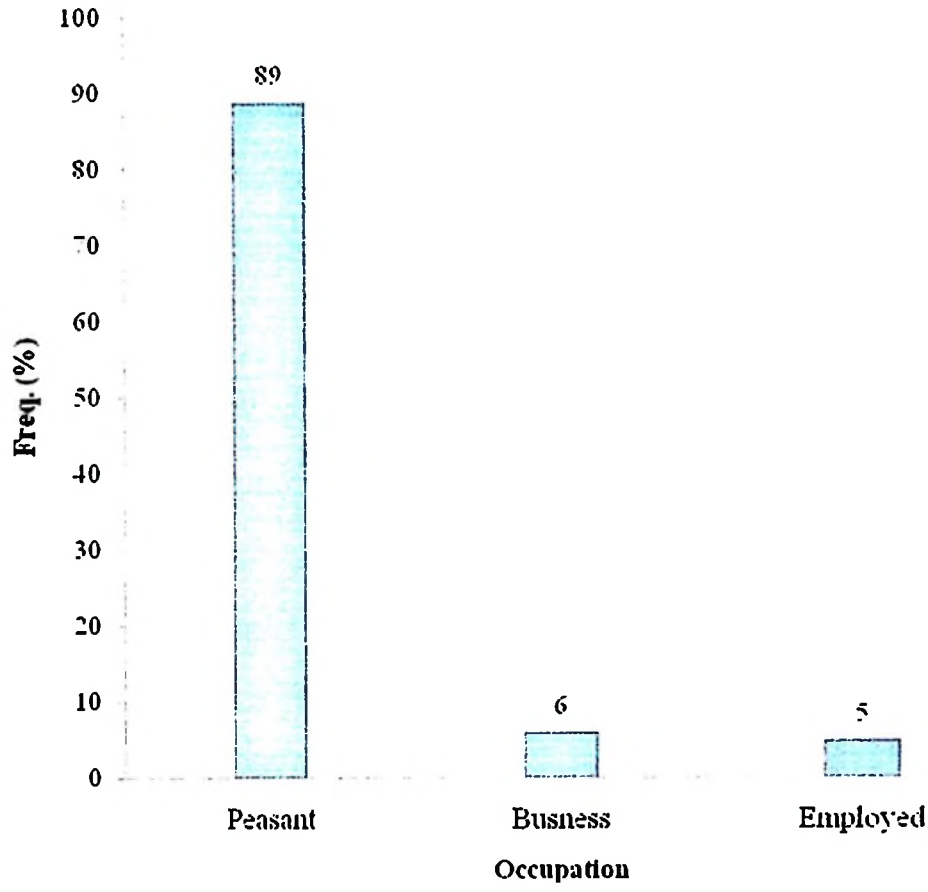

Figure 5: Occupation of respondents

4.2 Knowledge Towards HIV/AIDS Prevention

4.2.1 Means of HIV/AIDS transmission

As it is summarized in the Table 4 majority (92.9%) of respondents admitted that sexual intercourse is the major way of HIV transmission. Heterosexual contact is the prominent mode of HIV transmission in Tanzania it accounts for over 90 percent of new AIDS cases (TACAIDS *et al.*, 2008). The study result implies that people in the study area have high knowledge on how HIV is transmitted. If HIV/AIDS prevention programs insist on individuals' behavioral change but not just awareness creation, it will help to reduce the rate of new HIV infection.

Table 4: Means of HIV/AIDS transmission (n=420)

Means of HIV/AIDS transmission	Frequency	Percent
Sexual intercourse	390	92.9
Sharing eating utensils	14	3.3
Kissing	8	1.9
Blood transfusion	8	1.9

4.2.2 Means of HIV/AIDS prevention

Findings as presented in Table 5 indicate that majority (57.4%) of respondents mentioned condom use as a way of HIV/AIDS control. The study findings is unlike that of 2007-08 Tanzania HIV/AIDS and Malaria Survey (THMIS) which pointed out that the use of condoms as an effective means of preventing HIV transmission was less commonly cited amongst the identified ways of HIV prevention, especially among women in the Southern Highlands Zone (50 percent) and women and men in Zanzibar (46 and 49 percent, respectively). The lowest proportions knowing about condom use as HIV preventive measure are found in Pemba Island (37 percent for women and 49 percent for men). From this study about 22.9% of respondents mentioned abstinence and 19.8% mentioned fidelity. The findings is also contrasting with 2007 - 08 Tanzania HIV/AIDS and Malaria Survey (THMIS) which pointed out that over 80 percent of respondents said that abstaining from sexual intercourse and limiting sexual intercourse to one uninfected partner can reduce the chances of being infected with the AIDS virus. Most of respondents in the study area displayed a high level of knowledge about HIV prevention, since most of them were able to mention one major way of preventing HIV infection. If such high knowledge on HIV prevention will be into practice in the course of behavioral change among community members in the study area will diminish new HIV infection.

Table 5: HIV/AIDS prevention (n=420)

HIV/AIDS prevention	Frequency	Percent
Condom use	241	57.4
Abstinence	96	22.9
Fidelity/faithfulness	83	19.8

4.2.3 General knowledge on HIV/AIDS transmission and prevention methods

Majority (99.3%) of respondents have heard about an illness called AIDS. This is in line with 2007 - 08 Tanzania HIV/AIDS and Malaria Survey (THMIS) which reported that over 98% of Tanzanians aged 15 – 49 years have heard of AIDS. THMIS (2008) also indicated that overall awareness of AIDS is very high in both Mainland Tanzania and Zanzibar, amongst men and women in all age groups and across background characteristics. The study result is also in line with 2003 - 04 Tanzania HIV/AIDS Survey (THIS) which also found that 99% of respondents having heard of AIDS. Again 98.3% of respondents believed that HIV/AIDS exist. The study also revealed that 98.6% of respondents agreed that sexual intercourse lead to HIV infection. Once more 98.1% of respondents agreed that transfusion with HIV infection blood can cause HIV infection.

Majority (98.6%) of respondents agreed that there is HIV infection from mother to child. The current strategies on HIV/AIDS prevention are geared towards improving the health of HIV-infected mother and reducing the transmission of the virus to their children during pregnancy, labor, delivery, postpartum and breast feeding. To achieve this, increasing the level of knowledge about the transmission of the virus from mother to child and reducing the risk of transmission by the use of ant-retroviral drugs are critical (TACAIDS, 2008).

Majority (97.1%) of respondents agreed that unsterilized piercing instrument may cause HIV infection, implying high knowledge of HIV prevention among the respondents. From

the findings expressed in Table 6 it is observed that 96.0% of respondents agree that breast feeding cause HIV infection, while 4.0% described that breast feeding does not cause HIV infection. The reality is that if the HIV infected mother breast feed her baby may cause HIV infection (WHO, 2007).

Table 6: Knowledge on HIV/AIDS (n =420)

Statements	Agree percent	Disagree percent
If ever heard an illness called AIDS	99.3	0.7
Existence of HIV/AIDS	98.3	1.7
Sexual intercourse	98.6	1.4
Mosquito bites	37.6	62.4
Transfusion with HIV infected blood	98.1	1.9
Vertical transfusion	98.6	1.4
Unsterilized piercing instruments	97.1	2.9
Cough/sneezing	51.2	48.8
Handshake with an AIDS patient	7.9	92.1
Breast feeding	96.0	4.0
Sharing toilet cleaning facilities	55.0	45.0
Sharing clothes	54.0	46.0

4.2.4 Misconceptions about AIDS transmission

It was also useful to identify incorrect beliefs about AIDS in order to eliminate misconception and stigma in the society. Some of the common misconception about HIV/AIDS in Tanzania includes the idea that AIDS virus can be spread through mosquito bites, coughing or sneezing, hand shake with an AIDS patient, sharing clothes as well as toilet cleaning facilities.

From the findings majority (62.4%) of respondents as indicated in Table 6 know that mosquito cannot cause HIV infection, while 37.6% of respondents know that mosquito

bite cause HIV infection. The study findings is contradicting with 2007 - 2008 Tanzania HIV/AIDS Malaria Indicator Survey which established that at least seven in ten people knows that AIDS cannot be transmitted by mosquito bites and three in ten people knows that AIDS can be transmitted by mosquito bite (TACAIDS, 2008). Through key informants and FGD participants it was further described that no evidence of HIV transmission through insects, even in areas where there are many cases of AIDS and large populations of insects such as mosquitoes. This supports the conclusion that HIV is not transmitted by insects. Also it was mentioned that the virus causing HIV only lives for a short time and does not reproduce in an insect. So, even if the virus enters a mosquito or another sucking or biting insect, the insect does not become infected and therefore cannot transmit HIV to the next human it feeds on or bites.

The findings also showed that 51.2% of respondents agreed that coughing/sneezing may cause HIV infection which still implies that there is misconception related to HIV/AIDS in the study area which lead to high level of stigma denial and discrimination among community members. Almost half (48.8%) of respondents are informed that coughing/sneezing doesn't cause HIV infection. HIV is unable to reproduce outside its living host, except under very extreme laboratory conditions. HIV does not survive well in the open air, and this makes the possibility of this type of environmental transmission remote. In practice no environmental transmission has been seen. This means that HIV cannot be transmitted through spitting, sneezing, sharing toilet equipment and clothes (WHO, 2007). The study also revealed 92.1% of respondents who said hand shake with an AIDS patient does not cause HIV infection, while 7.9% agree that hand shake with an AIDS patient cause HIV infection. However under usual circumcistance hand shake with an AIDS patient can not cause HIV infection (WHO, 2007). The study also indicated that 55% of respondents agree that sharing toilet facilities cause HIV while 45% mentioned

that sharing of toilet facilities does not cause HIV infection. It was also revealed by the study that 54% of respondents agree that sharing clothes cause HIV infection which also indicates prevailing misconception related to HIV/AIDS. On the other hand about 46% of respondents mentioned that clothes sharing do not cause HIV infection. The realized misconception which leads to HIV/AIDS related stigma, denial and discrimination is a drawback on HIV/AID prevention since this lead to less utilization of HIV/AIDS prevention services like VCT and PMTCT among the community members. One of a female FGD participant in the study area when asked to give her view on myths about HIV transmission was quoted saying:

> *"In our village many people don't have knowledge on prevailing misconception related to HIV/AIDS. There are various ways in which HIV can be transmitted, always is when there is the infected fluid and a portal of entry into the body. A portal of entry is the way that HIV enters the body. This is either through a cut, sore, or opening in the skin or through the soft tissue called mucous membrane, located in the vagina, the tip of the penis, the anus, the mouth, the eyes, or the nose. HIV is not an airborne, water-borne or food-borne virus, and does not survive for very long outside the human body. Therefore ordinary social contact such as kissing, shaking hands, coughing and sharing cutlery does not result in the virus being passed from one person to another. There is no way one can acquire HIV by being near a person with HIV, or by sharing their cups or bathrooms, or by hugging them or kissing them when blood or a contaminated fluid is not present."*

4.2.5 Knowledge index towards HIV/AIDS

To analyze further the knowledge of HIV/AIDS among people of Makete District, an index was developed using a list of ten variables. The ten statements were if HIV/AIDS can be transmitted by sexual intercourse, mosquito bites, transfusion with HIV infected blood, vertical transfusion, unsterilized piercing instruments, cough/sneezing, handshake

with an AIDS patient, breast feeding, sharing toilet cleaning facilities and sharing clothes. Their responses to each variable statement were initially recorded as "Agree" and "Disagree". For each variable statement a value of "1" was given for the correct response and "0" for the incorrect response. Through this approach, a respondent with scoring 10 points would be viewed as having a high knowledge since managed to answer all 10 knowledge statements correctly. Similarly, one with a 0 point will be regarded as having low knowledge on HIV/AIDS for failing to answer the knowledge statements. The computed index is summarized in Table 7. Moreover, the values of the index of knowledge were categorized in low medium and high knowledge in order to get a meaningful analysis.

Table 7: Index of knowledge and their categorization

Score	Percent
4	1.2
5	5.5
6	27.4
7	15.0
8	9.0
9	9.3
10	32.6
Categories of knowledge	
Low	1.2
Medium	47.9
High	51.0

Score of 0 - 4 were considered as low knowledge, 5 - 7 as medium knowledge and 8 - 10 as high knowledge on HIV/AIDS. According to Table 7, majority (51%) of respondents were above mean, suggesting that majority of them have high knowledge on HIV/AIDS.

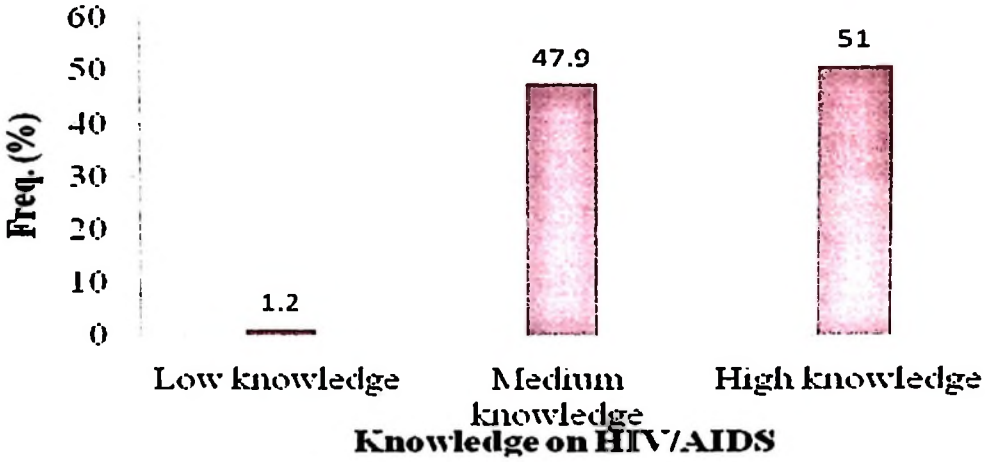

Figure 6: Overall knowledge of respondents on HIV/AIDS.

4.2.6 HIV prevalence rate in Makete District

HIV/AIDS pandemic poses the greatest health challenge of our time in Tanzania. According to the district HIV/AIDS informations the prevalence rate in 2006 was 18.9%, the National HIV testing campaign (2007) revealed the HIV prevalence rate for Makete District to be 16.9%. Under this study as per secondary data the district HIV prevalence rate for the year 2011 was 11% as seen in the Table 8.

Table 8: Makete District HIV prevalence rate by 2011

Male tested for HIV	Female tested for HIV	Male found HIV positive	Female found HIV positive	HIV prevalence rate among male	HIV prevalence rate among female	District HIV prevalence rate
9715	10 971	995	1131	5%	6%	11%

Source: MDC , (2012) Makete District Council Annual report (2011).

The study results shows a decrease in HIV prevalence for Makete District as compared with the results of the Tanzania HIV/AIDS Malaria Indicator Survey (THMIS) for 2007/2008 in which Iringa region and its districts had the highest (15.7%) HIV prevalence

in the country (TACAIDS *et al.*, 2008). The decrease in prevalence rate of HIV in Makete District might be due to incersed HIV/AIDS prevention awareness programes and HIV/AIDS prevention services like VCT and PMTCT provided to the community member as well as the initiation of new HIV prevention services like male circumcission. Makete District has advocated male circumcission for HIV prevention for some years. The district high volume campaign started in early 2010 (MDC, 2011).

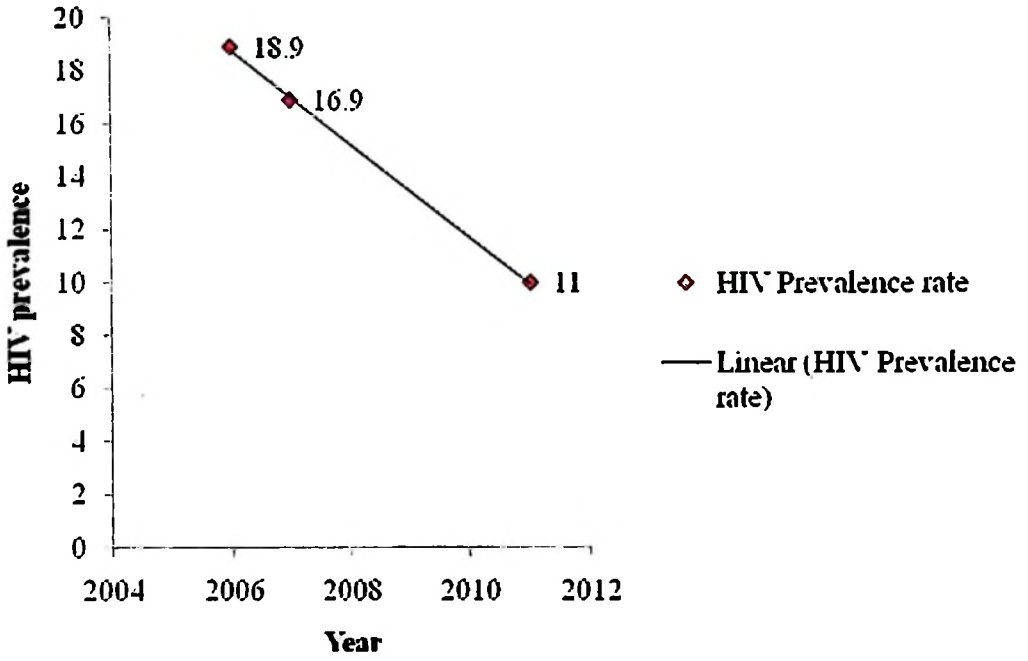

Figure 7: Prevalence of HIV/AIDS in Makete District.

4.3 Knowledge towards Male Circumcission for HIV Prevention

4.3.1 Sources of information on male circumcission

Result as summarized in Table 9 shows a good proportion (42.3%) of respondents who heard about male circumcission from the radio. Therefore the study indicates that people of Makete District are more likely to listen from the radio on information including male circumcission messages than other information sources. This implies that radio is a reliable source of information in rural areas. About 23.3% of respondents reported that

their major source of information on male circumcission was through the sensitization programme. About 18.1% of respondents reported that they don't have any information source on male circumcission.

Table 9: Source of information on male circumcission in the past 6 months (n=420)

Information sources	Frequency	Percent
Radio	178	42.4
Male circumcission sensitization program	98	23.3
No any information source	76	18.1
Friends	44	10.5
Booklet/pamphlet/poster	8	1.9
Television	7	1.7
Mosque/church	5	1.2
Newspaper/magazine	4	1.0

The study found a close association ($\chi^2 = 25.318$; $p = 0.001$) between sex and source of information on male circumcission tested at $\alpha = 0.05$. Male are more exposed to various information sources of male circumcission than female. Information access is an essential factor on increasing people's knowledge and awareness towards male circumcission, this may eventually affects their perception and behavioral change. For the purpose of planning programs to spread information on male circumcission for HIV prevention, it is important to identify the media that are likely to be reached by men and women in both rural and urban areas (URT, 2009). Across geographical areas, men and women in urban areas have more exposure to mass media than those in rural areas (TACAIDS *et al.*, 2008).

4.3.2 Meaning of male circumcission

Data as presented in Fig. 8 indicates that majority (65%) of respondents were able to define male circumcission (MC). While one third (35%) of respondents were not able to define it. This implies that some people in the study area do not have correct information about the meaning of male circumcission.

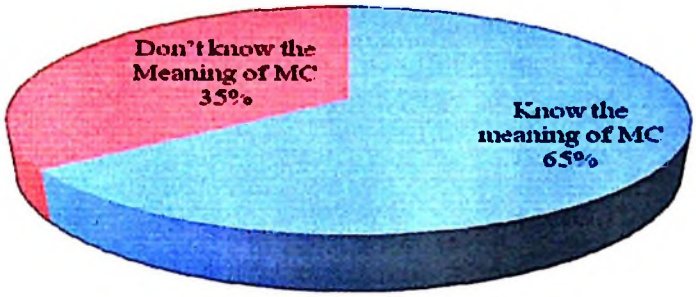

Figure 8: Meaning of male circumcission

The study found a close association (χ^2 = 20.602; p = 0.000) between sex and understanding on the meaning of male circumcission tested at $\alpha = 0.05$. The meaning of male circumcission is well known by male than female. Male circumcission sensitization campaigns have to target both male and female for effective behavioral change on male circumcission for HIV prevention (URT, 2009).

4.3.3 Reasons of carrying out male circumcission

Fig. 9 reveals that majority (65.4%) of respondents mentioned HIV protection as a reason of carrying out male circumcission. Therefore the study shows that one of the major driving determinants in the spread of circumcission practices in Makete District which is a traditionally non-circumcising area has been the perception that it lowers risk of HIV infection. The study found no association (χ^2 = 7.937; p = 0.094) between sex and understanding on the reasons of carrying out male circumcission tested at $\alpha = 0.05$.

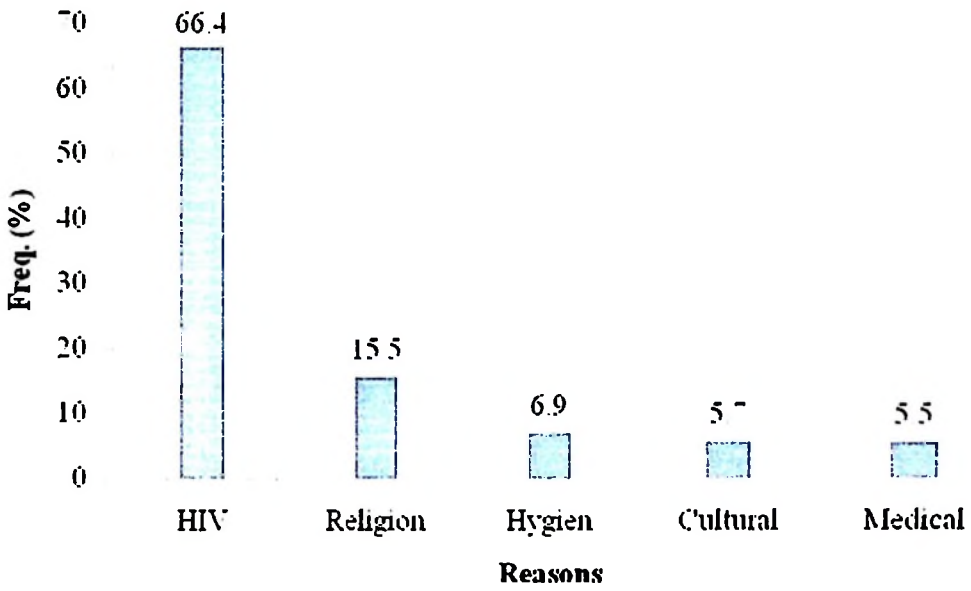

Figure 9: Reason of carrying out male circumcission

4.3.4 General knowledge on male Circumcission

Results as indicated in the Table 10 shows that majority (81.9%) of respondents had heard about male circumcission. While 18.1%, of respondents had never heard about male circumcission. The findings also indicate that majority (81.7%) of respondents heard information about male circumcission in the past 6 months while 18.3% never heard information about male circumcission in the past 6 months.

The study showed that 77.9% of respondents agreed that male circumcission reduce the risk of HIV infection and other sexual transmitted diseases among males. On the other hand 22.1% of respondents revealed that male circumcission does not reduce the risk of male being infected with HIV and other sexual transmitted diseases. Previous studies have shown a protective effect of male circumcission on transmission of HIV. Lack of circumcission is considered as risk factor for HIV infection because of physiological differences uncircumcised men have increased susceptibility to HIV infection (URT, 2009). This implies that there is lack of knowledge about circumcission being one of the

preventive measures against HIV/AIDS in the study area. Awareness creation campaigns are argued to increase knowledge on male circumcission.

Furthermore the results show that majority (94.5%) of respondents disagreed that being circumcised is enough on its own to protect from HIV infection and circumcised men should not continue using other forms of protection. About 5.5% of respondents said being circumcised is enough on its own to protect from HIV infection and circumcised men should not continue using other forms of protection. This implies that some people in the study area don't know that male circumcission does not provide a complete protection against HIV; male circumcission should be considered only as part of a comprehensive package to prevent HIV. Male circumcission should be encouraged along with the delay of onset of sex, abstinence, reduction in number of sexual partners, consistent condom use, HIV counseling and testing and treatment of other sexually transmitted infections. Furthermore it should be acknowledged that there are potentially harmful effects of male circumcission promotion if correct information is not provided to men and women about the fact that male circumcission is not a 'magic bullet' and does not provide complete protection against HIV transmission but it should go along with all other HIV prevention methods (WHO, 2007, cited by Baine *et al.*, 2009).

Table 10: Knowledge on male circumcission and HIV prevention (n = 420)

Statement	Percentage	
	Agree	Disagree
If ever heard about male circumcission	81.9	18.1
If in the past 6 months have heard or seen information on male circumcission	81.7	18.3
Male circumcission reduces the risk of male being infected with HIV and other sexual transmitted diseases	77.9	22.1
Being circumcised is enough on its own to protect from HIV infection and circumcised men should not continue using other forms of protection	5.5	94.5
Male circumcission avoid the problem of the foreskin becoming too tight around the penis	55.2	44.8
Male circumcission helps to reduce the risk of cervical cancer in female sex partners	54.8	44.2
Male circumcission reduces the risk of urinary tract infection in children	67.1	32.9
Male circumcission prevent cancer of the penis	46.4	53.6
Uncircumcised male partner cause bacterial Vaginosis in women	62.4	37.6
Uncircumcised male partner increase a woman's risk of breast cancer	48.3	51.7
Male circumcission is for men with higher levels of education	11.2	88.8
Male circumcission is for male with higher socio-economic status	11.0	89.0
Male circumcission is for males who are living in urban areas	11.4	88.6

The findings as summarized in Table 10 show that 52.2% of respondents agreed while 48.8% of respondents disagreed that male circumcission avoid the problem of fore skin becoming too tight around the penis. One of a male at Ivalalila Village, Makete District when asked to give his view on advantages of male circumcission during males' FGD had this to say;

> *"If you are not circumcised sometimes the foreskin cannot comfortably be pulled back over the glans (knob) of the penis. This make difficult to clean under the foreskin and for that case you may feel uncomfortable and the only solution is to perform male circumcission. A lot of men, and their partners, prefer the appearance of their penis after circumcission, it is odour-free, it feels cleaner, and they enjoy better sex. Awareness of a good body image is a very important factor in building self-confidence. The odour produced from uncircumcised male is called balanitis is unpleasant, often recurring inflammation of the glans. It is quite common and can be prevented by circumcission. If uncircumcised males in our district will know this reality will help them to opt for male circumcission."*

Results in Table 10 revealed that 54.8% of respondents agreed while 44.2% disagree that male circumcission helps to reduce the risk of cervical cancer in female sex partners. Cancer of the cervix in women is due to the Human Papilloma Virus. It thrives under and on the foreskin from where it can be transmitted during intercourse. Male circumcission is advised due to its role of reducing the risk of cervix cancer to female sex partner (URT, 2009). The study also revealed that 48.3% of respondents agreed that uncircumcised male partner increase a women risk of breast cancer while 51.7% of respondent disagreed with the statement. This implies that people in the study area have low knowledge on the advantages of male circumcission in addition to the reduction in the risks of HIV infection from female to male. Uncircumcised male partner may also increase a woman's risk of

breast cancer, which is the most frequently diagnosed malignancy in women (Agarwal *et al.*, 1993).

With reference to Table 10 it is observed that 67.1% of respondents agreed that male circumcission reduce the risk of urinary tract infection in children. Urinary tract infections sometimes occur in babies and can be quite serious, therefore circumcision in infancy reduces the risk of urinary tract infection (Dodge and Kaviti, 1965). One third (32.9%) of respondent disagreed that male circumcission reduce the risk of urinary tract infection in children. The study also shows that majority (53.6%) of respondent disagree that male circumcission prevent cancer of the penis and 46.4% agreed on the statement.

Table 10 indicates that 62.4% of respondents agreed that uncircumcised male partner causes bacterial vaginosis in women and 37.6% of respondent disagreed on the statement. The truth is that having sex with uncircumcised male cause bad smell to the vagina which is a symptom of bacterial vaginosis; this can be reduced by strictly penis cleanliness (Agarwal *et al.*, 1993). The study also reveals that 88.8% of respondents who disagreed that male circumcission are for men with higher level of education" while 11.2% agreed on the statement. The study also shows that 89.0% of respondents disagreed that male circumcission are for men with higher socio-economic status while 11.0% agreed. About 88.6% of respondents disagreed that male circumcission is for men who are living in urban while 11.4% agreed. This implies that there is misconception related with male circumcission among some people which hinder male circumcission. In order to minimize misconception among community members truthful information on male circumcission should be provided by male circumcission and HIV prevention stakeholders.

4.3.5 Index of knowledge about male circumcission

To analyze further the knowledge about male circumcission among people of Makete District, an index was developed using a list of eleven variables. Their responses to each variable statement were initially recorded as "Agree" and "Disagree". Then for each variable statement a value of "1" was given for the correct response and "0" for the incorrect response. Through this approach, a respondent with eleven points would be viewed as having a high knowledge as he/she managed to answer all eleven knowledge statements correctly. Likewise, the one with 0 points will be regarded as having low knowledge on male circumcission for failing to answer the knowledge statements.

The computed index is summarized in Table 11. Moreover, the values of the index of knowledge were categorized as low, medium, and high knowledge in order to get a meaningful analysis. Score of 0 - 5 were considered as low, 6 - 8 as medium and 9 -11 as high knowledge on male circumcission as shown in Table 11.

Table 11: Index of knowledge and their categorization (n=420)

Score	Percent
0	2
1	20
2	7
3	6
4	46
5	53
6	22
7	32
8	32
9	19
10	45
11	141
Categories of knowledge	
Low	31.9
Medium	19.3
High	48.8

From the findings almost half of respondents were in the high category (48.8%), those with low knowledge were (31.1%) and those with medium were (19.3%). As indicated in Table 11 one third of community members in the study area have low knowledge on male circumcission. The study findings is contrary with the study which was conducted in Kagera and Mara Regions which reported that people of those areas were somehow knowledgeable about male circumcission since three-quarters (78%) of the respondent underscored the relationship between male circumcission and HIV (URT, 2009).

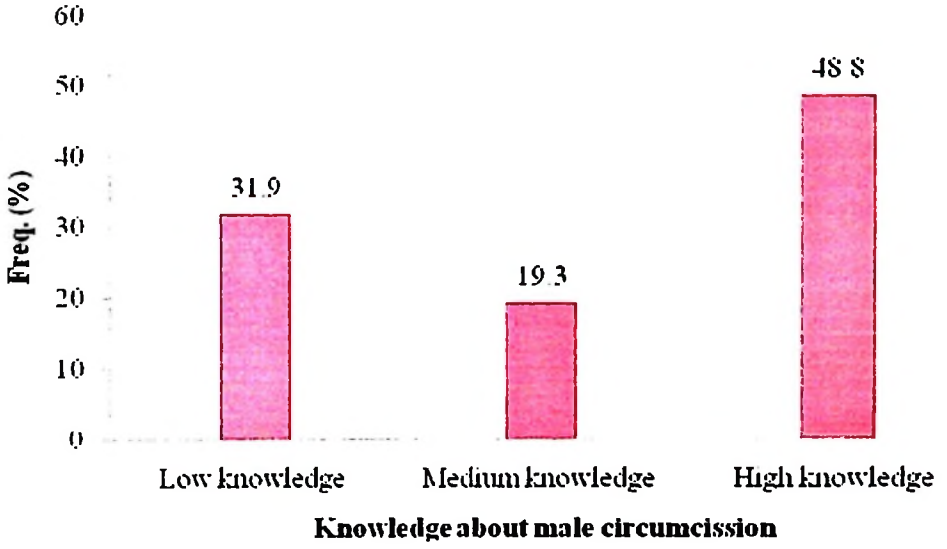

Figure 10: Overall knowledge of respondents on male circumcission

4.4 Practice of Male Circumcission

Among 219 males who were interviewed (60%) reported that they were not circumcised while about 40% reported being circumcised. The prevalence of male circumcission in the study area increased from 29% in 2009 to 40% in 2011, this increase was contributed by the Voluntary Medical Male Circumcission Campaign going on in Iringa Region. Regardless of the increase of male circumcission prevalence the gains are still on the ground. There is a large proportion 60% of male who reported that they were not

dissimilar with the one obtained under the study which was conducted at Bukoba District in which among the males who were interviewed (45%) reported being circumcised and 55% reported that they were not circumcised (URT, 2009). HIV infection rate in Makete District by 2011 was 11% as observed in Fig. 7 which was higher than the National average 5.7%. This results still denotes that in areas like Makete where there is low male circumcission practice there is high HIV prevelence. The result is as reported by TACADS (2008) that Iringa Region has low male circumcission prevalence (29%) and higher HIV prevalence (15.7%) which indicates an immense relationship between the variables. Based on this fact the WHO (2007) has issued a set of recommendations for the use of male circumcision in HIV prevention efforts. These recommendations are particularly applicable to Tanzania mainly Iringa Region and Makete District, where the prevalence of heterosexually transmitted HIV infection is high and prevalence of male circumcission is low. The guidelines state that, male circumcission does not provide complete protection against HIV; it should be considered only part of a comprehensive package to prevent HIV (WHO, 2007, cited by Baine *et al.*, 2009).

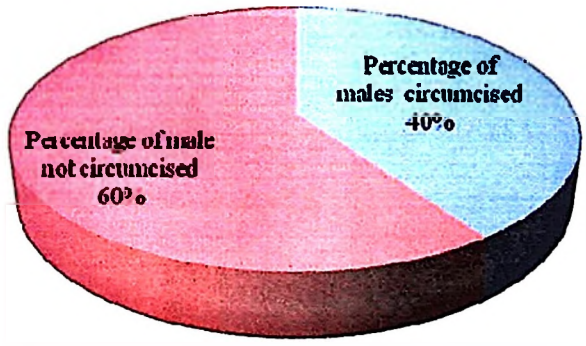

Figure 11: Male circumcission in Makete District; 2012

4.5 Influence on Male Circumcission

Circumcised male respondents were asked about factors that pushed them towards male

peers group and 26.1% were influenced by parents. Through female FGD it was mentioned that peer pressure had a great role of influencing many people to practice male circumcission. Peer pressure in traditionally non circumcising areas like Makete District is through ridicule and stigmatization of the uncircumcised males. Men seek circumcision in order to gain social acceptability among their peers. Through FGD it was also revealed that parent also influence male circumcission to their children.

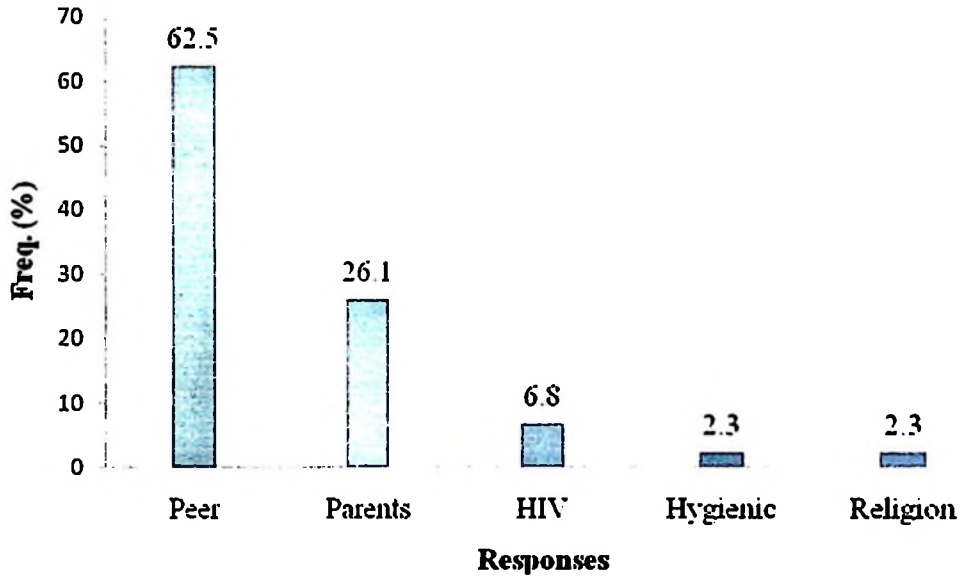

Figure 12: Influence on male circumcision

4.6 Age when Male Circumcission was Practiced

Circumcised male respondents were asked as when they were circumcised. Findings as presented in the Table 12 indicated that 43.5% of respondents circumcised at the age between 18 - 24 while about (23.5%) of respondents were circumcised at the age between 5 - 17 years. This implies that male circumcission among males in Makete District is mostly performed at adult hood age. Age for male circumcission is vital in reducing the extent of complication and adverse effect, circumcission at age below 12 years is more

Table 12: Age when male circumcission was practiced (n=88)

Age	Frequency	Percent
18-24	39	44.3
5-17	21	23.9
25-35	16	18.2
Below 5 years	8	9.5
36-45	4	4.5

4.7 Places Where Male Circumcission Is Practiced

Circumcised male respondents were asked to indicate specific places where circumcission was practiced. Fig. 13 revealed that 95% were circumcised at health facility. Most of respondents are practicing safe male circumcission at health facilities in the study area. Few of them 5% practiced male circumcission to traditional practitioners (unsterilized environment) which is a risk for HIV infection due to lack of sterile equipment. The risk of HIV infection was also reported by Agot *et al.* (2004) who revealed that male circumcission places men at great risk of contracting HIV/AIDS. This is because the procedure in Tanzania is usually performed on group of children in non-sterile environment. If one member in the group is HIV positive, there is a high chance that others also may become infected.

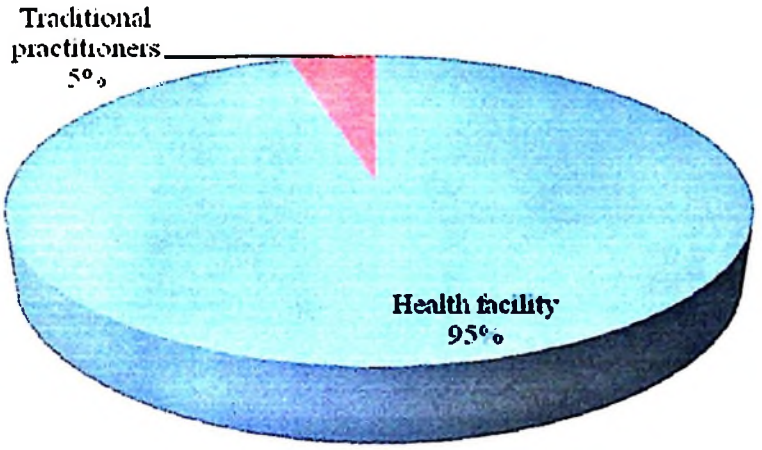

Figure 13: Places where male circumcission is practiced

4.8 Costs of Male Circumcission Practice

As presented in Table 13 majorities (46.6%) of male respondents used between 6000 –10 000 Tshs for male circumcission. The findings show that 21.6% of them practiced male circumcission for free of charge, these are the one performed it during the voluntary medical male circumcission campaign which was conducted in Iringa Region by 2011. As indicated in Table 13, findings show that 18.2% of respondents used between 1000 – 5000. According to male FGD it was mentioned that high cost is also a barriers for male circumcission promotion, especially among poor citizens. They suggested that in order for them to practice male circumcission, the practice should be free of charge. During the FGD some males and female participants had this to say on the cost for male circumcission;

> *"Male circumcission being a life saving initiative, it should be completely free so that both underprivileged and well-off can access it equally"* (Male participant, Ivalalila Village). A women participant also was quoted that *"If the district government has seen high spread of HIV/AIDS and male circumcission practices reduce the disease; they should therefore do it for free of charge. Some will refuse*

to be circumcise and again if you ask money for those who have accepted to circumcise they may also refuse to circumcise, so I would say it should be at no cost." *"Affordability, availability and accessibility to male circumcission in our village are important concerns. The district government should cover the cost of male circumcission as well as make male circumcission services easily accessible, reduce the distance and time delay"* (Male participant in Mwakavuta Village).

Table 13: Cost in Tshs paid by the respondent for male circumcission (n=88)

Amount in Tshs	Frequency	Percent
6000 – 10 000	41	46.6
Free of charge	19	21.6
1000 – 5000	16	18.2
11 000 – 15 000	8	9.1
Above – 15 000	4	4.5

4.9 Source of Money for Male Circumcission Practice

Circumcised male respondents were asked about the source of money for circumcission. As indicated in the Fig. 14 more than half (58.0%) of respondents used own source for male circumcission while 23.9% of respondents obtained the money from their parents. About 18.2% of respondent mentioned that their source of money was the Government or NGOs. The findings shows that the major source of money for male circumcission operation cost was from own source. Parents are also the major source of money for male circumcission operation costs. This implies that since the major source of costs for circumcission was from own source, poor community members will not practice male circumcission due to lack of money.

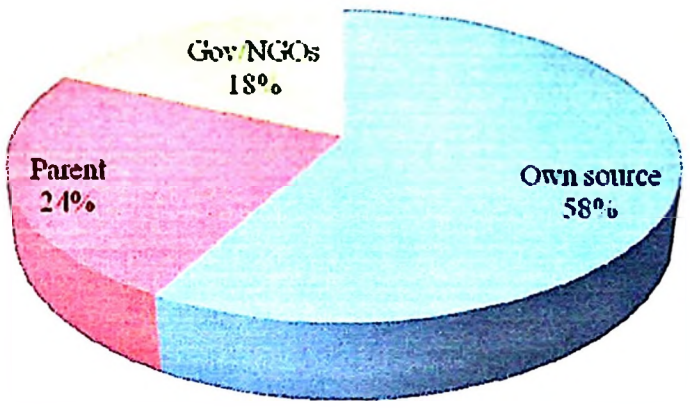

Figure 14: Source of money for male circumcission

4.10 Factors for Not Performing Male Circumcission

From Table 14 the findings revealed that 67.9% of non circumcised respondents didn't performed circumcission due to the fact that it is culturally not acceptable. This implies that culture is the major hindrance on male circumcission practice in the study area. For that case local strategies are required to address cultural impediments hindering male circumcission through well developed information which are culturally sensitive and ethically appropriate. According to key informants and FGD it was mentioned that Makete being a non-traditionally circumcising ethnic community, majority of men feel they should not get circumcised because this practice is not part of their cultures. Male circumcission is perceived as alien, and as a preserve of particular religious and ethnic groups and cultures. The findings in Table 14 shows that 18.3% of respondent didn't performed circumcission because they feared complication and adverse effect. Complications that were mostly mentioned during FGD included: pain and bleeding; blood clot formation causing swelling of the penis (haematoma); irritation of the glans; oversensitivity of the glans penis for the first few months after the operation. Using a condom helps to alleviate this problem and is important to reduce the risk of acquiring HIV infection even further; increased risk of meatitis (inflammation of the opening of the penis) and risk of injury to

have been found to be as low as one in fifty in circumcission trials and in areas where the surgery is performed by well trained, adequately equipped; experienced personnel the risks are more reduced (Auvert *et al.*, 2005).

Table 14: Reason of the respondents on not performing male circumcission (n=131)

Reason of not performing male circumcission	Frequency	Percent
Culturally not acceptable	89	67.9
Complications and adverse effects	24	18.3
Pain during and after the procedure	5	3.8
Difficult to access to health care	6	4.6
The cost of the procedure is too high	6	4.6
Not religious acceptable	1	0.8

4.11 Readiness for Male Circumcission

Among 131 males who reported that they were not circumcised, 71.8% of them said they would not want to be circumcised regardless of all the benefits. This reveals that there is low acceptability of male circumcission in Makete District; to make it acceptable male circumcission sensitization campaign among community members is vital. About 28.2% of respondents said they would want to be circumcised after being aware that male circumcission reduces the risk of male being infected with HIV. Being circumcised is not enough on its own to protect from HIV infection and circumcised men MUST continue using other forms of protection. Circumcission also has other health benefits. Infants have a lessened chance of developing urinary tract infections (Wiswell and Hachey, 1993).

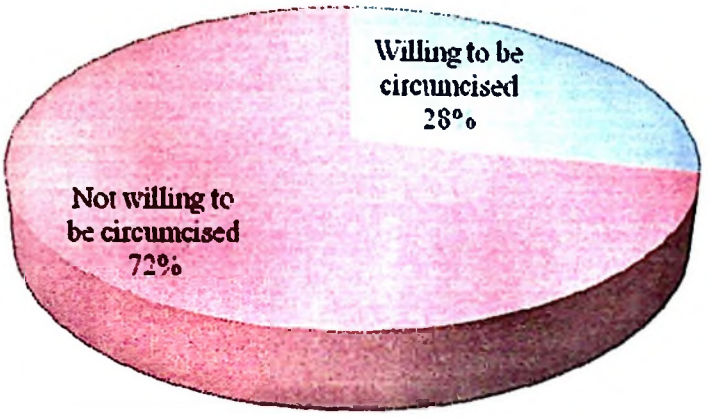

Figure 15: Willingness of respondents for male circumcission

4.12 Attitude Towards Male Circumcission for HIV Prevention

4.12.1 General attitude towards male circumcission

The five levels of the Likert scale were reduced into three to bring more meaningful results. Research findings as presented in Table 15 indicated that 61.9% of respondent strongly disagree with the statement that male circumcission leads to infidelity among men. Nearly a third (27.8%) of the respondents agree with the statement where as 10% were uncertain. Male circumcission was linked to religious beliefs. About 70% of respondents strongly disagreed that male circumcission is for Muslim only and not for Christian, which means more than half of the respondents associated the practice with Muslim faith. Similarly, many (65%) of respondents strongly disagree with the statement that practicing male circumcission amounted to abusing Gods' creation because the fore skin is meant for protection of the reproductive organ. Such perceptions are likely to reduce the rate of practicing male circumcission. Providing the correct information on male circumcission is necessary to reverse such perceptions.

In relation to hygiene, majority (81.9%) of respondents disagreed that male circumcission improves hygiene of male sexual organ and hence, reducing incidences of infections to the

improved hygiene of the male's sexual organ (mainly the fore skin) would lead to prevention of STIs among men. In addition, a good proportion (53.1%) of respondents contended that male circumcission reduces chances for cervical cancer in female sexual partners consistent with findings by (Williams *et al.*, 2006). These findings reflect awareness within the community in relation to male circumcission for disease prevention.

Table 15: Attitude towards male circumcission for HIV prevention (n=420)

No	Statements	Score (%)		
		(1)	(2)	(3)
1.	Male circumcission leads to infidelity among men.	61.9	10.2	27.8
2.	Men who practice male circumcission are those who are Muslim and not Christian	70.0	3.3	26.7
3.	Male circumcission reduce the size and strength of the sexual organ	58.8	21.0	20.2
4.	Circumcission is not a new fashion so it should not be practiced	67.3	11.2	21.4
5.	Circumcised men fail to satisfy women during sex	57.9	22.1	20.0
6.	Male circumcission is for young boys only and not older men	71.4	1.4	27.1
7.	Male circumcission is like abusing god's creation because the foreskin is meant to protect the penis	65.0	6.4	28.5
8.	Male circumcission improves male's hygiene	81.9	12.4	5.8
9.	Male circumcission makes the penis firm and not easily prone to cuts	83.6	11.0	5.4
10.	Male circumcission helps to reduce the risk of cervical cancer in sex partners	45.5	1.4	53.1
11.	Male circumcission reduce risk of getting penis infections	53.8	1.0	45.2
12.	Uncircumcised male partner cause vagina infection in women	36.7	1.4	61.9
13.	Uncircumcised male partner increase a woman's risk of breast malignancy	47.4	1.0	49.7
14.	Male circumcission reduce the risk of urinary tract contamination in children	35.3	1.0	63.8
	Average score	59.7	7.5	32.7

Key; 1= Disagree, 2= Uncertain, 3= Agree

Average score indicated more than a half (59.7%) of the respondents had negative perceptions towards male circumcission, only 32.7% had positive perception and 7.5% were neutral. This is in contrast with the findings by WHO (2007), which has suggested that male circumcission can reduce HIV/AIDS infection among men. This calls for strategies to change prevailing negative perceptions so that communities can embrace

male circumcission. This will happen if intensive efforts are made to raise awareness and provide the correct information.

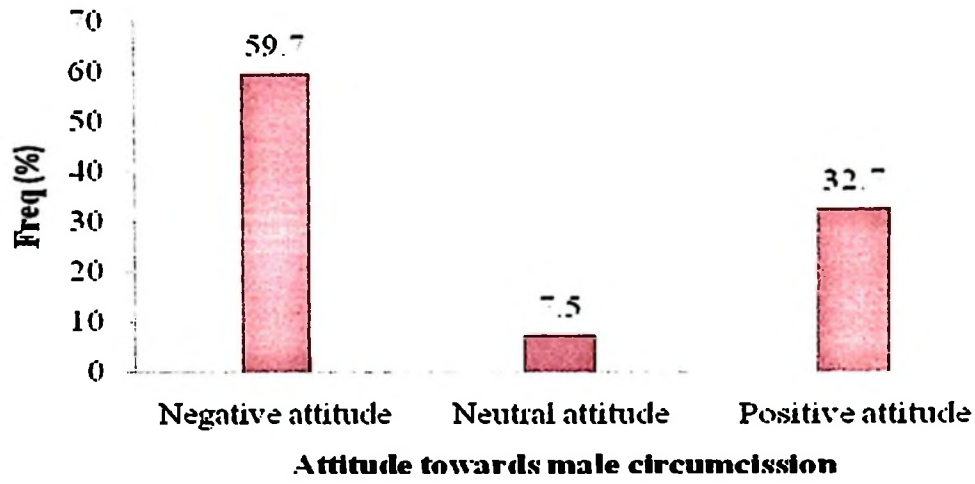

Figure 16: Average score of respondents towards male circumcission

Negative attitude towards male circumcission were also realized during FGD where participants had this to say;

> *"Our body parts which God has created are not supposed to be tempered with; there are others that can be removed like hair in the armpits, but not the fore skin of the penis if you consider faithful, male circumcission is like abusing God's creation because the foreskin is meant to shield the penis"* (Male participant, in Ilolo Village). Another female participant in Ikuwo Village said *"I reject male circumcission because it is the same as turning my partner into Moslems."*

4.12.2 Uncircumcised male partner

Among 201 female respondents were to mention if they prefer male sexual partner who is not circumcised. Majority (74.1%) of respondents said they don't prefer male sexual partner who is not circumcised, this is a positive attitude among female which could help

to promote more male to practice circumcission. The finding shows that 25.9% of respondents said they would prefer to have sexual partner who is not circumcised. This implies that there is a large part of females in the study area who are not aware on the advantages of male circumcission. For that case there is a need of creating awareness through sensitization and education programs among females in the study area.

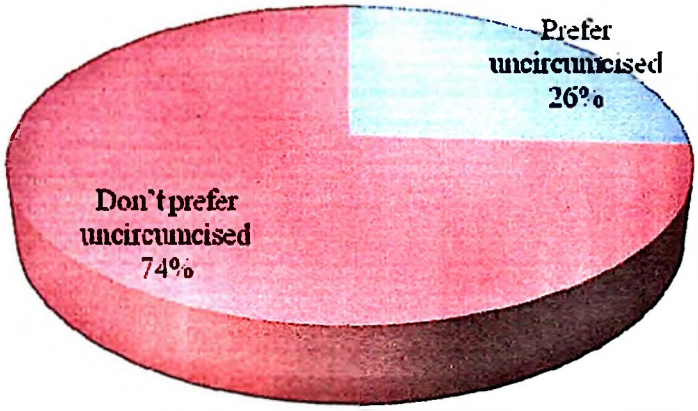

Figure 17: Female preference on male circumcission

4.12.2.1 Reason for not preferring uncircumcised male partner

Female respondents were asked to explain the reason for not preferring uncircumcised sexual male partner. As seen in the Table 16, majority (72.5%) of respondents said that it is for HIV and other sexually transmitted diseases prevention while 22.8% of respondents mentioned hygienic reason. For that case most women know the importance of male circumcission for HIV prevention in the study area. This implies that female in the study area may help as a catalyst for influencing males to practice male circumcission this is through advising their uncircumcised male sexual partners to perform male circumcission for HIV prevention. During FGD with female they had this to say on why they don't prefer uncircumcised male sexual partner but they prefer circumcised sexual partner.

"You enjoy a circumcised man because you are free because you know the man is hygienically clean, because with an uncircumcised man you have some shock that he is going to leave something like infection in you" (Female participant, Mahanji Village). Another female participant in the same village added that *"Some men take a week without bathing but if that foreskin is removed it improves the cleanliness and reduces some diseases that may lead to infection"*. Furthermore a female participant in Ilolo Village was quoted that *"When men go out to have sex with other women and he is not circumcised, when he comes to have sex with you both get the disease. But if he is circumcised you cannot get the disease"*.

Table 16: Reason for not preferring uncircumcised male partner (n=149)

Reasons	Frequency	Percent
For hygiene	34	22.8
For HIV and other sexual diseases prevention	108	72.5
For diseases prevention other than HIV	7	4.7

4.12.2.2 Reasons of preferring male sexual partner who are not circumcised

Table 17 shows that majority (48.1%) of female respondents mentioned that they prefer to have male sexual partner who is not circumcised because of norm/culture, while 30.8% said it is because of morality. This implies that male circumcission awareness creation should not focus only for males but also to females since they have strong influence on male circumcission especially if they will be informed on the disadvantages of preferring uncircumcised men sexual partner.

Table 17: Reason for preferring uncircumcised male partner (n=52)

Reasons	Frequency	Percent
Norm/culture	25	48.1
Interest	7	13.5
To maintain the temperature during sex	4	7.7
Because of moral	16	30.8

During FGD some female had this to say on why they prefer uncircumcised male partner;

> *"I thought people who circumcise get changed into another religion. For me because I am a Christian I don't prefer a circumcised man"* (Female participant, Ilolo Village). Another woman from Mwakavuta Village also added that *"For me I used to think its only people in the Moslem religion that circumcise. So this one of saying all people circumcise I don't understand it."* Similarly a woman from Utweve Village quoted that *"They say that a circumcised man is not sexually energetic. I would prefer one who is not circumcised because a circumcised man has a penis which is rigid like a bone. I would not handle his inflexibility and coldness, maybe I will get hurt."* Another female from the aforementioned village had this to say *"There is no way we can compare the two [circumcised and uncircumcised men] because we cannot marry two at the same time. But I would say there is a problem with circumcised men because circumcised men may just want to penetrate you before your body is ready for sex and you end up getting tears because they say that a circumcised penis is very rough."*

4.13 Effects of Social Economic Characteristics on Male Circumcission

The effects of social economic characteristics on male circumcission were assessed. This involved testing the effect of age, religion, education and occupation on male

circumcission. As observed in Table 18 there is a significant main effect of age on male circumcission to the interviewed male respondent with F (49, 99) = 1.540, p<0.05. This implies that age is a major determinant on male circumcission in the study area. Young men are more likely practicing male circumcission than older men. The result shows that there is no significant effect of religion, education and occupation on male circumcission to the interviewed male respondents. The values for religion is F (3, 99) = 0.074, p=0.974, education F (4, 99) = 0.522, p=0.720 and for occupation is F (2, 99) = 2.567, p=0.082.

Table 18: Factors affecting male circumcission (n=219)

Dependent Variable: If the respondent have circumcised

Source	Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	32.189[a]	119	0.270	1.310	0.083
Intercept	89.057	1	89.057	431.133	0.000
Age	15.591	49	0.318	1.540	0.035
Religion	0.046	3	0.015	0.074	0.974
Education	0.431	4	0.108	0.522	0.720
Occupation	1.060	2	0.530	2.567	0.082
Error	20.450	99	0.207		
Total	612.000	219			
Corrected Total	52.639	218			

a. R Squared =0 .612 (Adjusted R Square = 0.145)

CHAPTER FIVE

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The study concludes that a significant proportional (31.9%) of respondents in the study area have low knowledge towards male circumcission as it is indicated in the knowledge index. This is due to the incorrect information existing among people in the study area about male circumcission, like the understanding that male circumcission lead to infidelity among men, male circumcission is for Muslims and not Christians and male circumcission reduce the size and strength of the penis. The most important motivation for men to get circumcised is through exposure to authentic information about male circumcission and its benefits, coming from trusted and respected sources such as health workers.

Moreover it is concluded that majority (59.7%) of respondents in the study area have negative attitude towards male circumcission. The negative attitude is observed to be higher among male than female. Changing people's attitude is among the major challenges that require efforts from HIV/AIDS prevention stakeholders to make mass male circumcision a success in Makete District. People have to be educated that male circumcission basically meant to reduces the risk of HIV infection among males and not otherwise.

The study also concluded that majority of women dislike male sexual partner who are uncircumcised. HIV protection and hygiene are their major reason for disliking uncircumcised male partners. For that case majority of women know the importance of male circumcission for HIV prevention in the study area. This wrap up that female in the study area may serve as a medium for influencing males to practice male circumcission;

this is through advising their uncircumcised male sexual partners to perform male circumcission for HIV prevention.

On the other hand the study concludes furthermore that cultural factor hinder male circumcission since majority of male respondents who reported that they were not circumcised, feels they should not get circumcised because this practice is not part of their cultures. It is further concluded that circumcission will not be accepted by adult men in Makete District, unless correct information on the advantages of male circumcission is provide. This is due to the fact that among men who reported that they were not circumcised, majority (71.8%) said they would not want to be circumcised regardless of all the benefits of male circumcission. This contradicts with male circumcission situational analysis conducted in Tarime, Bukoba and Ileje which concluded that male circumcission is highly acceptable in the three districts given that, the bulk (76%) of the non-circumcised males would like to be circumcised if the services were to be provided (URT, 2009).

Nonetheless the study concludes that majority of people in Makete District have high knowledge on HIV/AID transmission and prevention. They know what HIV/AIDS is, how it can be transmitted and how it can be prevented. Regardless of the fact that most of respondents show a substantial knowledge on how HIV/AIDS is prevented, it was observed in this study that the drawback is on behavioral change. This indicates that knowledge on HIV prevention among people in the study area is not translated into practice as an indicator of behavioral change. Cultural factors significantly reduce people's ability to protect themselves from HIV infection (Gupt *et al.*, 2003; UNAIDS, 2004). The study findings disclosed that behavioral change programs conducted by the Government and NGOs towards HIV prevention in the study area do not target individual's behavioral change. As a result the designed programs do not impart

knowledge for behavioral change towards HIV prevention to an individual. HIV/AIDS prevention programs should promote accurate individual knowledge and perception of risk and increase individual motivation to avoid risky behavior. Poor behavioral change caused HIV prevalence rate in the study area to remain high. Male willingness on male circumcision practice in the study area is among the major factors which will help to reduce the prevalence of HIV epidemics. The willingness of male on male circumcision is attained if there is high knowledge and positive attitude towards male circumcision for HIV prevention.

5.2 Recommendations

5.2.1 Recommendations to the government

i. The Local Government should create and sustain an increased information, education, and communication for behaviour change among community members through the provision of information education and communication on male circumcision like the leaflets, billboards, T-shirts, mass media and drama art groups.

ii. Communication strategies need to ensure that clear and consistent messages are disseminated and that male circumcision is promoted within the context of comprehensive HIV prevention strategies. Messages should be carefully tailored, culturally sensitive, draw on local language and symbols, and be appropriate to the particular level of development and understanding of the population groups for which the messages are designed.

iii. In view of the large public health benefit of expanding male circumcision services in generalized HIV epidemics, the Government should consider providing male circumcision services at no cost or at the lowest cost possible to the client, as for other essential HIV/AIDS health services.

iv. Consider women's concerns on male circumcission, their voices have largely gone unheard in the debate on male circumcission as HIV-prevention method, however discussions with women revealed a range of concerns, preferences and views that the governments would do if consider the views before drawing up plans for rolling out circumcision programme.

5.2.2 Recommendations to organizations and other stakeholders

i. International and local NGOs, CBOs, FBOs and all other public and private sector should consider male circumcission as an important, evidence-based intervention for HIV prevention and allocate resources accordingly.

ii. Promote knowledge on male circumcission among women.

5.2.3 Recommendations to community members

i. Use of community leaders, traditional leaders, women's groups, men's groups and faith based groups on male circumcission promotion by highlighting that male circumcission should never replace other known methods of HIV prevention and should always be considered as part of a comprehensive HIV prevention package, which includes: promoting delay in the onset of sexual relations, abstinence from penetrative sex and reduction in the number of sexual partners; providing and promoting correct and consistent use of male and female condoms; providing HIV testing and counseling services; and providing services for the treatment of sexually transmitted infections.

ii. Minimize cultural impediments hindering male circumcission by being ready to accept the well developed information which are culturally sensitive and ethically appropriate.

5.3 Suggestion for Further Research

i. Comprehensive study should be conducted to assess the factors hindering male circumcission.

ii. Operations research should be conducted as services are scaled up to determine the best models and packages for service delivery in different epidemic settings, for different population groups and at different ages, how to achieve optimum quality services, including effective counseling methods, and to document changes in HIV-related individual and community perceptions and behaviors.

iii. Operational research also should be conducted to assess the sustainability of the already conducted voluntary medical male circumcission campaign.

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APPENDICES

Appendix I: Research variable, level of measurement and their operational definitions

VARIABLES	DEFINITIONS	LEVEL	CATEGORIES
Background variables			
1.Age	The years of the respondents from the date of birth to date	Interval	Total number of years
2.Sex	Sex in biological sense	Nominal	1=Male 2=Female
3.Religion	The religious faith of a respondent	Nominal	1=Muslim 2=Protestant 3=Roman Catholic 4=Traditional
4.Occupation	Respondent work	Nominal	1=Peasant 2=Employed 3=Business man/women
5.Education level	Formal training	Nominal	1=Standard seven 2=Secondary 3=Certificate 4=Diploma 5=Degree 6=No education
Independent variables			
6. HIV/AIDS awareness	The respondent awareness of the existing of illness known as AIDS	Nominal	1=Yes 2=No
7. Knowledge on HIV/AIDS	What is it, how it is transmitted and how can be prevented	Ordinal	1=Sexual intercourse 2=Kissing 3=Sharing eating utensil 4=Blood transfusion
8. Male circumcision awareness	The respondent awareness on male circumcision	Nominal	1=Yes 2=No
9.Knowledge of male circumcision and its relationship with prevention of HIV from female to male	The removal of the entire foreskin (the skin that can be rolled forward or back over the head of the penis) helps to reduce the infection of HIV from female to male	Nominal	1=Yes 2=No
10.Source of information	Where the respondents obtains information and communication on male	Ordinal	1=Television 2=Radio 3=Friends

	circumcision		4=News paper/magazine 5=Booklet/pamphlet/poster 6=Mosque/church 7=Male circumcission sensitization program 8=No any information source
11. Reason of carrying out male circumcision	The understanding of the respondents on reasons of carrying out male circumcision	Ordinal	1=Cultural reasons: 2=Medical reasons: 3=Hygiene reasons 4=HIV protection reason 5=Religious reason
12.Circumcission	If the respondent have removed the entire foreskin (the skin that can be rolled forward or back over the head of the penis);	Nominal	1=Yes 2=No
13.Circumcission operation cost	The costs paid for circumcision operation	Ratio	Tshs

Appendix II: Questionnaires

SOKOINE UNIVERSITY OF AGRICULTURE (SUA)

DEVELOPMENT STUDIES INSTITUTE (DSI)

MOROGORO

Assessment of knowledge and attitude towards male circumcision and HIV prevention among people of Makete District

Good Morning/Afternoon

My name is .....From Sokoine University of Agriculture under the Institute of Development Studies. I am carrying a study in Makete District with the aim of assessing knowledge and attitude towards male circumcision and HIV prevention among people of Makete District. You have been selected systematically among others from which data will be collected. I assure you that all the information provided during this interview will be treated confidentially and used for the purpose of this study only. Also your name will not be recorded or used in connection with the information you give. Please give honest answers and complete responses to all questions.

Questionnaire number

.....

Date of interview

.....

Section A; Background

1. Name of the

Village.....

2. Age of respondent

.....

3. Sex of respondent

1. = Male ( )
2. = Female ( )

4. What is your religion?

1. = Muslim ( )
2. = Protestant ( )
3. = Roman Catholic ( )
4. = Traditional ( )

5. What is your education level?

1. = Standard seven ( )
2. = Secondary ( )
3. = Certificate ( )
4. = Diploma ( )
5. = Degree ( )
6. = No education ( )

6. What is your occupation?

1. = Peasant ( )
2. = Employed ( )
3. = Business man/women ( )

Section B; knowledge about HIV/AIDS

Let us now discuss about your knowledge about HIV/AIDS. What is it, how it is transmitted, how can it be prevented

7. Have you ever heard about an illness called AIDS?

1. = Yes ( )
2. = No ( )

8. Do you believe HIV/AIDS exist?

1. = Yes ( )
2. = No ( )

9. What is a major way known to you on how HIV/AIDS is transmitted?

1. = Sexual intercourse ( )
2. = Kissing ( )
3. = Sharing eating utensils ( )
4. = Blood transfusion ( )

10. What is a major way known to you on how to avoid getting HIV/AIDS?

1. = Abstinence ( )
2. = Fidelity/faithfulness ( )
3. = Condom use ( )

11. I am going to read out some statements about HIV/AIDS transmission. For each statement please tell me whether you agree or disagree.

S/no	Statement	Yes 1	No 2
1	Sexual intercourse		
2	Mosquito bites		
3	Transfusion with HIV infection blood		
4	Vertical transfusion(infection mother to child)		
5	Unsterilized piercing instruments		
6	Cough/sneezing		
7	Handshake with an AIDS patient		
8	Breast feeding		
9	Sharing toilet cleaning facilities		
10	Sharing clothes		

Section C; Knowledge about male circumcision

12. Have you ever heard about male circumcision?
    1. = Yes ( )
    2. = No ( )
13. In the past 6 months, have you heard or seen any information about male circumcission?
    1. = Yes ( )
    2. = No ( )
14. From which major source have you heard or seen information about male circumcission for the past 6 months?
    1. = Television ( )
    2. = Radio ( )
    3. = Friends ( )
    4. = News paper/magazine ( )
    5. = Booklet/pamphlet/poster ( )
    6. = Mosque/church ( )
    7. = Male circumcission sensitization program ( )
    8. = No any information source ( )
15. Please describe what you think male circumcision is?
    1. = Removal of the entire foreskin (the skin that can be rolled forward or back over the head of the penis); ( )
    2. = Don't know
16. What do you think are the reason of carrying out male circumcision?
    1. = Cultural reasons ( )
    2. = Medical reasons ( )
    3. = Hygiene reasons ( )
    4. = HIV protection reason ( )
    5. = Religious reasons ( )

17. I am going to read out some statement about male circumcission for each statement please indicates whether you agree or disagree.

S/no	Statement	Agree 1	Disagree 2
1	Male circumcission reduces the risk of male being infected with HIV and other sexual transmitted diseases.		
2	Being circumcised is enough on its own to protect from HIV infection and circumcised men should not continue using other forms of protection		
3	Male circumcision avoid the problem of the foreskin becoming too tight around the penis		
4	Male circumcission helps to reduced the risk of cervical cancer in female sex partners		
5	Male circumcission reduce the risk of urinary tract infection in children		
6	Male circumcission prevent cancer of the penis		
7	Uncircumcised male partner cause bacterial Vaginosis in women		
8	Uncircumcised male partner increase a woman's risk of breast cancer		
9	Male circumcision is for men with higher levels of education		
10	Male circumcission is for male with higher socio-economic status.		
11	Male circumcission is for males who are living in urban areas		

Section D; Attitude towards male circumcision

18. Let us now discuss about what is your attitude and belief towards male circumcision. indicate whether you strongly disagree, disagree, uncertain, agree and strongly agree.

S/No	Item	Strongly Disagree 1	Disagree 2	Uncertain 3	Agree 4	Strongly agree 5
1	Male circumcision lead to infidelity among men					
2	Men who practice male circumcission are those who are Muslim and not Christian					
3	Male circumcision reduce the size and strength of the penis					
4	Circumcission is not a new fashion so it should not be practiced					
5	Circumcised men fail to satisfy women during sex					
6	Male circumcission is for young boys only and not older men					
7	Male circumcission is like abusing god's creation because the foreskin is meant to protect the sexual organ					
8	Male circumcision improves male's hygiene					
9	Male circumcision makes the penis firm and not easily prone to cuts and bruises thus reducing the chances of contracting other sexual transmitted diseases but not HIV only from female to male.					
10	Male circumcission helps to reduced the risk of cervical cancer in female sex partners					
11	Male circumcission reduce getting various infections like tumor of the penis					
12	Uncircumcised male partner					

	cause vagina infection in women					
13	Uncircumcised male partner increase a woman's risk of breast malignancy					
14	Male circumcission reduce the risk of urinary tract contamination in children					

For male go to question 19 for female go to question 27 to 29 since question 29 is for both male and female

19. May you tell me if you have circumcised?

1. = Yes ( )
2. = No ( )

If yes in question 19 above go to question 20-24 and question 29

If no in question 19 above go to question 25 -26 and question 29

20. What influenced you to circumcise?

1= Peer ( )
2= Parents ( )
3= Religious ( )
4= Cultural ( )
5= Hygienic ( )
6= HIV prevention ( )

21. How old were you when you were circumcised? .....

22. Where was it done?

1= At a tradition circumciser ( )
2= At a health facility ( )

23. Can you remember the financial cost in Tshs used for that circumcision practice?

.....

24. What was the source of that money?

1= Own source ( )
2= Parent ( )
3= Government/NGOs ( )

25. What are your reasons of not performing male circumcision?

1= Pain during and after the procedure ( )

2= Complications and adverse effects ( )

3= Not cultural acceptable ( )

4= Not religious acceptable ( )

5= The cost of the procedure is too high ( )

6= Difficult to access to health care ( )

NB; tell the respondent that recent studies show that male circumcision reduces the risk of being infected with HIV to male. Being circumcised is not enough on its own to protect from HIV infection and circumcised men MUST continue using other forms of protection. Circumcission also has other health benefits. Infants have a lessened chance of developing infections of the urinary tract, children and adults do not have problems with the foreskin becoming too tight around the penis, there is a lessened chance of getting infections under the foreskin, and adults have a lessened chance of getting some sexually transmitted diseases.

26. Based on this information, would you now want to be circumcised?

1. = Yes ( )

2. = No ( )

27. Would you prefer to have partner who is not circumcised?

1. = Yes ( )

2. = No ( )

28. Give reason for your answer in question 26 above?

Reasons.....

29. What is the most amount of money in Tshs you would suggest to be paid by individual for male circumcision operation .....

THANK YOU

Appendix III: Focus group discussion guideline

1. What is the level of HIV infection in Makete District?
2. What is the level of awareness and knowledge on HIV/AIDS prevention among Makete community?
3. Have you ever heard about male circumcision?
4. What are the sources of information about male circumcision?
5. What is male circumcision?
6. What is the level of male circumcision in Makete District?
7. What do you think are reasons of people of Makete District on not carrying out male circumcision?
8. What is the attitude and belief towards male circumcision among the community?
9. What do you think hinder some males to perform male circumcision?
10. What is the most in Tshs you would suggest to be paid for male circumcision operation? And why?
11. What do you think should be done by the following in order to increase the number of clients who performs safe male circumcision for HIV prevention?
    a) Individual
    b) Parents
    c) Society
    d) CSOs
    e) Government and others

THANK YOU

Appendix IV: Questions checklist for District Medical Officer (DMO), Council HIV and AIDS Coordinator (CHAC) and the Director of one of the NGO dealing with HIV prevention

1. What is the prevalence rate of HIV in the past 12 months?
2. What is the level of awareness and knowledge on HIV/AIDS prevention among Makete community?
3. Do you have any outreach HIV/AIDS program for information, education and communication for the community?
4. What is the level of male circumcision in Makete District?
5. Are male circumcision services available in your District?
6. Are there charges for male circumcision services?
7. Do you have any outreach male circumcision programs for information and education?
8. What is the number of clients who performed male circumcision in past 6 months?
9. What are the factors which hinder male circumcision among the community in Makete District?