CHAPTER ONE: BACKGROUND TO THE STUDY

1.0 Introduction

Male circumcision is defined as the removal of the skin at the end of the penis (Pearson Education Limited, 2004). The medical dictionary further defines male circumcision as the surgical removal of the foreskin of the penis or prepuce (http://medical-dictionary.thefreedictionary.com/circumcision. In either case, MC involves deliberate process of removing the foreskin of the penis.

Studies in Uganda, South Africa and Kenya have shown that medical male circumcision reduces the risk of transmission of HIV from women to men by at least 50% (Bailey *et al*, 2007). Observational studies and anecdotal evidence has also shown that in countries where the general population male circumcision rate is over 80%, the prevalence of HIV is low (http://www.cdc.gov/hiv/resources/factsheets/circumcision.htm). Notwithstanding this strong evidence between MC and HIV prevention, few studies have been conducted to assess the Knowledge, attitudes and practice of non circumcising males towards MC as a strategy to prevent HIV. Furthermore, there is a dearth of data regarding the knowledge, attitudes and practice of teachers towards MC. The aim of this study is to fill the gap in the field of MC by exploring the knowledge, attitudes and practices of MC as an HIV prevention strategy.

Following the overwhelming results of the three randomized controlled trials and other empirical evidence on male circumcision and HIV prevention, an international consultation was convened in Montreux, USA, to which Zambia was represented (WHO, UNAIDS, 2007). The objective of the meeting was to discuss the policy and programme implications, and to make recommendations regarding male circumcision. Arising from this convention, a number of recommendations were agreed upon as per attached Appendix 4. Some of which may influence Knowledge, attitudes and uptake of MC and are of noteworthy include:

a) 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. Messages should be addressed to both men and women.

b) Clear messages should be developed to inform communities about what is known and what is not known about male circumcision, including lack of data on direct protection for women, or for either partner during anal sex with men or women.
c) Messages and counselling should stress that resumption of sexual relations before complete wound healing may increase the risk of acquisition of HIV infection among recently circumcised HIV-negative men and may increase the risk of HIV transmission to female partners of recently circumcised HIV-positive men. Men who undergo circumcision should abstain from sexual activity for at least six weeks after the operation. Ideally, medical inspection should be conducted to check that wound healing is complete. Thereafter, other HIV prevention strategies, including the correct and consistent use of male and female condoms, should be promoted and adhered to, as for uncircumcised men.
d) Policy makers and programme developers should adopt approaches to the scale-up of male circumcision services that include the goals of changing gender norms and roles and promoting gender equality; programme managers should monitor and minimize potential negative gender-related impacts of male circumcision programmes (WHO, UNAIDS, 2007).

Arising from the recommendations, Zambia adopted medical male circumcision as an additional strategy for the prevention of heterosexual acquired HIV infection in men. However, for the recommendations to be mainstreamed in the Zambian context, they would require additional measures especially the political will of the policy makers.

Zambia is a culturally and linguistically diverse country, with seven major locally spoken languages: Bemba, Kaonde, Lozi, Lunda, Luvale, Nyanja and Tonga. Of the seven major tribes within Zambia, only the Lunda and Luvale tribal groups consider male circumcision as a normal part of the coming-of-age process for young men. Other circumcising groups in Zambia include the Mbunda and Chawa tribes of Eastern Province, who mainly reside along the border with Malawi, as well as a growing Muslim immigrant population and a small Jewish contingent, found mostly in the major urban and trading centers (Lukombo & Bailey, 2007, Bowa, 2009). The Lunda and Luvale tribes are primarily found in Northwestern Province, where the prevalence of male circumcision (71%) is the highest in the country (CSO *et al*, 2009).

In Zambia, few males are circumcised. According to men's responses in the 2007 ZDHS, only 12.8% of men aged 15-59 years were reported to be circumcised, leaving 87.2% of men uncircumcised (CSO *et al*, 2009). This low rate of MC could be one of the contributing factors, among others, to the spread of HIV in the general population. At provincial level, there are variations in terms of MC rates. Currently, 10.2% of men are circumcised in Lusaka as compared to 71% in North western, 40% in Western, 14.4% in Copperbelt, 9.9% in Luapula, 5.7% in Central, 4.4% in Southern, 3.3% in Northern and 3.2% in Eastern province. On the other hand, Lusaka has the highest prevalence of HIV in the country at 19.9% (CSO *et al*, 2009). The low levels of male circumcision and high prevalence of HIV is a call for concern to establish the knowledge levels, attitudes and practices of individuals in Lusaka on the benefits of male circumcision vis-à-vis prevention of HIV transmission. In Western Province, where a sizeable concentration of Lunda and Luvale are also found, the male circumcision prevalence is also high, at 40.2% (CSO *et al*, 2009). Typically, Lunda and Luvale boys aged 7-13 years gather at traditional camps called Mukanda, where they are trained on traditional culture, marriage and hunting. Men who are not circumcised in these communities are often ostracized, and are prohibited from eating or bathing with other circumcised men (Lukombo & Bailey, 2007, Bowa, 2009).

In recent years, traditional male circumcision cultural practices have merged with modern forms of medicine; while most elements of the cultural ceremonies remain intact, parents commonly take their children to local Mission or public hospitals to have the foreskin removed by a health professional (Mukwatu, 2009). This trend has been documented in many other traditionally-circumcising communities throughout Eastern and Southern Africa, driven by perceptions of lower complication rates and improved outcomes, including faster healing times and better cosmetic results (Mattson *et al*, 2005). A study of complication rates among traditionally-circumcising groups in Bungoma District, Kenya found over 30% experienced excessive bleeding or infections as a result of their circumcision, which were often done without sterilized instruments, potentially increasing the risk of HIV transmission (Bailey and Egesah, 2006).

Undergoing male circumcision can be influenced by various factors such as penile hygiene, enhancement of sexual pleasure, cultural and religious practice. On the other hand, there are

factors that can be considered as deterrents to Male circumcision such as fear of pain, bleeding, loss of sexual satisfaction and embarrassment (Wambura *et al*, 2009).

In the recent past, male circumcision has received a lot of attention because of its positive effect on males' health. Numerous observational studies have reported a significant protective effect of male circumcision against HIV and other sexually transmitted infections in men (Cameron *et al*, 1989)

In order to scale up the provision of male circumcision in Zambia, especially in those provinces which are traditionally non-circumcising, the Ministry of Health has developed a Strategic Plan for the period 2010 to 2020 (MOH, 2010). The two objectives of the strategic plan are:

i. To increase the number of health facilities providing safe male circumcision services, and
ii. To increase the number of HIV negative males, including neonates, accessing safe male circumcision services.

The strategy further envisages circumcising up to 300,000 males by the year 2014 and training male circumcision providers by the year 2020.

It is evident from these objectives that the government is scaling up male circumcision in line with the Montreux Recommendations of 2007 (WHO, UNAIDS, 2007). The major challenge which the scaling up of male circumcision may face is the insufficient skilled human resource as well as negative attitudes of clients towards MC. Zambia faces a shortage of health workers especially doctors (MoH, 2010). The government has an ambitious programme of training not less than 1,200 MC providers by 2020 while it costs US$16,000 to train 16 clinical staff for a period of two weeks. It is further estimated that it will cost approximately US$47 per circumcision in Zambia (MOH, 2010).

The Ministry of Education in Zambia has expressed concern on the high prevalence of HIV among the teachers in the country. In 1998, the Ministry of Education reported that 1,331 teachers died as a result of AIDS (MOE, 2008). Furthermore, studies have reported an HIV prevalence rate of up to 40 percent among the teachers (MOE, 2008). This high rate of HIV prevalence has resulted in high rate of mortality and morbidity thereby impacting negatively on the availability of human resource. In addition, even if teachers' training colleges increased their

production of teachers, the shortfall of teachers attributed to deaths from AIDS will not be met in the short to medium term (MOE, 2008). It is therefore against this background that this study will seek to explore the knowledge, attitudes and practices of teachers towards male circumcision as a prevention strategy against HIV infection. This is with the understanding that MC reduces the chances of acquiring HIV.

1.1 Statement of the problem

A lot of messages have been disseminated on male circumcision as an HIV prevention strategy on radio, television, print media and billboards in Zambia and this has been done at huge costs. These messages are aimed at providing correct information and generating interest in males to undergo male circumcision.

Despite these efforts, Zambia still has very low levels of male circumcision practice especially among the educated males (CSO *et al*, 2009). Teachers are among the professionals in Zambia who are at high risk of HIV infection as indicated by the Ministry of Education (MOE, 2008). However no study has been conducted to establish their Knowledge, attitudes and practice of MC as HIV prevention. This study therefore provided baseline information on the Knowledge, attitudes and practice of MC among teachers and by so doing, strategies can be devised to enhance the practice.

1.2 Objective of Study

The overall objective of the study was to investigate teachers' knowledge, attitudes and practice on male circumcision to reduce the chances of acquiring HIV

1.2.1 Specific Objectives

The study objectives were:

i. To assess the level of teachers' knowledge of male circumcision as a method to reduce HIV infection

ii. To determine the sources of information about male circumcision among teachers

iii. To investigate the attitudes of teachers towards undergoing male circumcision to reduce the chances of acquiring HIV

iv. To estimate the level of male circumcision among the teachers in Lusaka.

v. To assess the factors that influence male circumcision among teachers in Lusaka.

1.3 Theoretical Framework

This study was mainly guided by the Diffusion of Innovations Theory that describes the process of decision making.

1.3.1 Diffusion of Innovations Theory

The theory of Diffusion of Innovations claims that the adoption of a novel practice or idea generally occurs at the individual level through a five-stage process of decision-making. The theory of Diffusion of Innovations describes the processes of decision making to start with knowledge then persuasion, decision, implementation, and finally confirmation (Rogers, 1983). At the knowledge stage, an individual is first exposed to a particular innovation but may have little or no information and little or no interest in learning more about the innovation. During the Persuasion stage, an individual displays interest in the innovation and may actively seek additional information. The Decision stage involves weighing the relative advantage versus cost of the innovation (in terms of resources as well as effort and measures of discomfort required for adoption) and makes a definitive judgment regarding whether to accept or reject the innovation. During the Implementation stage the individual conducts a trial or experiences the innovation and makes additional assessments as to its usefulness. At the Confirmation stage the individual internalizes the adoption of the innovation and may advocate for its adoption among his/her peers (Rogers, 1983). The various components of the theory have been applied in this study.

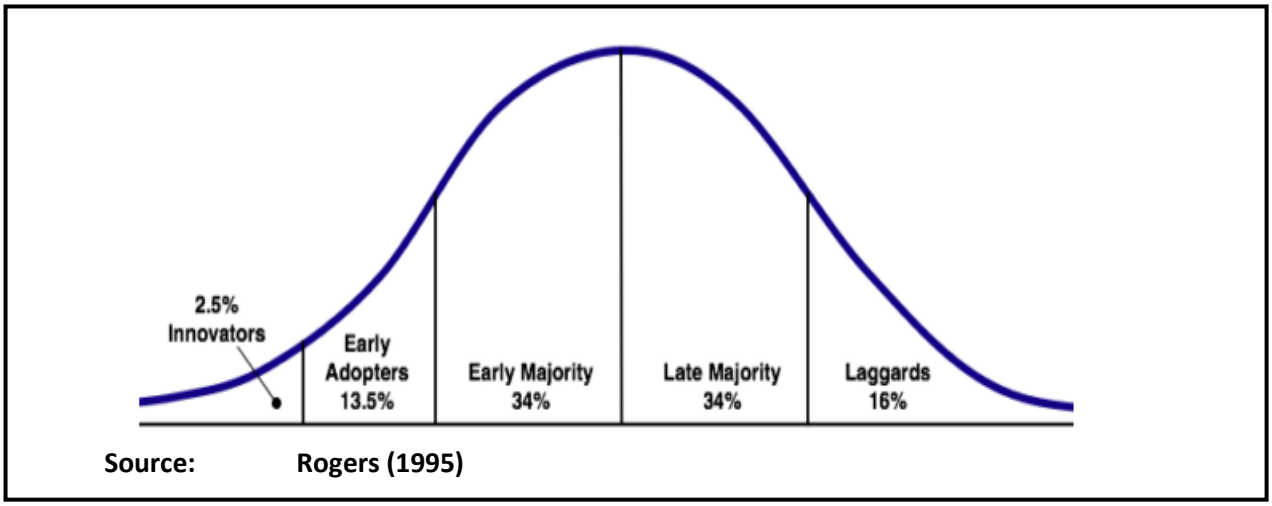
Depending on the relative advantage and other characteristics of this innovation, it will then be adopted by other similar members of a social system or group (Valente, 1996).

Assuming male circumcision contains the basic characteristics of a successful innovation, there will inevitably be certain individuals within any given group who are more prone to adoption of novel technologies and practices. According to the theory of Diffusion of Innovations, these individuals are termed early adopters, and they tend to be younger, more educated, wealthier,

socially progressive, more exposed to mass media and outside influences, and have a high degree of opinion leadership or influence over their peers (Rogers, 1983). Once early adopters within a given community or group begin to use a given innovation, others will slowly follow, and once enough individuals have adopted the innovation (referred to as a critical mass), the psycho-social forces of diffusion take hold and wide-scale adoption ensues (Valente, 1996). In this case it is hoped that many teachers would take the lead in undergoing MC and they would also act as early adopters to create a critical mass in utilization of MC to reduce HIV infection.

To amplify this theory, Rogers (1995) created a diagrammatic presentation as shown in Figure 1.0.

Figure 1.1: Stages of adoption of an innovation



Source: Rogers (1995)

The diagram shows that a new idea or practice typically begins very slowly, takes a great deal of promotional effort to get it started. But once there are some substantial number of users of the innovation, then its further diffusion usually occurs very rapidly and without a great deal of further effort. Rogers further postulates that plotting the percent of use or adoption of an innovation over time, they would presumably have formed some shape roughly like the one above; one that starts slow, then takes off, increasing very rapidly, and then slowly down again. The point of change at which a practice becomes normative and widely accepted is called "tipping point" or "critical mass" (Rogers, 1995).

This theory was found most appropriate to guide the study in investigating the characteristics of the teachers with regards to them adopting male circumcision as a prevention strategy against HIV infection.

1.5 Rationale

The significance of this study is to provide baseline information of knowledge levels, attitudes and practices of teachers towards male circumcision as a method to reduce HIV. The study was prompted by the reported high HIV infection rates among teachers in spite of known strategies such as male circumcision that reduce acquiring of HIV. The study in particular focused on the teachers, both male and female, because it is a group that has not yet been studied in Zambia with respect to male circumcision and HIV prevention. Female participants were included in the study because various studies have indicated that women would like to communicate and encourage their partners to be circumcised, however, they feel left out in the decision making process (Kebaabetswe *et al*, 2003; AVAC, 2010). Therefore women involvement may enhance the uptake of MC.

The results of this study will be utilized by planners of health and education to find better ways of scaling up the provision of male circumcision in Zambia and also design strategies, programmes and policy guidelines to address the factors that influence behavior and practice among the educated men regarding the use of male circumcision services to reduce HIV transmission. In the long run, this should help reduce HIV incidence.

CHAPTER TWO: LITERATURE REVIEW

2.1 Male Circumcision and HIV Infection

Male circumcision has been hailed as a preventive measure that has the potential to reduce HIV among heterosexual contact. Randomised Control Trials have shown consistent efficacy in reducing the transmission of HIV infection. In 2002, three RCTs provided ground breaking evidence of the potential benefit of MC on HIV transmission. Auvert et al. (2005), Bailey *et al*, (2007) and Gray *et al*, (2007) provided results on the effect of MC on delayed versus immediate circumcision. More than 10 000 mostly young men were enrolled for the RCTs. Two groups were formed the control group which constituted of uncircumcised men and the intervention group made up of circumcised men. The authors revealed that circumcision provided significant protection from HIV acquisition among heterosexual couples. Data confirmed a 54% risk reduction of acquiring HIV infection. Similarly, Weiss, Quigley and Hayes (2000) conducted a meta-analysis of 27 observational studies published up to April 1999 that incorporated circumcision as a risk factor for HIV infection among men in Sub-Saharan Africa. Twenty-one of these studies publicized a reduced risk of HIV among circumcised men. A sub-analysis of 15 studies of men at high risk made known that circumcised men were 70% less likely to contract HIV infection (Weiss *et al*,2000).

Epidemiological studies (cross sectional and prospective observational data) revealed consistent clear pattern regarding HIV transmission (Wilson & de Beyer, 2006). Studies in India made known that the HIV prevalence in non-circumcised men was seven-fold higher than in circumcised men (Mehendale *et al*,1996 as cited by Wilson & de Beyer, 2006). In Uganda, being circumcised was protective. Zero percent of the circumcised men did not sero-convert while 29% of the uncircumcised men in stable relationships sero-converted (Gray *et al*, 2000). A strong association was also revealed in Nairobi, Kenya when a group of male STI clients had sex with sero-positive commercial sex workers (Cameron et al., 1989 as cited by Wilson and de Beyer, 2006). Circumcised men with genital ulcer disease (GUD-chanchroid and syphilis) revealed an HIV incidence of 2.5% while uncircumcised men with GUD had an incidence of 52.6% (DHS Kenya, 2004 as cited by Wilson & de Beyer, 2006).The survey also revealed that in Nyanza, a traditionally non circumcising

community revealed that 21% of uncircumcised men had HIV infection compared to 2 % of circumcised men. In addition, MC was found to reduce other STIs, including chancroid, syphilis, balanitis, phimosis, penile cancer and cervical cancer in women (Weiss *et al,* 2006).

Biologic evidence shows that in a natural state, the inner part of the foreskin is exposed to the inner surface of the glans penis and the shaft of the penis thus creating a moist, protected microenvironment for microbial flora (Doyle, Khan, Hosang & Carrol, 2010). Poor hygiene allows for the proliferation of pathogens (Wiswell *et al.*, 1988 as cited by Doyle *et al,* 2010). Moreover, the inner prepuce mucosa has little or no keratin compared to a highly keratinised outer foreskin (McCoombe and Short, 2006 as cited by Doyle *et al,* 2010). As a result, the inner surface of the prepuce is highly susceptible to HIV infection.

The primary target cells of the HIV infection include Langerhans cells and the CD4+ T cells and macrophages. The intra-vaginal inoculation of rhesus macaques with HIV infection enables the heterosexual transmission of HIV (Patterson *et al,* 2002 as cited by Doyle *et al,* 2010). The cells mentioned above are selectively targeted and infected by the virus. The Langerhans cells are in abundance in the epithelium of the foreskin and appear to be the main portal of entry into the penis (Patterson *et al,* 2002 as cited by Doyle *et al,* 2010). Circumcision removes Langerhans cells and causes keratinisation of the skin thus reducing the likelihood of any sexual infection which in turn reduces the risk of HIV acquisition (Sizabo and Short, 2000).

2.2 Knowledge, Attitudes and Beliefs of the Benefits of Male Circumcision

Moses *et al,* (1998) documented a positive biological correlation between MC and STIs (chancroid and syphilis). Lack of circumcision was thought to increase the risk of STIs and HIV infection due to the physiological nature of the prepuce (Fleming & Wasserhei, 1999 as cited by Weiss *et al,*2000). Circumcision has been found to protect against HIV transmission as viral entry may occur via micro-traumatic lesions or mini-ulcerations of the foreskin (Moses *et al,* 1990 as cited by Weiss *et al,* 2000) or through trauma to the non-keratinised inner mucosal surface of the foreskin (Hussain &, Lehner T, 1995 as cited by Weiss *et al,* 2000) Furthermore the presence of the foreskin may obscure the presence of genital ulcers

which might easily be recognized in a circumcised penis (Aral & Holmes, 1999 as cited by Weiss *et al*, 2000).

Mavhu *et al*, (2011) conducted a study to explore MC prevalence, knowledge, attitudes among rural Zimbabweans. A total of 2746 individuals participated in the study, 64% of this population were women and only 20% of the men were circumcised. Knowledge of MC and its health benefits was low. However, given the effect of MC on HIV infection, 52% of the men reported that they would undergo MC. Still in Zimbabwe, few participants were aware of the benefits of MC. Sixty-nine percent of the respondents mentioned that MC reduces STIs (Halperin *et al*, 2005). However, only 39% of the men mentioned the effect of MC on HIV and only 12% indicated that MC promotes hygiene and sexual cleanliness (Halperin *et al*, 2005).

On the contrary, the results were not the same as a study conducted in Mazowe, Zimbabwe, a mining and farming community (Chikutsa, 2011). Seventy-three individuals participated in the study and 54% were men. The results revealed that 90% of the participants had heard of MC for HIV prevention. Access to radio was significantly associated with knowledge about MC in HIV prevention. Participants expressed high knowledge on awareness of MC not providing full protective against HIV and that circumcised men still have to use condoms (Chikutsa, 2011).

In Tanzania, a qualitative study utilizing in depth interviews in a cohort of police officers 24 men and 10 women revealed that the participants were knowledgeable about MC as a prevention method for both STIs and HIV infection (Tarimo et al., 2012). The authors revealed that participants were knowledgeable about the effect of circumcision on penile hygiene and its contribution to STI prevention with emphasis being placed on HIV prevention. The participants believed that MC enhanced sexual pleasure.

In Zambia, focus group discussions were conducted with urban and rural married and single unmarried men aged 18 to 39 (Lukobo & Bailey, 2007). Thirty-four focus group discussions were conducted; 17 with men and 17 with women in four districts. The study assessed male circumcision practices, opinions, and acceptability as an intervention to improve male genital

hygiene and reduce sexually transmitted infections, including HIV. Results revealed different perceptions on male circumcision. Traditional groups practicing male circumcision revealed that uncircumcised men experienced premature ejaculation, decreased penile hygiene and unfit for marriage. Male circumcision was believed to be a developmental milestone for a man. It was also perceived to protect one from sexual disease. Opinions were expressed with regards to enhanced sexual pleasure, circumcised men were thought to "perform" longer, thereby increasing their female partner's satisfaction (Lukobo & Bailey, 2007). However, men not practicing traditional male circumcision expressed limited interest in the practice although some considerd undergoing MC because of beliefs that women preferred circumcised men (Lukobo & Bailey, 2007). In addition, non circumcised participants revealed that they would adopt MC for themselves or their sons if it was proven to reduce the risk for HIV and STIs and on condition that it was offered free of charge or at a nominal cost.

In Namibia, a qualitative study on the acceptability of MC as an HIV prevention strategy involving 13 traditionally non-circumcising communities was conducted (Pappas-DeLuca *et al*, 2008). Using 46 focus group discussions (FGD) of males and females, the study revealed that, regardless of whether or not MC was typically done in the culture or area, participants had a general understanding that the moist and closed environment of the foreskin contributes to the growth of bacteria and that this may be related to negative health consequences. Generally, penile hygiene was believed to be a major facilitator of MC in both traditionally circumcising and non-circumcising communities (Halperin *et al*, 2005; Kebaabetswe *et al*, 2003; Lukobo & Bailey, 2007; Mattson, Bailey, Muga, Poulussen *et al*, 2005; Ngalande, Levy, Kapondo, & Bailey, 2006; Niang & Boiro, 2007; Nnko *et al*, 2001; Rain-Taljaard, Lagarde, Taljaard, Campbell *et al*, 2003). In fact, in some societies, being uncircumcised is unacceptable and it is believed to cause diseases. For instance, in a qualitative study to analyze the cultural concepts, practices and social relations associated with MC in two West African countries, Senegal and Guinea-Bissau, the foreskin was believed to be dirty, a source of bad smells and disease, and even evil (Niang & Boiro, 2007). The study further showed that sexual relations between a man who is not circumcised and a

woman who is a virgin is perceived to cause a terrible disease whose symptoms are similar to those of AIDS (Niang & Boiro, 2007).

In Kenya, a study conducted in Nyanza province among 107 men and 110 women found that 91% of men in Nyanza province associated MC with better penile hygiene, even among those who preferred to remain uncircumcised (Mattson *et al*, 2005). The same study found that the majority of women, irrespective of their partners' circumcision status, believed that uncircumcised men are more likely to contract STIs and even HIV (Mattson *et al*, 2005). In some African countries such as Zambia and Malawi, there is a belief that women's STI transmission is linked to their husbands/partners circumcision status (Lukobo & Bailey, 2007; Ngalande *et al*, 2006). Women in Malawi mentioned that maintaining proper penile hygiene of a circumcised partner is easier and reduced a woman's chance of STI infection including HIV (Ngalande *et al*, 2006). The study further indicated that women are considered responsible for cleaning their partners' penises after sexual intercourse as their cultural responsibilities, thus increasing their preferences to favour circumcision for their partner (Ngalande *et al*, 2006). Although prevention of STI was overwhelmingly mentioned as a health benefit of MC in non-circumcising communities, the association of MC and HIV specifically, was less evident (Halperin *et al*, 2005; Ngalande *et al*, 2006; Nnko *et al*, 2001). Even in some societies where MC prevalence was high, MC is believed to be beneficial for penile hygiene and reduction of STIs. There was however no mentions of a potential benefit on the reduction of HIV transmission even though HIV is an STI (Niang & Boiro, 2007). In Zimbabwe, 80% of the 86 males interviewed had heard of the positive health benefits of MC, such as the reduction of STIs and maintaining penile hygiene (Halperin *et al*, 2005). However, the reduction of HIV or AIDS was only mentioned by 7% of men in the study sample. A similar knowledge pattern was reported in Malawi (Ngalande *et al*, 2006) and Tanzania (Nnko *et al*, 2001) where MC and HIV associations are less known.

Circumcised men were found to have positive beliefs with regard to MC and its benefits when compared with uncircumcised men (Westercamp & Bailey, 2007). In a Korean study, circumcised men favoured MC more than uncircumcised men (81.0% versus 53.5%, $p < 0.001$) and were more willing to request MC for their sons (Ku, Kim, Lee & Park, 2003). Similar findings were reported from studies done in Botswana and South Africa, where

circumcised men were more likely to state positive health benefits of being circumcised and agreed about the advantages of MC (Kebaabetswe *et al*, 2003; Lagarde, *et al*, 2003).

2.3 Source of Information about Male Circumcision

Male circumcision is a vital intervention that is progressively being integrated into national HIV prevention programmes. Countries that are heavily burdened with the pandemic where the HIV prevalence is high and the prevalence of circumcision is low should consider adopting MC. Effective communication is an essential element of any community health related scale-up strategy. A variety of communication approaches are traditionally used in supporting the roll out of any developmental or health programmes. Communication approaches may include community mobilization, encouragement, behaviour and social change communication, social marketing, advertising, film and theatre. Communication programmes generally produce the best results when they work at multiple levels. A study conducted in Kenya proposed the following communication channels.

(i) **Interpersonal communication** involving interpersonal exchanges of information among peers, professional groups, within the family and other closely linked groups are ideal in aiding the initial stages of awareness creation, and the following stage of stimulating interest in the individual to want to try male circumcision as a new innovation to prevent HIV infection among men.

(ii) **Communication campaigns;** Audio Visuals including mobile cinema would be an effective medium of communication especially with men who happen to be the most frequent visitors of these cinemas. Being a powerful medium that uses voice, visuals and even text, very effective messages can be designed.

(iii) **Media advocacy campaigns** through print media newspapers would be effective in areas where literacy levels are high and newspaper reach is relatively good.

(iv) **Advocacy campaigns** targeting opinion leaders.

(v) **Persuasion;** using messages through the radio and television to support the adoption . FM radio stations are ideal for this task. The FM stations have

gained immense popularity amongst their target audiences in the various communities. Because they broadcast in languages widely understood by community members, their messages & programmes tend to resonate better with the audiences. Furthermore, radio listernership in Kenya is quite high as it breaks the education barrier presented by many other media.

(vi) Dialogue: Among groups, peers, workers, etc.

(vii) **Entertainment:** To create interest, stimulate a level of mental engagement as well as giving the campaign momentum, messages should be presented in a form that also entertains. Interactive channels like road shows and community theatre would play a critical role in capturing the attention of the young people.

(viii) **Education:** Overall goal should be to increase knowledge through a process of education.

(ix) **Identification, documentation and dissemination** of best practices.

(VMMC, n.d., p. 21-22).

Communication channels and activities to support the approaches should be varied and should depend to a large extent on the targeted groups. A multi-media approach is vital in ensuring optimal reach of audiences.

2.4 Acceptability of MC as an HIV prevention strategy

Despite the strong evidence of a protective effect of MC against HIV, the concern with the effective application of this knowledge to preventing HIV is the acceptability of MC, especially in non-circumcising communities (Van Dam and Anastasi, 2000). It is logical that a higher uptake of MC in non-circumcising communities will be determined by the degree to which the intervention is accepted. In fact the morality of introducing an intervention, which is not culturally acceptable, even where it is potentially beneficial, is questionable. Van Dam and Anastasi (2000:10) stated that "to be an effective intervention, circumcision must be acceptable to local health ministries, religious and political leaders, health care personnel, and residents of the community".

A review carried out by Westercamp and Bailey (2007) to establish the acceptability of MC for prevention of HIV infections in non-circumcising societies in Eastern and Southern Africa, revealed that the median proportion of uncircumcised men willing to become circumcised was 65%, ranging from 29% in Uganda to 81% and 87% in Swaziland and Botswana respectively. The review further found that the huge variation of acceptability of MC is dependent on the context of the study and how the question was posed. For example, one of the highest acceptability levels of 81% in Botswana is that the participants agreed to a procedure after information sessions were performed about the health benefits and the risk associated with the procedure, compared to 61% before the information sessions (Kebaabetswe *et al*, 2003).

In the Dominican Republic the number of men willing to be circumcised increased to 67% after an information session compared to 29% before the information session explaining the benefits of the procedure (Brito, Caso, Balbuena & Bailey, 2009). Furthermore, 74% of men in the same study reported that they would be willing to circumcise their sons after attending the session. The difference in acceptability levels before and after the information session indicates that knowledge about the benefits of MC is an important determinant of acceptability of the procedure in non-circumcising societies. In different African countries where circumcision is not commonly practiced men were more willing to be circumcised if they lived in urban areas and were employed (Scott, Weiss & Viljoen, 2005) and had higher levels of education (Halperin *et al*, 2005; Scott *et al*, 2005). The reason being that, people living in urban areas and who are educated are believed to be exposed to circumcising tribes in schools and working areas, thus thought to increase their acceptance of MC (Nnko *et al*, 2001).

2.5 Sexual pleasure and satisfaction related to MC

In some societies, MC is believed to influence sexual performance and sexual pleasure for the man himself and for his female partner. According to Westercamp & Bailey (2007), the perception that circumcision influences sexual drive, sexual performance, and sexual pleasure for the man and for his partner, is likely to influence the decision to circumcise. Nevertheless

this belief was found to vary between societies. In a survey with 217 men and women in Kenya, a high proportion of men (43%) and the majority of women (76%) believed that circumcised men enjoy sex more and confer pleasure to their female partners more than uncircumcised men (Mattson *et al*, 2005). The study further revealed that women enjoy sex more with circumcised men. In 12 FGDs with both young and adult men in South Africa, MC was believed to enhance sexual performance, enlarge the penis and make the penis more appealing to women (Rain-Taljaard *et al*, 2003). Furthermore, in a qualitative study in Malawi, all sex workers and younger men interviewed reported that circumcised men enjoy sex more and give more pleasure to their partners (Ngalande *et al*, 2006). In contrast, older and married participants believe that a circumcised penis is dry, not warm, and less sensitive and induces pain (pricking) during penetration (Ngalande *et al*, 2006). Scott et al. (2005) concluded that beliefs around sexual pleasure is more influential in some societies, thus a MC promotion campaign within the societies with influential belief about sexual pleasure, might have more impact if it were to promote "better sex" over "safer sex".

2.6 Prevalence of Male Circumcision

Approximately 30% of the world's males aged 15 years or older are circumcised (WHO, 2009). Of these, around two thirds are Muslim (living mainly in Asia, the Middle East and North Africa), 0.8% are Jewish, and 13% are non-Muslim and non-Jewish men living in the United States of America.

In Southern Africa, the prevalence of adult MC is rather low and is estimated to be around 15% in Botswana, Namibia, Swaziland, Zambia and Zimbabwe (DHS, 2006; Drain, 2006; Langeni, 2005; Connolly, 2004 as cited by WHO, 2009). The authors revealed a prevalence of 21% in Malawi, 35% in South Africa, 48% in Lesotho, 20% in Mozambique and more than 80% in Angola and Madagascar. They also noted that the prevalence in East and Central Africa varied from almost 15% in Burundi and Rwanda to 70% in Tanzania and 84% in Kenya and 93% in Ethiopia.This variation is ascribed to differences in ethnic groups, such as Nilotic or Sudanic speakers who are traditionally non-circumcising and within the Bantu speakers who abandoned MC centuries ago for various reasons. For instance, in Botswana, southern Zimbabwe, Malawi and parts of South Africa circumcision was stopped

by the European missionaries and colonial administrators. Swazi King Mswati II abandoned MC as it was thought to incapacitate men during war times (Marck, 1997 as cited by WHO, 2009).

Evidence from a study among the Sukuma ethnic group in North-west Tanzania, revealed that MC is becoming a popular practice in traditionally non-circumcising groups because of the HIV prevention programs implemented in those areas (Nnko *et al*, 2001). The study further revealed that perceived health-related reasons such as enhanced penile hygiene and reduced STI risk among those communities popularize the MC practice. In some sub-Saharan African countries, there is an indication that a high socio-economic status is associated with higher rates of circumcision in traditionally non-circumcising communities. For instance, the rate of circumcision is higher among men with higher levels of education (Halperin *et al*, 2005; Nnko *et al*, 2001), and those who live in urban areas (Nnko *et al*, 2001). It was pointed out that, higher levels of education may imply social contact with a broader mix of different ethnic and religious groups. This in turn increases the likelihood of circumcision given such socio-behavioural interactions (Urassa, Todd, Boerma, Hayes *et al*, 1997).

The recent DHS in Zambia indicates that 12.8% of adult males aged 15-59 years are circumcised with vast difference in the prevalence between provinces (CSO, *et al*, 2009). Currently, 10.2% of men are circumcised in Lusaka as compared to 71% in North western, 40% in Western, 14.4% in Copperbelt, 9.9% in Luapula, 5.7% in Central, 4.4% in Southern, 3.3% in Northern and 3.2% in Eastern province (CSO *et al*, 2009). This variation in MC prevalence in most African countries and as noted in Zambia is partly due to some groups who are traditionally non-circumcising, and also due to different ethnicities living in various parts of Africa. (WHO & UNAIDS, 2007b).

2.7 Barriers to Male Circumcision

Many challenges stand in the way of implementing a successful MC programme. Several studies have highlighted pain, bleeding and possible cultural tradition as some of the barriers to MC acceptability. Wamai *et al*, (2011) noted that there are potential health care system challenges that might make it unattainable to have a successful MC intervention programme.

Issues such as, the politics surrounding policy development, funding and changing socio-cultural perceptions and beliefs about MC might be possible barriers (Potts et al., 2008; Patrick *et al,*2009 as cited by Wamai *et al,*2011). For instance, in Gambella, Ethiopia, the regional hospital reportedly cannot meet even a small demand of 10 circumcisions per week due to staff shortages and lack of training (Patrick *et al,*2009 as cited by Wamai *et al,*

Bailey *et al,* (2002) noted that in Kenya being uncircumcised was regarded as in identity for the Luo culture, this was perceived as a cultural tradition that was regarded as a barrier to acceptability of MC. Participants in this study regarded the absence of MC as a significant component of Luo identity aside from language. MC was thought to erode their distinction from other tribes. The study revealed that pain during and immediately after the procedure and during the healing process was seen as a significant barrier to MC. Participants expressed concern over bleeding in medical, traditional or religious circumstances. Infection and poor healing process were also seen possible barriers to MC. This was especially expressed in the context of traditional circumstances where non-sterile conditions.

Herman-Roloff, Otieno, Agot,Ndinya-Achola, and Bailey (2011) conducted 12 focus group discussions among uncircumcised men in Nyanza Province. The aim was to assess the revealed, non-hypothetical, facilitators and barriers to the uptake of MC. The results revealed that participants identified time away from work; culture and religion; possible adverse events; and the post-surgical abstinence period as the primary barriers to MC uptake. Other barriers included: long distance to the health facility, a decrease in male and female sexual satisfaction and peer influence against MC.

Brito *et al,* (2010) revealed that in the Dominican Republic, lack of trained personnel to perform the procedures, lack of information about MC in the community, lack of surgical equipment, the cost of the procedure, lack of continuous electricity or running water in some of the clinics and the lack of physical space for surgical theatres in some of the clinics were some of the potential barriers to MC.

A study conducted in a University Teaching Hospital in Zambia revealed that the main barriers to MC services were related to costs (USD$3), fear of complications and sexual

impotence and socio-cultural reasons (WHO, 2007). Similarly, in South Africa WHO (2007) reported that the cost of circumcision has been identified as a barrier to MC. In addition, pain and safety, human resources and public hospital overload are some of the barriers (WHO, 2007).

Literature above and others have showed that many studies have been conducted on knowledge, attitudes and practice with regards to male circumcision and HIV prevention. These studies revealed mixed results. Some revealed either high or inadequate knowledge of MC as an HIV prevention intervention. Others also revealed a positive attitude on MC practice. These results rationalizes the choice of the study to contribute to the true reflection of Knowledge, attitudes and practice of MC among teachers in Lusaka.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Study Area

The study was conducted in Lusaka District. Lusaka district has the highest teacher population in the country with diversified cultural, religious and economic elements among the teaching staff in Basic and High schools (MOE, 2010). Lusaka province also has the highest HIV infection in the country at 18.9% (CSO, 2009).

According to the male circumcision situation analysis study, Lusaka has 26 male circumcising sites, 22 of which are health centres, 3 are 1st level hospitals and 1 as a 3rd level hospital (MOH, 2009). These sites may not be sufficient to take care of the growing population of Lusaka. Currently, the population of males in Lusaka stands at 1,080,152 which is 18.3% of the national population (CSO, 2011).

3.2 Study Design

A descriptive non-interventional type of study was utilized. Treece and Treece (1986) defines a descriptive study as any research not involving experimentation but is used to answer questions, satisfy curiosity or establish cause-effect relationship. It was also a cross sectional study because only a sample of the population was included in the study (Bryman, 2008).

3.3 Study Population

The study population comprised teachers in government Basic and High schools of Lusaka District. There were a total of 94 basic schools and 20 high schools in the district with a teacher population of 4,652. Of this number, 1978 were males and 2674 were females (MOE, 2009).

3.4 Study Sample

The study used probability sampling techniques so that the results from the sample statistics could be representative at school and provincial levels, but not at national level. The sampling unit was the school and the responding unit was the teacher.

3.4.1 Respondents to questionnaires

Sampling of respondents for the questionnaire was done in three stages.

First, 20 schools were sampled comprising 4 high and 16 basic schools from a total of 114 schools using stratified random sampling as shown in Table 3.1

Table 3.1 Sample calculation

S/N	Stratum	Number of schools	Relative frequency	Number sampled
1	High schools	20	0.175	4
2	Basic schools	94	0.825	16
Total		114	1	20

The 4 high schools and 16 basic schools were selected using simple random method from each list of high schools and basic schools respectively.

Secondly, two separate lists for male and female teachers from the twenty schools were generated. The total number of teachers in those 20 schools sampled was 932 teachers comprising 409 males and 523 females. The names on each list were rearranged serially.

Thirdly, males and females were proportionately sampled. Some 97 males were sampled from 409 males while 124 females were sampled from 523 females in the 20 schools.

The sampling of 97 males and 121 females involved linear systematic sampling. The sampling interval, K, was derived as $K = \frac{N}{n}$, where n is the sample size of 97 teachers and N is the total number of elements (409) in the sampling frame. Excel software was used to select the sampled elements.

3.4.2 Data Collection

The data was collected using semi-structured instruments, while focus group discussions and interviews were conducted using guides. In order to complement the quantitative data that was obtained using these instruments, focus group discussions were also conducted to collect qualitative data.

3.4.3 Focus group participants

Two focus groups were constituted in two different schools and conducted by the researcher. The participants in the groups were enlisted through the following procedure:

Firstly, one basic school and one high school were selected at random from the remaining schools that were not involved in the questionnaire samples. In each of the two schools, a list of teachers was generated and using their Teaching Service numbers, they were arranged serially while separating males and females.

Secondly, random numbers were used to select 3 males and 3 females to participate in the discussion. Each focus group had therefore a total number of 6 discussants. The randomization was aimed at providing equal chance to all teachers to participate in the discussion.

3.4.4 Key informants

Key informants provided insights on knowledge, attitudes and practice of MC as a prevention against HIV. The key informants included head teachers, guidance and counseling officers and circumcised teachers. Head teachers and guidance and counseling officers in 5 schools were talked to, while 2 self-reported circumcised teachers were also interviewed in detail by the researcher.

3.5 Pre-test

A pre-test was conducted in order to help the research instruments and methodology. It was carried out in one of the schools in Lusaka District that was not included in the sample. The pre-test enabled the researcher to ascertain:

i. Reliability and validity of the data collection tool
ii. Duration of administering the questionnaire
iii. The appropriateness and clarity of the questions asked.

After the pre-test, adjustments in the research instruments were made appropriately.

3.6 Data Processing And Analysis

The raw data from the questionnaires were edited, categorized, coded and entered in a table using Microsoft Access after which it was exported to Statistical Package for Social Sciences software (SPSS) version 16.0 for analysis. The data analysis generated frequencies, cross tabulations, and percentages. Data from the focus group discussion was edited and categorized by themes using matrix method. Data from the key informants was captured, categorized in themes and reported as verbatim.

3.7 Ethical Considerations

Permission to carry out the study among the teachers was obtained from the Provincial Education Officer for Lusaka Province.

Anonymity and confidentiality was maintained and this was communicated to the respondents in order to reassure them. The nature and purpose of the study was explained to the respondents in order to obtain informed consent.

3.8 Limitations of the Study

Some challenges were encountered during the study and they made the research process very difficult to manage. The challenges encountered were as follows:

- Financial resources limited the scope of this study to Lusaka District only. Future studies may therefore seek to cover as much geographical area as possible.
- Some respondents were difficult to find and this meant going back to the same school more than once. This delayed the data collection process.
- During the self-administered questionnaires, some respondents gave responses which were not making sense. Therefore, the researcher had to make follow-ups to these individuals. This was additional cost and time to the study.
- The study did not segregate between medical and traditional circumcision. MC in this study was taken in general terms. Future studies may wish to segregate the two types of circumcisions in order to provide a deeper understanding in each.

CHAPTER FOUR: FINDINGS

4.1. Demographic and socio-economic characteristics of respondents

This section outlines the background characteristics of respondents such as age, marital status, province of birth, ethnicity and professional qualifications (See Table 4.1).

The age distribution of the respondents ranged from 20 years to over 55 years. The majority of the respondents were in the age group 30 to 34 years accounting for 28.5 percent of the respondents. The mean age for the respondents was 36.3 years while the median was lower at 35 years suggesting positively skewed age distribution. The mean age for male (37.4 years) was higher than the mean age for females (35.5 years).

The majority of the respondents were married at 73.2% for males and 71.8 percent for females. Some 17.5 percent of the males have never been married compared to 16.1 percent of the females. The data in Table 4.1 reviews that the male respondents (5.2%) were slightly more likely to be divorced or separated than their female counterparts (4.0%). There were more females (5.6%) widowed than males (2.1%). The smallest proportion in respect to marital status were those living together. Only 2.1 percent of males and 2.4 percent of females were co-habiting.

At the time of the study, there were nine provinces in Zambia but now are ten with Muchinga created in 2011. These were Central, Copperbelt, Eastern, Luapula, Lusaka, Northern, North-Western, Southern and Western. This study asked the respondents to state their place of birth. Place of birth is important in determining the social and cultural settings in which an individual begins to develop and adopt beliefs about MC. The majority of respondents (27.6%) were born on the Copperbelt, followed by Lusaka (16.3%) and Southern provinces (16.3%). Some 10.4 percent of the respondents were born in Northern, 7.2 percent in Central and 6.8 percent in Eastern province. The two provinces, North-Western and Western provinces, with the highest provincial circumcision rates of 71 percent and 40.2 percent respectively have low percentage of respondents born there at only 4.5 percent and 5.4 percent respectively.

Table 4.1: Percent distribution of respondents by demographic characteristics according to sex

Characteristics	Sex		
	Male (%)	**Female (%)**	**Total (%)**
Age			
20 to 24	5.2	4.8	6
25 to 29	11.3	12.1	11.8
30 to 34	22.7	33.1	28.5
35 to 39	23.7	29	26.7
40 to 44	16.5	7.3	11.3
45 to 49	11.3	6.5	8.6
50 to 54	8.2	6.5	7.2
55+	1	0.8	0.9
Mean age	37.3	35.6	36.3
Mediam age	37	34.5	35
Number	97	124	221
Total (%)	**100**	**100**	**100**
Marital Status			
Never married	17.5	16.1	17.2
Married	73.2	71.8	72.7
Co-habiting	2.1	2.4	2
Divorced/ separated	5.2	4	4
Widowed	2.1	5.6	4
Number	97	124	221
Total (%)	**100**	**100**	**100**
Province of Birth			
Central	8.2	6.5	7.2
Copperbelt	26.8	28.2	27.6
Eastern	7.2	6.5	6.8

Luapula	5.2	4.8	5
Lusaka	18.6	14.5	16.3
Northern	12.4	8.9	10.4
North western	3.1	5.6	4.5
Southern	13.4	18.5	16.3
Western	5.2	5.6	5.4
Outside Zambia	0	0.8	0.5
Number	97	124	221
Total (%)	**100**	**100**	**100**
Ethnicity			
Bemba	33	30.6	31.7
Nyanja	19.6	15.3	17.2
Tonga	17.5	22.6	20.4
Lozi	9.3	11.3	10.4
Lunda	1	0.8	0.9
Luvale	3.1	4.8	4.1
Kaonde	2.1	2.4	2.3
Other	14.4	12.1	13.1
Number	97	124	221
Total (%)	**100**	**100**	**100**
Professional Qualification			
Teachers' certificate	26.8	36.3	32.1
Diploma	58.8	57.3	57.9
Education Degree	14.5	6.4	9
Number	97	124	221
Total (%)	**100**	**100**	**100**

Going by ethnicity, the majority of respondents were Bemba speaking (31.7%). Proportionally, there were more Bemba males (33.0%) than their female counterparts (3.6%). The least represented ethnic groupings were the Lunda speaking at 0.9 percent and the Kaonde speaking at 2.3 percent.

The majority of respondents possessed diplomas and certificates. This accounted for 57.9% and 32.1% of respondents respectively.

A total of 12 teachers participated in the focus group discussion of which 6 were males. Out of the six males, two were senior teachers, one was a head of department while the rest were merely class teachers. Among the female teachers, only one was a senior teacher while the rest were class teachers.

4.2 Knowledge about Male Circumcision practice

Individuals who would want to make an informed decision to be circumcised or to recommend it to someone else must first be aware of male circumcision. The study collected information on awareness by asking the teachers if they had ever heard of male circumcision. Responses to this question are presented in Table 4.2.

Table 4.2: Percent distribution of respondents' awareness of MC by sex

	Ever head of male circumcision		
	Yes	**No**	**Total**
Male	95 (97.9%)	2 (2.1%)	97 (100%)
Female	121 (99.2%)	1 (0.8%)	122 (100%)
Total	**216 (98.6%)**	**3 (1.4%)**	**219 (100%)**

Findings show that a total of 219 teachers responded to the question on whether they had ever heard of male circumcision out of which 97 were males and 122 were females. Awareness of male circumcision was almost universal (98.6%) among the respondents. Comparatively, more females (99.2%) than males (97.9%) had heard about male circumcision.

4.3 Knowledge about where to get male circumcision services

In a bid by the Ministry of Health to increase the prevalence of male circumcision to 50 percent by the year 2020, there have been intentions to increase the number of health facilities offering MC from 5 that were available in Zambia as at 2010 to 100 by the end of 2011 and 300 by the end of 2015 (MOH, 2010). It is one thing to have the facilities available and yet another for the

people to know that these facilities exist and are accessible. This study, therefore, went further to establish the levels of knowledge on the presence of MC facilities that they could access, as shown in Table 4.3.

Table 4.3: Percent distribution of respondents' knowledge of where to find a Male Circumcision Centre

Characteristic	The respondent knows where to find male circumcision centre Yes	No	Total
Sex			
Male	80 (84%)	15 (16%)	95 (100%)
Female	99 (83%)	21 (17%)	120 (100%)
Total	179 (83%)	36 (17%)	215 (100%)
Age group			
20 to 24	8 (73%)	3 (27%)	11 (100%)
25 to 29	23 (83%)	3 (12%)	26 (100%)
30 to 34	49 (80%)	12 (20%)	61 (100%)
35 to 39	53 (90%)	6 (10%)	59 (100%)
40 to 44	20 (83%)	4 (17%)	24 (100%)
45 to 49	14 (88%)	2 (13%)	16 (100%)
50 to 54	11 (61%)	6 (33%)	18 (100%)

The data revealed that knowledge of where male circumcision services can be obtained was high; 84 percent of males and 83 percent of females indicated that they knew where to get services. Within the age groups, knowledge of where MC was performed was highest among the ages 35 to 39 years (90%). The age groups 20 to 24 years (73%) and 50 to 54 years had the least proportions as compared to the rest with at least eight in every ten indicating that they knew.

4.4 knowledge about male circumcision as an HIV prevention method

Various aspects of male circumcision were asked among the teachers in order to determine how accurate their knowledge was. Information on knowledge was collected by asking respondents to indicate whether or not they agreed that (a) circumcision fully protects from contracting HIV and

(b) men who are circumcised have lower chances of being infected with HIV and STIs. Responses to these questions are presented in Table 4.4.

Table 4.4: Percent distribution of respondents' knowledge on various aspects of male circumcision

		Agree	Not sure	Disagree	Total
Circumcision fully protects from contracting HIV/AIDS	**Male**	17 (17.5%)	20 (20.6%)	59 (60.8%)	97 (100%)
	Female	21 (16.9%)	20 (16.1%)	83 (67.0%)	124 (100%)
	Total	38 (17.2%)	40 (18.1%)	142 (64.3%)	221 (100%)
Men who are circumcised have lower chances of getting HIV/AIDS	**Male**	65 (67.0%)	23 (23.7%)	9 (9.3%)	97 (100%)
	Female	96 (77.4%)	19 (15.3%)	8 (6.4%)	124 (100%)
	Total	161 (72.8%)	42 (19%)	17 (7.7%)	221 (100%)
Circumcision provides a better penile hygiene	**Male**	81 (83.6%)	13 (13.4%)	3 (3.10%)	97 (100%)
	Female	101 (81.4%)	15 (12.1%)	8 (6.4%)	124 (100%)
	Total	182 (82.4%)	28 (12.7%)	11 (5.0%)	221 (100%)

The data revealed that almost two thirds (64.3%) of the teachers disagreed that circumcision fully protects from contracting HIV while 72.8 percent of the teachers indicated that men who are circumcised have lower chances of getting HIV.\

The data further revealed that more males (17.5%) than females (16.9%) agreed that MC fully protects from HIV. It was also revealed that more males (20.6%) were not sure about the assertion than the females (16.1%).

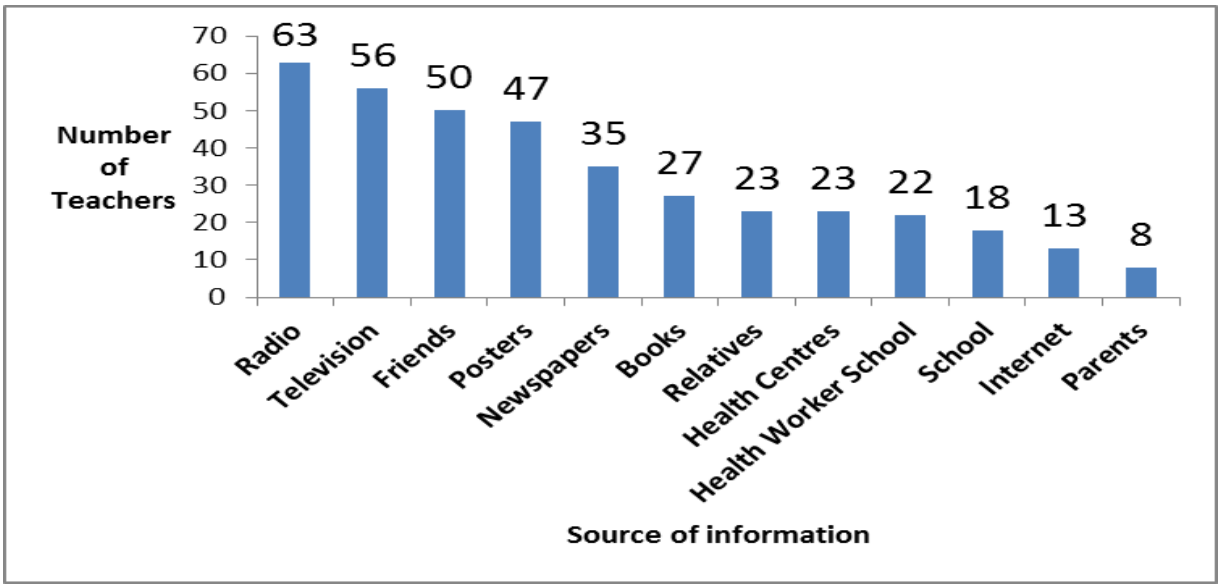
Hygiene is known to be one of the benefits of male circumcision. Male circumcision provides better penile hygiene because the foreskin is believed to be the part that keeps the dirty and so when removed, the penis can easily be cleaned and can stay clean for a longer period of time. Findings in Table 4.4 show that about 8 in every 10 teachers (82.4%) admit that MC provided

better penile hygiene. It is also clear from the data that there was little variation in the knowledge among the males and females although more female proportions (6.4%) than the males (3.1%) disagreed with the view that male circumcision provides better penile hygiene.

4.5 Sources of information about Male Circumcision

The respondents who indicated ever having heard of male circumcision were further asked where they heard male circumcision from. The question gave the respondents a variety of possible answers as sources of information from which they were to pick which ever source applied to them. Figure 4.1 shows the responses of the teachers.

Figure 4.1: percent distribution of respondents by sources of information on male circumcision



The data revealed that majority of teachers had heard about male circumcision primarily from the radio (63), and television (56) while very few had heard it from their parents (8) and from the internet (13).

4.6 Attitude of teachers towards undergoing male circumcision.

In assessing the acceptability of male teachers to undergo circumcision, the male teachers were asked to state the willingness to undergo the procedure. Female teachers were also asked to state

the extent they would be willing to have their spouses undergo male circumcision in the event that the procedure was safe and affordable. Table 4.5 shows the responses of the teachers.

Table 4.5 Percent distribution of male respondents' willingness to undergo male circumcision

Willingness	Count	Percent
Willing	62	66%
Not Willing	32	34%
Total	**94**	**100%**

The findings reveal that the teachers were more willing to undergo the procedure than not: 66 percent of the teachers reported that they were willing to undergo the procedure and 34 percent reported that they would not.

The respondents who did not want to be circumcised were further asked as to what reason they had for such views. Their responses are in Table 4.6

Table 4.6 Percent distribution of respondents' reasons for not wanting to be circumcised.

Reason for unwillingness to be circumcision	Count	percent
I would need more information	17	34%
I would fear being circumcised	12	24%
I do not believe in its benefit	10	20%
It is against my cultural or religious beliefs	7	14%
The cost would be too high for me	3	6%
Other reasons	1	2%
Total	**50**	**100%**

A total of 50 male teachers responded to this question. The major reason provided for being unwilling to undergo male circumcision was inadequate information on the issue. Slightly more than a third (34%) of the respondents indicated that they needed more information for them to make up their mind on the issue; some 24% of the respondents cited fear of the procedure.

Male teachers were also asked if they had been circumcised. Given the high number of respondents who had heard about male circumcision as a method to prevent HIV, it was expected that a lot of male teachers would be circumcised. To the contrary, the case was different as shown in Table 4.7

Table 4.7 Percent distribution of male respondents who underwent circumcision by selected socio-economic and demographic characteristics

Background Characteristic		Respondents
Age Group	20 to 24	1 (20%)
	25 to 29	2 (18%)
	30 to 34	9 (41%)
	35 to 39	6 (26%)
	40 to 44	2 (13%)
	45 to 49	1 (9%)
Marital Status	Single	6 (32%)
	Married	15 (21%)
Ethnicity	Bemba	5 (16%)
	Nyanja	2 (11%)
	Tonga	3 (18%)
	Lozi	3 (33%)
	Lunda	1 (100%)
	Luvale	3 (100%)
	Other	4 (29%)
Level of Education	Certificate	7 (27%)
	Diploma	11 (19%)
	Degree	2 (17%)
	Masters degree	1 (50%)
Province of Birth	Copperbelt	7 (27%)
	Eastern	1 (14%)
	Luapula	1 (20%)
	Lusaka	1 (6%)
	Northern	3 (25%)
	North western	2 (67%)
	Southern	4 (31%)
	Western	2 (40%)
Total		21 (21.6%)

The data revealed that only 21.6 percent of the male teachers reported to have been circumcised. The data also revealed that within the various categories of teachers, those that were more likely to be circumcised were those in age group 30 to 34 (41%), the singles (32%), traditionally

circumcising tribes (100%) as well as born from traditionally circumcising province (67%), and the most educated (50%).

4.7 Perceptions on the effects of male circumcision on sexual performance

Another important aspect that the study brought out was the perception on the effect of male circumcision on sexual performance. Sexual performance is very critical to every human being and therefore if the perception is that male sexual organ is tempered with to an extent where its function is compromised due to MC, it would affect decision to get or recommend male circumcision. The respondents were asked whether male circumcision (i) reduces or increases sexual sensitivity in men and women (ii) increases or reduces sexual enjoyment in women and men and (iii) circumcision reduces sexual satisfaction. Responses are shown in Table 4.8

Table 4.8 Percent distribution of respondents' perceptions on effects of male circumcision on sexual performance

		Agree	Not Sure	Disagree	Total
Circumcision reduces sexual sensitivity	**Male**	27 (27.8%)	36 (37.1%)	34 (35.0%)	97 (100%)
	Female	29 (23.4%)	46 (37.1%)	49 (49.6%)	124 (100%)
	Total	56 (25.3%)	82 (37.1%)	83 (37.6%)	221 (100%)
Circumcision increases sexual sensitivity	**Male**	11 (11.3%)	45 (46.4%)	41 (42.3%)	97 (100%)
	Female	21 (17.0%)	67 (54.0%)	36 (29.0%)	124 (100%)
	Total	32 (14.4%)	112 (50.7%)	77 (34.8%)	221 (100%)
Circumcision increases sexual enjoyment in men	**Male**	31 (31.9%)	56 (57.7%)	10 (10.3%)	97 (100%)
	Female	37 (29.9%)	75 (60.5%)	12 (9.7%)	124 (100%)
	Total	68 (30.8%)	131 (59.3%)	22 (9.9%)	221 (100%)
Circumcision increases sexual enjoyment in women	**Male**	31 (31.9%)	56 (57.7%)	10 (10.3%)	97 (100%)
	Female	37 (29.9%)	75 (60.5%)	12 (9.7%)	124 (100%)
	Total	68 (30.8%)	131 (59.3%)	22 (9.9%)	221 (100%)
Circumcision diminishes sexual satisfaction	**Male**	5 (5.1%)	35 (36.1%)	57 (58.8%)	97 (100%)
	Female	5 (4.8%)	44 (35. 5%)	68 (59.7%)	124 (100%)
	Total	11 (5.0%)	79 (35.7%)	131 (59.3%)	221 (100%)

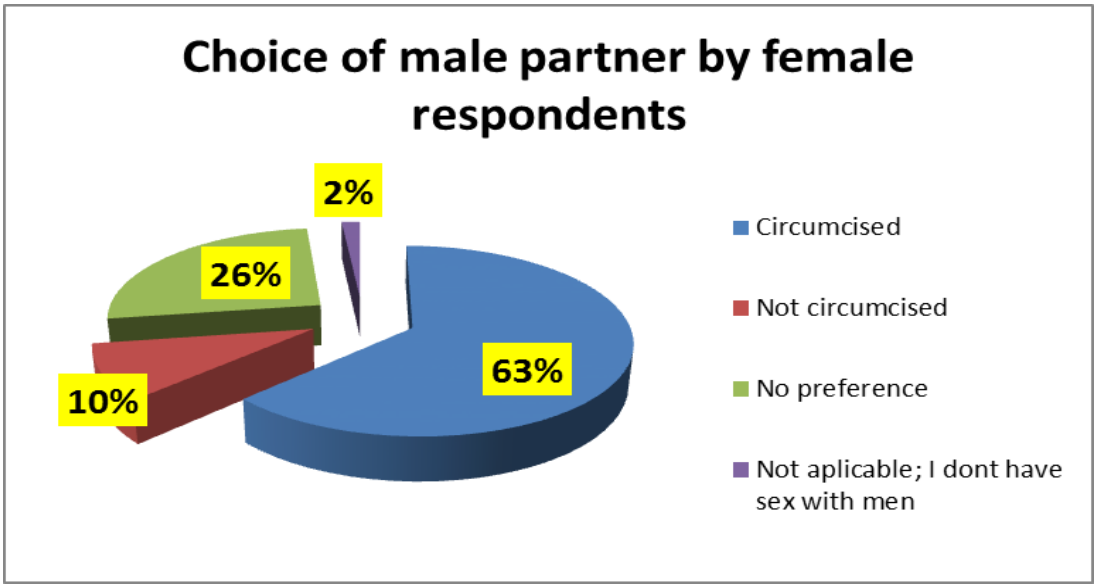
Findings revealed a lot of uncertainty among the respondents as to whether circumcision increases or reduces sexual sensitivity. About half (50.7%) of the respondents were not sure whether circumcision increases sexual sensitivity. A slightly smaller similar proportion of females (49.6%) indicated that circumcision does not reduce sensitivity although only 17 percent of them said it increases sensitivity.

It was further revealed that the respondents were not sure if circumcision enhances sexual enjoyment. Close to 6 out of 10 of the respondents were not sure if circumcision enhanced sexual enjoyment for a circumcised man as well as the female sexual counterpart. The majority of respondents (59.3%) however did not think circumcision diminishes sexual satisfaction.

4.8 Female respondents preferring a circumcised male partner

Female respondents were asked what kind of man they would prefer as a sexual partner between a circumcised man or uncircumcised man. This information is necessary to ascertain the likelihood of females recommending circumcision to their spouses. The majority of women indicated that they would choose a circumcised man as indicated in figure 4.2.

Figure 4.2: percent distribution of female respondents choosing to have a circumcised male sexual partner



Close to two thirds (63%) of the women said that they would prefer a circumcised man, 26 percent of the women would settle for uncircumcised man while the other 12 percent had no preference.

Sexual satisfaction among teachers was categorized based on selected background characteristics as shown in Table 4.9.

Table 4.9 Percent distribution of respondents' opinion about male circumcision diminishing sexual satisfaction.

		Circumcision diminishes sexual satisfaction			
Characteristics		**Agree**	**Not sure**	**Disagree**	**Total**
Sex	Male	5 (5%)	35 (36%)	57 (59%)	97 (100%)
	Female	6 (5%)	44 (35%)	74 (60%)	124 (100%)
Circumcised	Yes	0 (0%)	9 (17%)	44 (83%)	53 (100%)
	No	9 (6%)	68 (43%)	82 (52%)	159 (100%)
	Don't have a partner	2 (22%)	2 (22%)	5 (56%)	9 (100%)
Age Group	20 to 24	1 (9%)	3 (27%)	7 (64%)	11 (100%)
	25 to 29	0 (0%)	12 (46%)	14 (54%)	26 (100%)
	30 to 34	4 (6%)	22 (35%)	37 (59%)	63 (100%)
	35 to 39	3 (5%)	12 (20%)	44 (75%)	59 (100%)
	40 to 44	1 (4%)	13 (52%)	11 (44%)	25 (100%)
	45 to 49	0 (0%)	6 (32%)	13 (68%)	19 (100%)
	50 to 54	2 (11%)	11 (61%)	5 (28%)	18 (100%)
Marital Status	Single	2 (5%)	13 (31%)	27 (64%)	42 (100%)
	Widowed	0 (0%)	6 (67%)	3 (33%)	9 (100%)
	Divorced	1 (13%)	1 (13%)	6 (75%)	8 (100%)
	Separated	0 (0%)	1 (50%)	1 (50%)	2 (100%)
	Married	8 (5%)	58 (36%)	94 (59%)	160 (100%)
Ethnicity	Bemba	2 (3%)	31 (44%)	37 (53%)	70 (100%)
	Nyanja	3 (8%)	13 (34%)	22 (58%)	38 (100%)
	Tonga	1 (2%)	11 (24%)	33 (73%)	45 (100%)
	Lozi	2 (9%)	10 (43%)	11 (48%)	23 (100%)

Lunda	0 (0%)	0 (0%)	2 (100%)	2 (100%)
Luvale	0 (0%)	1 (11%)	8 (89%)	9 (100%)
Kaonde	2 (40%)	2 (40%)	1 (20%)	5 (100%)
Other	1 (3%)	11 (38%)	17 (59%)	29 (100%)

Table 4.9 reveals that about eight men in every ten of those that were circumcised disagreed (83%) that MC diminishes sexual satisfaction while none of them agreed (0%). More than half of those that reported not circumcised (52%) and did not have a partner (56%) disagreed to the assertion that male circumcision diminishes sexual satisfaction.

Within the various age categories, the largest proportion that disagreed to this assertion were those in the age group 35 to 39 years. This age group also recorded the largest proportion of those circumcised (32%).

Among the ethnic groups, the two traditionally circumcising groups, the Lunda and Luvale speaking, none of them (0%) agreed that MC diminishes sexual satisfaction. Similarly, the other ethnic groups had only small proportions, ranging from 2% to 9%, indicated that MC diminishes sexual satisfaction except for the Kaonde speaking of which had 40% agreeing.

4.9 Preference of teachers for their son to undergo circumcision

The respondents were also asked what decision they would make about their son in the event that they had a son, would they take him for circumcision? Table 4.10 shows the preferences of the respondents.

Table 4.10 Percent distribution of respondents' preference for their son to be circumcised

Choice for a son	Male	Female	Total
Definitely be circumcised	38 (44%)	78 (69%)	116 (58%)
Probably be circumcised	24 (28%)	18 (16%)	42 (21%)
Probably not be circumcised	13 (15%)	6 (5%)	19 (10%)
Definitely not be circumcised	11 (13%)	11 (10%)	22 (11%)
Total	**86 (100%)**	**113 (100%)**	**199 (100%)**

Despite most teachers not willing to undergo circumcision, data in Table 4.10 shows that the majority of teachers were willing to take their sons for circumcision: 58 percent of the teachers stated that they would definitely have their sons circumcised. More female teachers (69%) than males teachers (44%) would take their sons for circumcision. On the other hand, more males (13%) than females (10%) would not take their sons for male circumcision.

4.10 Facilitators to male circumcision

Undergoing male circumcision is motivated by various factors including traditional, religion, prevention of STIs and HIV, hygiene, sexual satisfaction, appearance of penis, prevention of cervical cancer and many other factors.

The male respondents who reported being circumcised were further asked to state the reason for their undergoing the procedure and their responses are as shown in Table 4.11.

Table 4.11 Percent distribution of respondents' main reason for being circumcised

Reason for circumcision	Respondents
Hygiene / cleanliness	8 (30.8%)
Tradition	5 (19.2%)
Prevention of STIs	5 (19.2%)
Prevention of HIV	4 (15.4%)
Religion	1 (3.8%)
Sexual Satisfaction	1 (3.8%)
Prevention of cancer	1 (3.8%)
Don't know	1 (3.8%)
Total	**26 (100%)**

Overall, hygiene was the major reason given by males for undergoing the procedure with 30.8 percent (n=26) of males reporting having been circumcised for hygiene purposes. The other major reasons for undergoing circumcision were tradition (19.2%) and prevention of STIs (19.2%). Only 15.4 percent of the male teachers reported to have been circumcised for

prevention of HIV. The other factors which include religion, sexual satisfaction and appearance of penis only account for a cumulative total of 11.4 percent of the responses.

During this study, focus group discussion were done and brought out some views on MC. One male teacher who claimed to be circumcised and was a proponent of MC narrated his story as follows:

> *"I was circumcised at age 27 as a matter of choice. This was after a lot of internal battles whether to circumcise or not but finally I made up my mind to undergo male circumcision. My decision to be circumcised were influenced by what I heard from friends and read on the issue. I had the foreskin and the problems that are associated with it such as smell, premature ejaculation and susceptibility to contracting Sexually Transmitted Diseases. I am glad I got circumcised and would encourage other men to have it because my manhood now feels better, works better and looks better, even my wife has confirmed what I am telling you now. I am now clean and can avoid unwanted disease."*

Another elderly teacher in the group added that:

> *"Ever since I got circumcised about 16 years ago, my sexual performance improved. Also my self-image improved and my confidence level was better. There was no loss of sensation but a different feeling which I happen to find far, far better and more satisfying to my joy and happiness."*

Women, though generally shy about the issue of male circumcision, had their own views as to why men should undergo MC as follows:

a) *"I think male circumcision is a good idea for men in that it is going to be an advantage for women who are married to men who are cheating. Most women are powerless to insist on the use of condoms and so male circumcision may protect the vulnerable women."*
b) *"I think it is easy for a circumcised man to maintain cleanliness of the male organ than a man that is not circumcised".*

c) *"I think chances of contracting STIs are slimmer for a circumcised man than a man that is not circumcised".*

d) *"I think circumcised men know how to please women in bed because they take long to reach climax and so a woman would first reach climax".*

e) *"I think circumcised men maintain an erection for a long period of time than a man that is not circumcised".*

f) *"I think circumcised men are real men as they can endure pain".*

4.11 Barriers to male circumcision

Some of the barriers to male circumcision include fear of pain, non healing of wounds, infertility, massive bleeding and death. These barriers may discourage would-be male circumcision aspirants. It was therefore important to assess the respondents on these aspects of male circumcision. The respondents were asked to state their view concerning these barriers and responses are recorded in Table 4.12.

Table 4.12 Percent distribution of respondents' perception on factors that deter from undergoing male circumcision

		Agree	Not Sure	Disagree	Total
Circumcision is a painful operation	**Male**	47 (48.4%)	25 (25.8%)	25 (25.7%)	97 (100%)
	Female	61 (49.2%)	42 (33.9%)	21 (17.0%)	124 (100%)
	Total	108 (48.8%)	67 (30.3%)	46 (20.8%)	221 (100%)
Circumcision wounds take more than two months to heal	**Male**	10 (10.3%)	46 (47.4%)	41 (42.3%)	97 (100%)
	Female	12 (9.6%)	48 (38.7%)	64 (51.6%)	124 (100%)
	Total	22 (9.9%)	94 (42.5%)	105 (47.5%)	221 (100%)
Circumcision leads to infertility	**Male**	1 (1.0%)	11 (11.3%)	85 (87.6%)	97 (100%)
	Female	8 (6.4%)	26 (21.0%)	90 (72.6%)	124 (100%)
	Total	9 (4.1%)	37 (16.7%)	175 (79.2%)	221 (100%)
Circumcision is extremely bad	**Male**	0 (0.0%)	17 (17.5%)	80 (82.4%)	97 (100%)
	Female	7 (5.6%)	14 (11.3%)	103 (83.0%)	124 (100%)
	Total	7 (3.2%)	31 (14.0%)	183 (82.8%)	221 (100%)

Circumcision results in death in most times	**Male**	7 (7.2%)	16 (16.5%)	84 (66.3%)	97 (100%)
	Female	11 (8.8%)	20 (16.1%)	92 (74.2%)	124 (100%)
	Total	18 (8.1%)	36 (16.3%)	166 (75.2%)	221 (100%)
Circumcision causes massive bleeding	**Male**	25 (25.8%)	36 (37.1%)	36 (37.1%)	97 (100%)
	Female	12 (9.6%)	51 (41.1%)	61 (49.2%)	124 (100%)
	Total	37 (16.7%)	87 (39.4%)	97 (43.9%)	221 (100%)

One major deterrent from undergoing male circumcision is fear of pain during the operation and the healing process. In medical male circumcision, pain management during the operation is done using anesthetic which relatively or absolutely makes the operation pain-free.

Findings in Table 4.12 have shown that most teachers think that the operation process is painful. A total of 48.8 percent of the teachers agreed that male circumcision is a painful operation while 20.8 percent disagreed. The majority of male teachers (48%) think that the procedure is painful while only 25.7 percent of them think it is not. The picture is the same for the female respondents of which about half (49.2%) think that it is painful while less than one-fifth (17.0%) think that it is not painful. A total of 30.3 percent of the teachers were not sure whether or not male circumcision is a painful operation. It was further noted that the uncertainty was more pronounced among the females (33.9%) than the males (25.8%). This may be because the procedure is conducted on males and not on females.

Another misconception about male circumcision is that it reduces fertility. However, MC does not lead to infertility because the foreskin has no role to play about the fertility of the man, as fertility is determined by sperm count in the seminal fluid (Siegfried et al, 2003). Findings in Table 4.6 on this aspect of male circumcision revealed that most teachers (79.2%) disagreed that circumcision leads to infertility. Comparison between sexes revealed that more males (87.6%) than females (72.6%) think MC does not lead to infertility in a man.

Many of the teachers were not sure if circumcision causes massive bleeding as shown in Table 4.12 where a total of 36.4 percent of the teachers reported that they were not sure. Comparatively, more female teachers were not sure with response rates of 41.1 percent and 37.1 percent respectively.

The other important finding among teachers as shown in Table 4.12 is that close to half (47.4%) of the male respondents think that a circumcision wound takes more than two months to heal.

The perception about MC wound taking more than two months to heal varied among different characteristics of teachers as can be seen in Table 4.13.

Table 4.13 Percent distribution of respondents' perception about male circumcision wind taking more than two months to heal.

	Circumcision wound takes more than two months to heal			
	Agree	**Not Sure**	**Disagree**	**Total**
Characteristic				
Sex				
Male	10 (10%)	46 (47%)	41 (42%)	97 (100%)
Female	12 (10%)	48 (39%)	64 (52%)	124 (100%)
Whether circumcised				
Yes	5 (9%)	13 (25%)	35 (66%)	53 (100%)
No	14 (9%)	78 (49%)	66 (42%)	158 (100%)
Don't have a partner (Female respondents)	3 (30%)	3 (30%)	4 (40%)	10 (100%)

Majority of those who are circumcised reported that male circumcision is not a painful operation. A total of 66 percent of circumcised males disagreed that male circumcision is a painful operation while 49 percent of those who were not circumcised were uncertain.

During a focus group discussion for this study, one male teacher indicated his fears as follows:

> '*I can't imagine my penis being cut, I actually dread the aftermath even though they apply anaesthesia during the operation. I fear the pain that may follow after the anaesthesia has stopped working.*

Some female respondents during the same focus group discussion also expressed fears towards male circumcision as follows:

a. *"I think a lot of uncircumcised men suffer from pre-mature ejaculation whereby they ejaculate before the woman can reach her climax thereby disadvantaging the woman".*

b. *"I fear circumcised men as they end up being promiscuous because they want other women to taste their strength and skills".*

c. *"I think some circumcised men are brutal when having sex maybe because they lose feelings and so to pleasure themselves they end up doing it very hard causing pain to the woman"*

d. *"Most women are shy when it comes to things concerning sex. It is always the man who knows better, so he will decide when we have sex and, if he wants to use a condom, he will. Whatever he says goes, so it is going to suppress women even more when men are circumcised as they will do whatever they want."*

CHAPTER FIVE: DISCUSSION

5.0 Introduction

The main objective of this study was to investigate knowledge, attitudes and practice of male circumcision as an HIV/AIDS prevention intervention among teachers in Lusaka district of Zambia. This chapter therefore will discuss the results of the study in relation to the study objectives and review of literature.

5.1 Knowledge of male circumcision

The results of the study confirmed the good knowledge of MC among the study group, in spite of the fact that it is not commonly practiced. Although the majority (78.4%) of the participants were not circumcised, almost all the male participants (97.9%) and female participants (99.2%) were aware of MC practice. The results are similar to those of studies done in Botswana (Kabaabetswe *et al*, 2003) and Zimbabwe (Halperin *et al*, 2005).

Respondents revealed good knowledge on the benefits of MC on HIV infection and penile hygiene. More than 70 percent of the respondents revealed that men who are circumcised have lower chances of acquiring HIV infection. In addition, 83.6 percent of males and 81.4 percent of female respondents indicated that circumcision provides a better penile hygiene. Various studies have highlighted the effects of male circumcision on sexual transmitted diseases, including HIV and penile hygiene (Weiss *et al*, 2000; Doyle *et al*, 2012; Wilson and de Beyer, 2006). The high level of knowledge indicates that MC necessitates more rigorous circumcision interventions. However, in Nigeria there was little knowledge on the role of male circumcision in reducing HIV transmission among heterosexual couples (Iliyasu *et al*, 2012).

Overall, the results of the current study revealed that respondents were aware of MC and knowledgeable about its health benefits. However, there were a few respondents not fully aware of the health benefits of male circumcision. This suggests that although the respondents are knowledgeable about the benefits of MC on HIV infection and penile hygiene, intensive information education and communication efforts are essential so as to promote a universal understanding of the health benefits of MC.

5.2 Source of Information about Male circumcision

Various countries have adopted medical male circumcision as part of a comprehensive approach to HIV prevention. An increased awareness of the protective effect of male circumcision has led to increased acceptability of the practice especially among non circumcising communities. However, a challenge still remains in which the information is circulated to the public. The results of this study revealed that Radio and Television were the major sources of information regarding male circumcision. The results revealed that 70 percent of the participants had heard of MC for HIV prevention. In a similar study in Zimbabwe, access to radio was associated with knowledge about MC in HIV prevention (Chikutsa, 2011). In addition, friends, posters, newspapers and books were cited as sources of information. Moreover, relatives and parents were among the least cited sources of information suggesting that circumcision is a subject that is not easily discussed within family units. These findings are supported by AIDS Vaccine Advocacy Coalition (AVAC) (2009) study who revealed that only 36 percent of the women perceived themselves as potentially involved in the decision-making process around male circumcision. Similarly, a number of studies have indicated that women would like to communicate and encourage their partners to be circumcised however, they feel left out in the process (Kebaabetswe *et al*, 2003; AVAC, 2010). This gap in communication might hinder the effective uptake of MC. Moreover, schools and internet were less effective sources of information among the study participants. This may imply that teachers were not free in the given environment to discuss issues of Male Circumcision.

5.3 Attitude towards male circumcision

Most respondents had a positive attitude towards uptake of male circumcision. Although 78.4 percent of the men in the study population were uncircumcised, 66 percent of them indicated that they would be willing to circumcise provided the procedure was safe and affordable. This proportion is consistent with the findings by Westercamp and Bailey (2007), which revealed that the median proportion of acceptability of MC for prevention of HIV infections in non-circumcising societies of Eastern and Central Africa was 65 percent. Results of this study are also consistent with other acceptability studies in non-circumcision communities of sub-Saharan

Africa such as South Africa (Lagarde *et al*, 2003), Botswana (Kebaabetswe at al., 2003) and Kenya (Mattson *et al*, 2005), thus suggesting that MC may generally be more acceptable.

However, some 34 percent of the male respondents indicated that they were not willing to be circumcised. The major reasons cited for not willing to be circumcised was that they still needed more information on MC (34%) and also that they feared being circumcised (24%). This finding entails that not much has been done to educate the teachers on the advantages and disadvantages associated to male circumcision.

A large proportion of the respondents revealed that they would be willing to circumcise their male child. These findings correspond with studies conducted in India (Madhivanan *et al*, 2008), Botswana (Kebaabetswe *et al*, 2003) and South Africa (Scott *et al*, 2005). According to Forbes *et al*, (2012, p. 7) individuals "circumcised before sexual debut had a 50 percent lower odds of having HIV, compared to non-circumcised men, comparable with the risk reduction of 50-60 percent found in circumcision trials". This therefore suggests that national policies and intervention measures should be prepared to scale-up interventions for this age group. In essence, circumcising male children before sexual debut will ensure lower risk of acquiring HIV thus reducing the transmission rates (Kelly *et al*, 1999).

5.4 Practice of male circumcision

Among the major findings of the study is that, in spite of the high levels of awareness of male circumcision (97.9%) and where to access the service (83%), a very small proportion of teachers who participated in this study reported to be circumcised. The prevalence of MC among male teachers aged 20 - 55 years in the study area was reported at 21.6 percent. This finding is in line with a study conducted by Mavhu *et al*, (2011) to explore MC prevalence, knowledge and attitudes among rural Zimbabweans, which revealed that only 20 percent of the men were circumcised. Although this figure is relatively higher than the 10.2 percent that was reported for Lusaka province in the Zambia Demographic and Health Survey of 2007 (CSO et al, 2009) and however lower than the Global prevalence rate of 30 percent (WHO, 2009), it is not large enough given the sheer number of teachers, who theoretically, should offer themselves for circumcision. This small proportion is also an indication that MC is not commonly practiced in the area, which is dominated by Bemba speaking tribe (31.7%).

This study also revealed that those who were more likely to be circumcised included those in the age group 30 to 34 years (41%), the singles (32%), traditionally circumcising tribes (100%) as well as those born from traditionally circumcising province (67%), and the most educated (50%). According to the diffusion of innovation theory (Rodgers, 1995), these categories of teachers could be targeted in the scale up of male circumcision to act as early adopters and help form the critical mass.

5.5 Facilitators to Male circumcision

This study revealed that Hygiene was the major contributing factor for decision concerning male circumcision among the circumcised respondents. This finding confirms findings in previous studies in which generally, penile hygiene was believed to be a major facilitator of MC in both circumcising and non-circumcising communities (Halperin *et al*, 2005; Kebaabetswe *et al*, 2003; Lukobo & Bailey, 2007; Mattson *et al*, 2005; Ngalande *et al*, 2006; Niang & Boiro, 2007; Nnko *et al*, 2001; Rain-Taljaard *et al*, 2003).

The majority of the respondents did not select HIV prevention as one of the deciding factors. This indicates that respondents were either unaware that HIV is in fact a sexually transmitted infection or perceived themselves not to be at risk of HIV infection. This confirms some studies in non-circumcising communities of Kenya in which the association of MC and HIV was less evident (Halperin *et al*, 2005; Ngalande *et al*, 2006; Nnko *et al*, 2001). A number of studies have highlighted that the perceived effect of circumcision is over emphasized in some communities with some individuals likely to engage in riskier sex practices, in a misguided belief that circumcision provides total protection (UNAIDS, 2006; Westercamp and Bailey, 2007). Most importantly, correct knowledge about the efficacy of male circumcision is key for men to be persuaded and make a decision to undergo circumcision as described by the theory of diffusion of innovation (Rogers, 1983). This study found that 16.5 percent of males still think that MC provides one hundred percent safety against HIV infection while 12.1% of the females also think the same way.

Misconceptions about the prevention ability of MC can put the teachers at high risk by engaging in higher risk sexual encounters such as unprotected sex. As a result, it would be vital for information, education and communication interventions to communicate these deficiencies and

emphasise the role of MC as an HIV prevention method and the need to integrate other prevention measures as MC does not provide absolute immunity from HIV infection.

The perceptions of religion, sexual satisfaction and prevention of cancer as reasons for circumcision were least cited by respondents. The findings that MC was not primarily performed for sexual pleasure contradicts reports from Iliyasu *et al*, (2012), Bailey *et al*, (2002) and Rizvi *et al*, (1999) who noted that some participants believed that circumcision will increase their sexual power and virility.

Findings from focus group discussions confirm a study by Mattson *et al*, (2005), which revealed that 76 percent of women believed that circumcised men enjoy sex more and confer pleasure to their female partners more than uncircumcised men.

5.6 Barriers to Male Circumcision

The study revealed that the major factor that hinders men from accessing MC was fear of pain. 48.4 percent of the male respondents revealed that they perceived MC as a painful operation. This finding is in line with previous studies conducted by Bailey *et al*, (2002), Kebaabetswe *et al*, (2003), Nnko *et al*, (2001) and Mattson *et al*, (2005). Fear of pain and fear of massive bleeding are the most cited barriers to MC. There is need to provide adequate and accurate information on the operation of male circumcision in order to counteract the misconceptions.

Some of the views from focus group discussions conform to the findings of a study by Ngalande *et al*, (2006), who found that older women and married participants believe that a circumcised penis is dry, not warm, and less sensitive and induces pain. These views are more likely to deter women from recommending MC to their partners and appropriate messages should therefore be designed to encourage the faltering women.

5.7 Summary

This chapter presented the study discussion. Chapter 6 concludes the study and presents the proposed recommendations.

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The study set out to assess the knowledge, attitudes and practices of MC as an HIV prevention intervention among the teachers in Lusaka district. This research was expected to provide valuable information that will enhance understanding the knowledge, attitudes and practice of MC among the teachers.

The study revealed that the majority of the respondents were not circumcised largely due to fear of pain and bleeding. However, like various studies conducted in Africa, uncircumcised respondents in this study were willing to be circumcised. These findings are encouraging considering that non-circumcising speaking tribes are accepting the practice and willing to be circumcised.

Based on the study results, there was considerable evidence that the knowledge around MC for HIV prevention was moderately high. Respondents displayed good knowledge on the health benefits of MC. This knowledge maybe attributed to various information sources. The use of radio and television has ensured that a wider population accesses this information. In the process this has facilitated the relaying of information to friends. However, it is worrying that MC issues are rarely discussed in family units and in schools.

While the perception about health benefits of MC was attributed largely to hygiene and prevention against STIs, the rationale for undertaking male circumcision may still be a concern. This concern arises from the fact that only few respondents indicated they would opt to be circumcised to prevent HIV infection. The majority of the respondents may view themselves at a low risk of HIV infection. The expansion of circumcision services must be embedded within comprehensive HIV prevention programmes, including informed consent and risk-reduction education (WHO, 2009). The absence of comprehensive MC education efforts may have serious health consequences on the male teachers.

Since there is a willingness among teachers to be circumcised, it should be used as an opportunity to target teachers as they can contribute a great deal to form a critical mass and influence the practice of male circumcision. However, circumcision should always be considered

as part of comprehensive HIV prevention package that is offered in a safe environment and also affordable.

6.2 Recommendations

Taking the study findings into consideration, the following recommendations are intended to address the gaps that this study has discussed as regards knowledge, attitudes and practices of teachers towards male circumcision as a method of HIV prevention.

- The use of various communication avenues, especially via radio and television, should be enhanced in dispelling myths about MC and promote its health benefits.
- Teachers should be sensitized on the good aspects of male circumcision such as reduced chances of acquiring HIV/AIDS, hygiene, and reduced chances of acquiring cervical and penile cancer.
- Provide a clear explanation of the process of male circumcision to the teachers and underscore the fact that male circumcise ion is not fully protective on its own and must follow the ABC (**A**bstinence, **B**eing faithful to one sexual partner and correct use of **C**ondoms) rules for HIV prevention.
- Publication of success stories of male circumcision by a teacher may allay anxiety among the non-circumcised and may increase willingness to be circumcised
- Peer education by circumcised teachers about MC to be promoted as this could positively influence the attitudes of teachers. This can be done during the teachers' continuous professional development meetings.

REFERENCES

Auvert B, D. Taljaard, E. Lagarde, J. Tambekou, R. Sitta, A. Puren. (2009). **Randomized, controlled intervention trial of male circumcision for reduction of HIV infection risk:** The ANRS 1265 Trial. *PloS Med* 2: e298.

AVAC. (2010).**Making Medical Male Circumcision work for Women**. Retrieved October 10, 2012, from http://www.avac.org/ht/a/GetDocumentAction/i/31646

Bailey, R.C., Moses, S., Parker, C.B., Agot, K., Maclean, I., Krieger, J.N., Williams, C.F., Campbell, R.T. & Ndinya-Achola, J.O. (2007). **Male Circumcision for HIV Prevention in Young Men, Kenya**: **A Randomized Controlled Trial**. Lancet, 369 (9562): 643-56.

Bailey, R.C., Muga, R., Poulussen, R., & Abicht, H. (2002). **The Acceptability of Male Circumcision to Reduce HIV Infections in Nyanza Province, Kenya**. AIDS Care, 14(1): 27–40.

Bailey, R. C. & Egesah, O. (2006). **Assessment of Clinical and Traditional Male Circumcision Services in Bungoma District, Kenya:** Complications Rates and Operational Needs. Special Report.

Bailey, R. C., R. Muga (2002). **The acceptability of male circumcision to Reduce HIV infections in Nyanza Province Kenya**. *AIDS Care, 14*(1), 27-40.

Bowa K (2009). **Male circumcision in Zambia.** Speech delivered at the National Launch of the Ministry of Health of Zambia's Male Circumcision Programme on July 30, 2009. Lusaka, Zambia.

Brito, M. O., Luna, M., and Bailey, R. C. (2010). **The Feasibility and Acceptability of Male Circumcision among Men, Women, and Health Providers of the Altagracia Province, Dominican Republic**. AIDS Care, 22(12):1530-1535.

Brito, M.O., Caso, L.M., Balbuena. H, Bailey, R.C. (2009). **Acceptability of Male Circumcision for the Prevention of HIV/AIDS in the Dominican Republic**. PLoS ONE, 4(11): e7686-e7687.

Brooks R.A (2009). **Male Circumcision and HIV Prevention: Looking to the future, UCLA center for community health, Los Angele**s

Bryman, Alan (2008). **Social Research Methods.** Third Edition, Oxford University Press Inc. New York, USA.

Caldwell, J. C. & P. Caldwell (1996). **The African AIDS epidemic**. Scientific American, *274*(3), 62-63, 66-68

Castellsague, X., Bosch, F.X., Munoz, N., Meijer, C.J.L.M., Shah, K.V., De Sanjose, S., Eluf-Neto, J., Ngelangel, C.A., Chichareon, S., Smith, J.S., Herrero, R. & Franceschi, S. (2002). **Male Circumcision, Penile Human Papillomavirus Infection and Cervical Cancer in Female Partners**. The New England Journal of Medicine, 346(15): 1105-12.

Central Statistical Office, Ministry of Health, Tropical Diseases Research Centre, University of Zambia, and Macro International Inc. (2009). **Zambia Demographic and Health Survey 2007.** Calverton, Maryland, USA: CSO and Macro International Inc.

Chikutsa, A. (2011). **Contextualizing the adoption of MC as an HIV prevention strategy in Zimbabwe**. Retrieved December 17, 2012, from http://uaps2011princeton.edu/papers/110446

Cichocki, M. R. N. (2008). **Circumcision Reduces the Risk of HIV Infection**: How Surgery Can Protect Against HIV. [Online], Available: http://aids.about.com/od/hivprevention/a/circumcision.htm. [Downloaded: 04/25/09 10:06 AM]

CSO, MOH, UNZA and MEASURE Evaluation, (2010). **Zambia Sexual Behaviour Survey 2009**. Lusaka, Zambia: CSO and Measure Evaluation.

Dickson NP, Ryding J, van Roode T. (2009). **Male circumcision and serologically determined human papillomavirus infection in a birth cohort**. *Cancer Epidemiol. Biomarkers Prev.* 18(1),177–183.

Doyle, D. (2005). **Ritual Male Circumcision: A Brief History**. Journal of Royal College of Physicians Edinburgh, 25: 279-85.

Doyle, S. M., Kahn, J. G., Hosang, N., & Carroll, P. R. (2010). **The Impact of Male Circumcision on HIV Transmission**. The Journal of Urology, 183 (1): 21-26.

Forbes, H.J., Doyle, A. M., Maganja, K., Changalucha, J., Weiss, H. W., Ross, D. A., & Hayes, R. J. (2012). **Rapid Increase in Prevalence of Male Circumcision in Rural Tanzania in the Absence of a Promotional Campaign**. PLoS ONE, 7(7) Retrieved December 12, 2012, from PLOS ONE http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0040507

Freeman EE, Weiss HA, Glynn JR, Cross PL, Whitworth JA, Hayes RJ.(2006). **Herpes simplex virus 2 infection increases HIV acquisition in men and women: systematic review and meta-analysis of longitudinal studies**. *AIDS* 20(1),73–83.

Gray, R., Kiwanuka, N., Quinn, T., Sewankambo, N., Serwadda, D., Mangen, F., Lutalo, T., Nalugoda, F., Kelly, R., Meehan, M., Chen, M., Li, C., & Wawer M (2000). **Male Circumcision and HIV Acquisition and Transmission: Cohort Studies in Rakai, Uganda. Rakai Project Team**. AIDS, 14 (15):2371-2381.

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

Halperin, D.T., Fritz, K., McFarland, W. & Woelk, G. (2005). **Acceptability of Adult Male Circumcision for Sexually Transmitted Disease and HIV Prevention in Zimbabwe.** Sexually Transmitted Diseases, 32(4):238–39.

Halperin, D. T., & Bailey, R. C. (1999). **Male circumcision and HIV infection**: 10 Years and counting. *Lancet, 354*(9192), 1813-1815

Herman-Roloff, A., Otieno, N., Agot, K., Ndinya-Achola, J., & Bailey, R. C. (2011). **Acceptability of Medical Male Circumcision among Uncircumcised Men in Kenya One Year after the Launch of the National Male Circumcision Program.** PLOS ONE, 6(5):1-6. Retrieved December 12, 2012 from PLOS ONE.

Ianchovichina E. & S. Lundstrom (2008). **What Are the Constraints to Inclusive Growth in Zambia?** Washington, D.C.,World Bank, 2008.

Iliyasu, Z., Abubakar, I. S., Sani, I. H., Jibo, A. M., Karaye, I. M., Salihu, H. M., & Aliyu, M. H. (2012). **Male Circumcision and HIV Risk Behavior among University Students inNorthern Nigeria**. *American Journal of Men's Health*, 1-8.

Kebaabetswe P, S. Lockman, S. Mogwe, R. Mandevu, I. Thior, M. Essex, R.L. Shapiro (2003). **Male circumcision: an acceptable strategy for HIV prevention in Botswana.** *Sexually Transmitted Infections*, 79; 214,19.

Kelly, R., Kiwanuka, N., & Wawer, M. J. (1999). **Age of Male Circumcision and Risk of the Prevalent HIV infection in Rural Uganda**. AIDS, 13: 399-405.

Krueger et al (1998). **Research methods and data collection techniques Oxford University press.** UK

Ku, J. H., Kim, M. E., Lee, N. K. & Park, Y. H. (2003). **Circumcision Practice Patterns in South Korea:** Community based survey. Sexual Transitted Infections, 79: 65–67**.**

Lagarde E., T. Dirk, A. Puren, R.T. Reathe, A. Bertran (2003). **Acceptability of male circumcision as a tool for preventing HIV infection in a highly infected community in South Africa.** *AIDS,* January 3(JOURNAL)

Laumann (1997)."**Circumcision in the United States. Prevalence, prophylactic effects, and sexual practice"**. JAMA 277 (13): 1052–1057.

Lind A. D, William G.M, Samuel A.W (2010). **Statistical Techniques in Business and Economics.** Fourteenth Edition, The McGraw-Hill Companies Inc. New York, USA.

Lukobo, M., &Bailey, R. C. (2007) **Acceptability of Male Circumcision for Prevention of HIV Infection in Zambia**. AIDS Care, 19(4):471–477.

Madhivanan, P., Krupp,K., Chandrasekaran, V., Karat, S.C., Reingold, A.L. & Klausner, J.D. (2008). **Acceptability of Male Circumcision among Mothers with Male Children in Mysore, India**. AIDS, 22(8):983–988.

Mattson, C.L., Bailey, R.C., Muga, R., Poulussen, R. & Onyango, T. (2005). **Acceptability of Male Circumcision and Predictors of Circumcision preference among Men and Women in Nyanza Province in Kenya**, AIDS Care, 17(2): 182-94.

Mavhu, W., Buzdugan, R., Langhaug, L. F., Benedikt, C., Sherman, J., Laver, S. M., Mundida, O., Woelk, G., & Cowan, F. M., (2011). **Prevalence and factors associated in knowledge of the willingness for MC in rural Zimbabwe**. Tropical Med Int Health 16(5): 589-597.

Ministry of Education (2008): **Education Automated Statistical Information System Toolkit (ED-ASSIST)**

Ministry of Education (2008): **National Implementation Framework (II) 2008-2010**. Lusaka

Mitchell, (2002). **Impact of Oregon's Priority List on Medicaid Beneficiaries**, 57 MED.

Morris, B. J. (2007). **Why Circumcision is a Biomedical Imperative for the 21st Century**. Bio Essays, 11 (29):1147-58.

Moses, S., Bailey, R. C., & Ronald, A. R. (1998). **Male Circumcision: Assessment of Health Benefits and Risks**. Sexual Transmitted Infections, 74 (5): 368-373.

Moses, S., Bradley, J.E., Nagelkerke, J.D.N., Ronald, A.R., Ndinya-Achola, J.O. & Plummer, F.A. (1990). **Geographical Patterns of Male Circumcision**

Practices in Africa: Association with HIV Sero-prevalence. International Journal of Epidemiology, 19 (3): 693-697.

Ngalande, R. C., Kapondo, L. J., & Bailey, R. C. (2006). **Acceptability of Male Circumcision for Prevention of HIV Infection in Malawi**. AIDS Behav, 10(4):377–385.

Niang, C, I. & Boiro, H. (2007). **You Can Also Cut My Finger: Social Construction of Male Circumcision in West Africa, A Case Study of Senegal and Guinea-Bissau**. Reproductive Health Matters, 15(29): 22–32.

Nnko, S., Washija, R., Urassa, M. & Boerma, T. (2001). **Dynamics of Male Circumcision Practices in Northwest Tanzania. Sexually Transmitted Diseases**, 28(4): 214–218.

Pappas-DeLuca, K. A., Simeon, F. and Kustaa, F. (2008). **Preliminary Results of the Report on Findings from Qualitative Research on Male Circumcision in Namibia: Unpolished report**. Windhoek: Ministry of Health and Social Services.

Patterson, B.K., Landay, A., Seigel, J.N., Flener, Z., Pessis, D., Chaviano, A. & Bailey, R.C. (2002). **Susceptibility to Human Immunodeficiency Virus-1 Infection of Human Fore Skin and Cervical Tissue Grown in Explant Culture**. The American Journal of Pathology. 161 (3): 867-73.

Pearson Education Limited (2004). **Longman Active Study Dictionary.** Fourth Edition, Nutech

Photolithographers, India

Pros Med, (2005). **Randomized Intervention Trial of male circumcision for reduction of HIV infection risks**, Oregon Health and Science University, Portland

Rain-Taljaard R.C., E. Lagarde, D.J. Taljaard, C. Campbell, C. MacPhail, B. Williams, B. Auvert, (2003). **Potential for an intervention based on male circumcision in a South African town with high levels of HIV infection**. *AIDS Care*. June; 15 (3):315-27.International Conference.

Rizvi, S.A.H., Naqvi, S.A.A., Hussain M. & Hasan, A.S. (1999). **Religious Circumcision: A Muslim View**. British Journal of Urology International, 83(Suppl. 1) 13–16.

Rogers E.M. (1983). **Diffusion of Innovations**. University of Illinois at Urbana-Champaign & aposs Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship.

Schoen, J. E. (1997). **Benefits of New Born Circumcision: Is Europe Ignoring Medical Evidence?**, Archives of Disease in Childhood, 77 (1):258-260.

Scott, B.E., Weiss, H.A. &Viljoen, J.I. (2005). **The Acceptability of Male Circumcision as an HIV Intervention among a Rural Zulu population in KwaZulu-Natal South Africa**. AIDS Care, 17(3): 304-313.

Tarimo, E. A. M., Francis, J.M., Kakoko, D., Munseri, P., Bakari, M., & Sandstrom, E. (2012). **The Perceptions on Male Circumcision as a Preventive Measure against HIV Infection and Considerations in Scaling up of the Services: A Qualitative Study among Police Officers in Dar Es Salaam, Tanzania**. BMC Public Health, 12:529.

UNAIDS (2007). **Global trends and determinants of prevalence, safety and acceptability**, Weiss, H & Polonsky, J. WHO, London School of Hygiene and Tropical Medicine & UNAIDS.

UNAIDS, (2006). **Male Circumcision: Africa's Unprecedented Opportunity**. Retrieved September 30, 2012, from http://www.unaidsrstesa.or/site/default/files/malecircumsicion/mc_africa-opp-en.pdf

UNAIDS/World Health Organization (2004). E**pidemiological Fact sheets on HIV and Sexually Transmitted Infections-Zambia.2004, from** http://www.who.int/hiv/pub/epidemiology/pubfacts/en/

UNESCO (2005). **The Samba of Roda and the Ramlila proclaimed Masterpieces of the Oral and Intangible Heritage of Humanity**. Press Release. November 25, 2005. Isabelle Le Fournis Downloaded from :http://portal.unesco.org/en/ev.php-URL_ID=30973&URL_DO=DO_TOPIC&URL_SECTION=201.html on January 28, 2010.

Urassa, M., Todd, J, Boerma, T., Hayes, R. & Ising, R. (1997). **Male Circumcision and Susceptibility to HIV Infection among Men in Tanzania**. AIDS, 11(1): 73-80.

Uys, H., H., M., & Basson, A., A. (1991). **Research Methodology in Nursing.** Pretoria: Kagiso Tertiary.

Valente T.W (1996). **Social network thresholds in the diffusion of innovations**. *Social Networks*, Volume 18, Issue 1, January 1996, Pages 69-89

Van Dam, J. & Anastasi, M.C. (2000). **Male Circumcision and HIV Prevention: Direction for Future Research**. Alabama: United States Agency for International Development & Population Council

VMMC (n.d.). **Communication Strategy for Voluntary Medical Male Circumcision in Kenya**. Retrieved November 14, 2012, from http://www.malecircumcision.org/programs/documents/Kenya_VMMC_Communication_Strategy.pdf

Wambura, M., Mwanga, J., Mosha, J., Mshana, G., Mosha, F., & Changalucha, J. (2009). **Situation Analysis for Male Circumcision in Tanzania**. Retrieved March 21, 2012, from http://www.malecircumcision.org/programs/documents/TanzaniaMaleCircumcisionSituation Analysis_September_09.pdf

Weiss, H.A., Quigley, M.A. & Hayes, R. (2000). **Male Circumcision and Risk of HIV Infection in Sub-Saharan Africa: A Systematic Review and Meta-Analysis**. AIDS, 14(15): 2361-70**.**

Westercamp, N. & Bailey, R.C. (2007). **Acceptability of Male Circumcision for Prevention of HIV/AIDS in Sub-Saharan Africa: A Review**. AIDS Behavior, 11(3): 341- 55.

WHO & UNAIDS (2007), '**WHO and UNAIDS announce recommendations from expert meeting on male circumcision for HIV Prevention**

WHO/UNAIDS (2007) **Technical Consultation, Male Circumcision and HIV Prevention:** Research Implications for Policy and Programming.

Wilson, D., & de Beyer, J. (2006). **Male Circumcision: Evidence and Implications**. Retrieved September 23, 2012, from http://siteresources.worldbank.org/INTHIVAIDS/Resources/375798-1132695455908/M&EGR_MaleCircumcision_Mar31.pdf

Other sources

(http://www.cdc.gov/hiv/resources/factsheets/circumcision.html)

(http://www.en.wikipedia.org/wiki/circumcision)

(http://www.medical_dictionary.thefreedictionary.com/circumcision)

(http://www.operation-ab.org)

http://www.dragnes.blogspot.com/2011/03/male-circumcision_at_different_ages_in.html)

Appendix 1: Questionnaires

THE UNIVERSITY OF ZAMBIA

SCHOOL OF HUMANITIES AND SOCIAL SCIENCES

DEPARTMENT OF SOCIAL DEVELOPMENT STUDIES

DEMOGRAPHY SECTION

QUESTIONNAIRE

TOPIC:
KNOWLEDGE, ATTITUDES AND PRACTICES OF TEACHERS ABOUT MALE CIRCUMCISION AS A METHOD OF HIV PREVENTION IN ZAMBIA. A CASE STUDY OF LUSAKA DISTRICT

I am a Masters student at the University of Zambia in the School of Humanities and Social Sciences, Department of Social Development Studies under Demography Division. I am undertaking a research on the above mentioned topic and you have been randomly selected to respond to the questions in this questionnaire. The purpose of this study is to learn about what you Know, think and have done about male circumcision as a Method of HIV and AIDS prevention.

Your responses will be treated with utmost importance and the information you give will be strictly confidential.

Instructions:

1. Please complete each question.
2. Indicate your choice by circling **one** correct response or by writing an answer in the space, as directed. Where more than one answer can be given, you shall be advised to "circle **all that apply**".
3. Depending on your response, you may be directed to continue on the next question **[continue]** or skip to another question **[Go to 105].**
4. Some questions are targeting men only **[MEN:]** and others women only **[WOMEN:],** please answer appropriately.

SECTION 1: BACKGROUND INFORMATION

No.	QUESTIONS, INSTRUCTIONS AND FILTERS	RESPONSES
101	What is your sex	1. Male 2. Female
102	What is your Nationality?	1. Zambian 2. Non – Zambian
103	How old did you become at your last birthday?	Age in completed years_____
104	What is your current marital status?	1. Single(never married) 2. Single (cohabiting) 3. Widowed 4. Divorced 5. Separated 6. Married 7. Married (polygamous)
105	How many children have you produced?	Record the number [____/____]
106	In what province where you born?	1. Central 2. Copperbelt 3. Eastern 4. Luapula 5. Lusaka 6. Northern 7. North-Western 8. Southern **9.** Western **10.** Outside Zambia
107	What is your ethnicity?	1. Bemba 2. Nyanja 3. Tonga 4. Lozi 5. Lunda 6. Luvale 7. Kaonde 8. Other (specify)_____
108	What is your religion?	1. Christianity 2. Muslims 3. Hindu

No.	QUESTIONS, INSTRUCTIONS AND FILTERS	RESPONSES
		4. No Religion 5. Other (Specify) _____
109	In the last month, how often have you attended religious services? (circle one)	1. Never 2. Once 3. 2-3 times 4. 4-5 times 5. More than once a week

SECTION 2 : SOCIO-ECONOMIC CHARACTERISTIC

No.	QUESTIONS, INSTRUCTIONS AND FILTERS	RESPONSES
201	For how long have you been working as a teacher ?	Number of years _____ Number of Months_____
202	What is your monthly income	_____Kwacha.
203	In what salary scale are you?	ESS_____
204	What is the highest professional qualification you have attained?	1. Pre-school Teachers' Certificate 2. Primary Teachers' Certificate 3. Diploma *(Basic or Secondary Teachers' Diploma)* 4. Advanced Diploma 5. Education Bachelor's Degree 6. Other Bachelors' Degree 7. Master's Degree 8. None
205	What position do you hold?	1. Class teacher 2. Senior teacher 3. Head of department 4. Deputy Head teacher 5. Head teacher 6. Other specify: _____

SECTION 3: ISSUES OF MALE CIRCUMCISION

The next set of questions is about circumcision. Circumcision for males means removal of the entire foreskin from the penis.

No.	QUESTIONS, INSTRUCTIONS AND FILTERS	RESPONSES
301	Have you heard of male circumcision?	1. Yes **[Continue]** 2. No **Go to 303]**
302	Where did you hear of male circumcision from?	1. On radio 2. Parents

No.	QUESTIONS, INSTRUCTIONS AND FILTERS	RESPONSES
		3. Relatives 4. On Television 5. On internet 6. Posters 7. Health center 8. Health worker 9. Friends 10. Newspapers 11. Books 12. School 13. Other (Specify)_____
303	**MEN:** Is circumcision practiced in your tribe? **WOMEN:** Is circumcision practiced in your spouse/partners' tribe?	1. Yes 2. No 3. Don't Know
304	Some men are circumcised **MEN:** Have you been circumcised? **WOMEN:** Is your spouse/partner circumcised?	**1.** Yes **[continue]** **2.** No **[Go to 310]** 3. Don't Know **[Go to 310]** 4. [Women] Don't have partner **[Go to 310]**
305	**MEN:** When were you circumcised? **WOMEN:** When was your spouse/partner circumcised?	1. Record date Day | Month | Year 2. I Don't know
306	**MEN:** Who performed your circumcision? **WOMEN:** Who performed your spouse/partner's circumcision?	1. Medical provider 2. Traditional provider 3. Other (specify:_____) 4. Don't know
307	Where did the circumcision take place?	1. Hospital 2. Traditional setting 3. NGO Male Circumcision Centre 4. Don't know
308	**MEN:** Who influenced your circumcision? **WOMEN:** Who influenced your spouse/partner's circumcision?	1. Own choice 2. Parent's decision 3. Spouse 4. Peers 5. Don't know 6. Other (Specify_____)
309	**MEN:** What was the main reason(s) you were circumcised? **WOMEN:** What was the main reason(s) your spouse/ partner was circumcised? [circle <u>all that apply</u>]	1. Tradition 2. Religion 3. Prevention of STIs 4. Prevention of HIV 5. Hygiene/Cleanliness 6. Sexual satisfaction/sexual performance 7. Appearance of penis 8. Prevention of penile cancer 9. Don't know

No.	QUESTIONS, INSTRUCTIONS AND FILTERS	RESPONSES
		10. Other (Specify)_____
310	If circumcision was safe and affordable **MEN:** Would you… **WOMEN:** would you want your husband/partner to…	1. Definitely be circumcised **[Go to 312]** 2. Probably be circumcised**[Go to 312]** 3. Probably not be circumcised **[continue]** 4. Definitely not be circumcised**[continue]**
311	**MEN:** Why would you not want to be circumcised? (circle <u>all that apply</u>) **WOMEN:** Do not answer this question, continue to next question	1. I don't believe in its benefit 2. It is against my cultural or religious beliefs 3. The cost of the medical procedure would be too much for me 4. I would need more information 5. I would fear being circumcised 6. Other (specify:_____)
312	**WOMEN:** If you would choose, would you prefer a male sexual partner who was circumcised or uncircumcised?	1. Circumcised 2. Not circumcised 3. Don't know/ no preference 4. Not applicable; I don't have sex with men
313	If male circumcision were offered free at a hospital, would you want your son to:	1. Definitely be circumcised **[continue]** 2. Probably be circumcised **[continue]** 3. Probably not be circumcised **[Go to 315]** 4. Definitely not be circumcised**[Go to 315]**
314	How much would you be willing to pay for circumcision services, if at all?	1. Not willing to pay at all 2. Up to K100,000 3. Up to K200,000 4. Up to K300,000 5. More than K300,000 6. Don't know
315	Do you know where an individual can go where safe affordable circumcision is performed?	1. Yes 2. No

SECTION 4: WHAT IS YOUR OPINION ON THE FOLLOWING ASPECTS OF MALE CIRCUMCISION?

This set of questions has to do with your opinion over a number of aspects about male circumcision. **(***Please tick only in one box on each aspect)*

	Aspect	**Strongly disagree**	**Disagree**	**Not sure**	**Agree**	**Strongly agree**
401	Circumcision fully protects from contracting HIV/AIDS					
402	Circumcision provides a better penile hygiene					
403	Circumcision reduces sexual sensitivity					
405	Circumcision increases sexual sensitivity					
406	Circumcision leads to infertility					
407	Circumcision is a painful					

	Aspect	Strongly disagree	Disagree	Not sure	Agree	Strongly agree
	operation					
408	Circumcision wounds take more than 2 months to heal					
409	Circumcision results into death in most times					
410	Circumcision causes massive bleeding					
411	Circumcision diminishes sexual satisfaction					
412	Circumcision provides good penis appearance					
413	Circumcision is extremely bad					
414	Men who are circumcised have lower chances of getting HIV/AIDS and STIs.					
415	Circumcision would prevent penile cancer					
416	Circumcision improves the erectile function of the erectile function of the penis thereby avoiding premature ejaculation					
417	Circumcision increases sexual enjoyment in men					
418	Circumcision increases sexual enjoyment in women					

SECTION 5: PERCEIVED BENEFITS AND THREATS OF MALE CIRCUMCISION

No.	QUESTIONS, INSTRUCTIONS AND FILTERS	RESPONSES
501	Would you encourage men to go for male circumcision?	1. Yes 2. No
502	What are some of the reasons for your answer to Q501 above?	_____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____
503	What are some of the things that can be done to encourage more men to go for circumcision?	_____ _____ _____ _____

		_____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____

THE END – THANKYOU FOR YOUR COOPERATION AND PARTICIPATION

Appendix: 2

FOCUSED GROUP DISCUSION

1. INTRODUCTION

a. My names are Liholosi Lisulo, a Post graduate student doing Masters in Population Studies. I am researching on knowledge, attitudes and practices of teachers about male circumcision as a method of HIV prevention.

   I would also like you to introduce yourselves by way of name and what position you have in the school

b. We shall start by establishing the ground rules for our meeting so that it is orderly and focused. (*Participants bring out the ground rules)*

2. DISCUSSION QUESTIONS

Now we shall have a discussion on a few issues relating to the topic at hand and I would like each one to be free to express your opinion because every idea will be important.

a. What is male circumcision?
b. If you look back, where did you first learn about male circumcision from?
c. Do you know of any teacher who has come out to declare that he is circumcised?
d. In your opinion, what kind of people are circumcised?
e. What are the benefits and threats of male circumcision?
f. Have you heard of male circumcision centers? If yes which ones?
g. Where did you learn about the centers from?
h. What factors would influence teachers to go or not to go for male circumcision?
i. How much would you be willing to pay for the service?
j. What recommendations would you make for male circumcision to be up scaled among the teachers?

3. CONCLUSION

I would like to thank each one of you for your valuable contributions and time. The discussion is closed.

Appendix: 3

INTERVIEW GUIDE WITH KEY INFORMANTS

(Head teachers, Guidance teachers and Guidance Officers at district and provincial Education Offices)

My names are Liholosi Lisulo a Post graduate student doing Masters in Population Studies. I am researching on knowledge, attitudes and practices of teachers about male circumcision as a method of HIV prevention.

Please be frank in your responses as this interview is in confidence and none of the responses will be attributed to you in person.

1. Are there teachers who consult you on issues of male circumcision?
2. Can issues of male circumcision be discussed freely in the school?
3. Are there any deliberate talks on issues of male circumcision in the school?
4. Are there any organizations that have come specifically to talk about issues of male circumcision?
5. What advice would you give to someone who is inquiring whether or not to go for male circumcision?
6. In your opinion what are the benefits of circumcision?
7. In your opinion what are the threats to circumcision?
8. What factors would influence teachers whether or not to go for male circumcision?
9. Are there any male circumcision centers that you know? If yes which ones?
10. What recommendations would you give in order to scale up male circumcision among teachers?

Appendix 4: Global Recommendations on Male circumcision

i. Male circumcision should now be recognized as an efficacious intervention for HIV prevention.
ii. Promoting male circumcision should be recognized as an additional, important strategy for the prevention of heterosexually acquired HIV infection in men.
iii. Male circumcision should never replace other known methods of HIV prevention and should always be considered as part of a comprehensive HIV prevention package, which include: 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 counselling services; and providing services for the treatment of sexually transmitted infections.
iv. Global, regional and national level 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.
v. Messages need to be developed to ensure that men opting for the procedure, and where possible, their partners are counselled that male circumcision is only partially protective and therefore they need to continue to use other effective measures of HIV prevention.
vi. Messages and counselling should stress that resumption of sexual relations before complete wound healing may increase the risk of acquisition of HIV infection among recently circumcised HIV-negative men and may increase the risk of HIV transmission to female partners of recently circumcised HIV-positive men. Men who undergo circumcision should abstain from sexual activity for at least six weeks after the operation. Ideally, medical inspection should be conducted to check that wound healing is complete. Thereafter, other HIV prevention strategies, including the correct and consistent use of male and female condoms, should be promoted and adhered to, as for uncircumcised men.
vii. 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. Messages should be addressed to both men and women.

viii. Clear messages should be developed to inform communities about what is known and what is not known about male circumcision, including lack of data on direct protection for women, or for either partner during anal sex with men or women.

ix. Countries and institutions promoting male circumcision for HIV prevention should ensure that it is promoted and delivered in a culturally appropriate manner that minimizes stigma associated with circumcision status.

x. Countries and international development partners should make resources available to support community and stakeholder consultations, involving traditional practitioners in places where they perform male circumcision to ensure engagement and participation of all relevant partners in the design of safe male circumcision programmes.

xi. The socio-cultural implications of male circumcision should be assessed at national and local levels with the participation of key stakeholders and taken into account in the design and implementation of policies and programmes.

xii. Countries should ensure that male circumcision is provided with full adherence to medical ethics and human rights principles. Informed consent, confidentiality and absence of coercion should be assured.

xiii. Where male circumcision is provided for minors (young boys and adolescents), there should be involvement of the child in the decision-making and the child should be given the opportunity to provide assent or consent, according to his evolving capacity. Depending on the local laws, some mature minors may be able to give independent informed consent. Parents who are responsible for providing consent, including for the circumcision of male infants, should be given sufficient information regarding the benefits and risks of the procedure in order to determine what is in the best interests of the child.

xiv. Before policy makers and programme developers promote male circumcision for specific population groups, they should justify the reasons after conducting an analysis of the ethical and gender implications; this analysis should be conducted in consultation with members of such population groups, stakeholders and other critical decision makers.

xv. Countries considering the introduction or expansion of male circumcision services for HIV prevention should ensure that appropriate laws, regulations and policies are developed so that male circumcision services are accessible, provided safely and without discrimination.

xvi. Policy makers and programme managers should maximize the opportunity that male circumcision programmes afford for education and behaviour change communication, promoting shared sexual decision-making, gender equality, and improved health of both women and men.

xvii. Policy makers and programme developers should adopt approaches to the scale-up of male circumcision services that include the goals of changing gender norms and roles and promoting gender equality; programme managers should monitor and minimize potential negative gender-related impacts of male circumcision programmes.

xviii. Male circumcision service provision should be used as an opportunity to address the sexual health needs of men, and such services should actively counsel and promote safer and responsible sexual behaviour.

xix. Countries with hyper endemic and generalized HIV epidemics and low prevalence of male circumcision should identify priority geographic settings where male circumcision is likely to have the greatest impact on the HIV epidemic and progressively expand access to safe male circumcision services within the context of ensuring universal access to comprehensive HIV prevention, treatment, care and support.

xx. Countries with hyper endemic and generalized HIV epidemics and low prevalence of male circumcision should consider scaling up access to male circumcision services as a priority for adolescents, young men, and as indicated by the local epidemiology and other considerations, older men at particularly high risk of HIV.

xxi. Since neonatal circumcision is a less complicated and risky procedure than circumcision performed in young boys, adolescents or adults, such countries should consider how to promote neonatal circumcision in a safe, culturally acceptable and sustainable manner.

xxii. Countries with other HIV epidemic situations should carefully consider the potential impact that promoting male circumcision and expanding safe circumcision services will have on their HIV epidemic.

xxiii. Careful monitoring and evaluation of male circumcision service delivery for possible untoward effects such as increases in unsafe and unprotected sex and increases in sexual violence should be undertaken to ensure that programmes promoting male circumcision for HIV prevention meet their desired objectives.

xxiv. Male circumcision services should not be delivered in isolation, but as part of a recommended minimum package which includes information about the risks and benefits of the procedure, counselling about the need to adopt and maintain safer sex practices, access to HIV testing, condom promotion and provision, and the management of sexually transmitted infections.

xxv. Needs assessments should be undertaken to describe and map out the anticipated scope of male circumcision scale-up, human resource and training needs, infrastructure, commodities and logistic requirements, costs and funding, and systems for monitoring, evaluation and follow-up.

xxvi. Training and certification of providers should be rapidly implemented to increase the safety and quality of services in the public and private sectors.

xxvii. Supervision systems for quality assurance should be established along with referral systems for the management of adverse events and complications.

xxviii. Information on traditional practices is required and ways should be found to engage traditional practitioners to improve the safety of their services and counselling on sexual and reproductive health.

xxix. Appropriate service delivery models depend on the context and should be determined locally.

xxx. If vertical programmes are established in order to rapidly expand access to safe male circumcision services, there should be a clear strategy to ensure that these services are integrated into strengthened health systems as soon as it is feasible.

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

xxxii. Bilateral and multilateral donors should consider male circumcision as an important, evidence- based intervention for HIV prevention and allocate resources accordingly.

Countries that decide to promote male circumcision for HIV prevention should ensure that existing resources are used as efficiently as possible and that sufficient resources are allocated to establish services that will be sustainable for the long term. Based on the current available evidence, male circumcision is not recommended for HIV positive men as an intervention to reduce HIV transmission to women.

xxxiii. If medically indicated, male circumcision should be provided to all men irrespective of HIV status.

xxxiv. If male circumcision is requested by men with HIV infection following in-depth counselling on the known risks and benefits, it should not be withheld unless it is medically contraindicated.

xxxv. HIV testing should be recommended for all men seeking male circumcision, but should not be mandatory.

xxxvi. Further research should be conducted to clarify the risks and benefits of male circumcision with regard to HIV transmission from HIV-positive men to women, for men who have sex with men and in the context of heterosexual anal sex. The safety of male circumcision in HIV positive men should be studied further.

xxxvii. 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 counselling methods, and to document changes in HIV-related individual and community perceptions and behaviours.

xxxviii. More information should be gathered on the resource needs required to expand safe male circumcision services.

xxxix. Other potential benefits or risks of male circumcision, including the potential protective effects of male circumcision on other sexually transmitted infections, should be investigated.

xl. Simpler and safer methods for performing male circumcision in resource-limited settings, including the use of suture-less, blood-free procedures and devices, need to be developed and assessed (WHO, UNAIDS, 2007).