MALE CIRCUMCISION AS A MEANS OF HIV/AIDS PREVENTION IN LUSAKA URBAN: AN ETHICAL EVALUATION

A Dissertation Submitted to the University of Zambia in Partial Fulfillment of the Requirements of Degree of Master of Arts in Applied Ethics

By

KABWE KENNEDY

The University of Zambia

2012
Declaration

I, Kabwe Kennedy, declare that this dissertation:

(a.) Represents my own work;
(b) Has not previously been submitted for a degree at this or any other University;
and
(c) Does not incorporate any published work or material from another dissertation.

Signed: .................................................................
Date: .................................................................
Approval

This dissertation of Kabwe Kennedy is approved as fulfilling the partial requirements for the award of the Degree of Master of Arts in Applied Ethics by the University of Zambia.

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Abstract

The study focuses on male circumcision as a means of HIV/AIDS prevention. The aim of this study is to evaluate male circumcision as a means of HIV/AIDS prevention from an ethical point of view, with specific focus on Lusaka Urban. Primary data were collected through the use of questionnaires and interviews with health practitioners and circumcised males, who were the researcher’s main sources of primary data. Secondary data were obtained from relevant literature related to this study at the University of Zambia main library, the Department of Philosophy, text books, research papers, the internet, newspapers and journals. The analysis of data commenced during the data collection exercise by organizing field notes according to themes in relation to the objectives of the study. This was followed by identification, description, explanation and interpretation of the emerging themes and response categories in the context in which they occurred. The findings reveal that the rate of HIV prevalence in Lusaka is very high estimated at 17.4% in 2007. The findings further show that male circumcision is on the preventive side in terms of HIV transmission. It is for this reason that the study has demonstrated that with the necessary mechanisms in place, initiatives being adopted by the Zambian government through the Ministry of Health to expand male circumcision could represent a valuable new aspect of global HIV prevention efforts, and save millions of lives. However, the findings also recognize that male circumcision is not a ‘magic bullet’ against HIV and so, continued focus on proven HIV prevention measures, such as abstinence, being faithful to one sexual partner, the promotion of condom use, HIV testing and counseling must not be sacrificed. Arising from the implications of the findings of this study, the researcher has recommended that the research be extended to other provinces in order to have much more comprehensive research covering a bigger number of the population. This is so because the current study is only a preliminary one that just gives an idea of male circumcision as a means of HIV/AIDS prevention from an ethical point of view.
Dedication

To all my family members.
Acknowledgements

First I would like to praise and give honour to God who helped me throughout my time of carrying out this study. I would also like to extend a deep and sincere debt of gratitude to my supervisor, Professor George Spielthenner for his continuous and constructive corrections. His valuable suggestions and generous guidance enriched this study at every stage of it. I am also indebted to Professor Clive Dillon-Malone, the programme coordinator and Dr. Anthony Musonda, the Head of Department, for their ever availability and wise suggestions and encouragement.

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My last, but not the least appreciation, goes to all my family members, for their patience, continuous encouragement, support and prayers.
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<th>Acronym</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>ABC</td>
<td>Abstinence, Be faithful to your partner, and Condoms</td>
</tr>
<tr>
<td>AIDS</td>
<td>Acquired Immune Deficiency Syndrome</td>
</tr>
<tr>
<td>ARV</td>
<td>Anti-Retro-Viral (therapy)</td>
</tr>
<tr>
<td>CDC</td>
<td>Centres for Diseases Control and Prevention</td>
</tr>
<tr>
<td>CoH</td>
<td>Corridors of Hope</td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immune Deficiency Virus</td>
</tr>
<tr>
<td>HPCZ</td>
<td>Health Professions Council of Zambia</td>
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<tr>
<td>HPV</td>
<td>Human Papilloma Virus</td>
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<tr>
<td>HSV</td>
<td>Genital herpes Simplex Virus</td>
</tr>
<tr>
<td>MC</td>
<td>Male Circumcision</td>
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<tr>
<td>MDGs</td>
<td>Millennium Development Goals</td>
</tr>
<tr>
<td>MoH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>MoHSS</td>
<td>Ministry of Health and Social Services (Namibia)</td>
</tr>
<tr>
<td>NAC</td>
<td>National AIDS Council</td>
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<tr>
<td>PID</td>
<td>Pelvic Inflammatory Disease</td>
</tr>
<tr>
<td>PMTCT</td>
<td>Prevention of Mother-to-Child Transmission</td>
</tr>
<tr>
<td>RCT</td>
<td>Randomized Controlled Trials</td>
</tr>
<tr>
<td>SFH</td>
<td>Society for Family Health</td>
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<tr>
<td>SPSS</td>
<td>Statistical Package for the Social Sciences</td>
</tr>
<tr>
<td>STD</td>
<td>Sexually Transmitted Disease</td>
</tr>
<tr>
<td>STI</td>
<td>Sexually Transmitted Infections</td>
</tr>
<tr>
<td>TWG</td>
<td>Technical Working Group</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
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<tr>
<td>UNAIDS</td>
<td>United Nations Program on HIV/AIDS</td>
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<tr>
<td>UNZA</td>
<td>University of Zambia</td>
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<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
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<td>UTH</td>
<td>University Teaching Hospital</td>
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<tr>
<td>VMMC</td>
<td>Voluntary Male Medical Circumcision</td>
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<tr>
<td>WHO</td>
<td>World Health Organisation</td>
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<tr>
<td>ZDHS</td>
<td>Zambia Demographic Health Survey</td>
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CHAPTER 1: INTRODUCTION

This chapter gives an overview of male circumcision as a means of HIV/AIDS prevention in Lusaka urban. As a way of procedure, the chapter begins by giving background information on HIV/AIDS and making explicit the main concepts employed in this study. Later, the chapter explains the statement of the problem, the objectives, research questions and the significance of the study.

1.1 BACKGROUND

The practice of male circumcision is not a new phenomenon in Zambia because some ethnic groups such as the Luvale and Lunda speaking people of Western and North-Western parts of the country practice it. Nevertheless, many people in Zambia do not support or practice male circumcision for religious and traditional reasons.

According to Loosli (2004: 22), the word ‘circumcision’ has its roots in two Latin words: circum which means “around” and coedere which literally means “to cut”. The word circumcision is a combination of these two concepts; it means to “cut around” surgically. As such, circumcision has come to refer to a procedure that removes some or all the prepuce or foreskin of the penis early in childhood or later as an adult. Generally, male circumcision is practiced in most parts of the world for various reasons and at different stages of life such as shortly after birth, adolescence or adulthood. At times it can be done for health or hygienic reasons. Nevertheless, medical reasons are not the only reasons that people have found and continue to find as compelling for the practice of male circumcision. At other times, male circumcision is done for social, cultural or religious reasons. In Africa, male circumcision is typically practised as a rite of passage to mark the transition from boyhood to manhood and male circumcision is generally a cultural surgical procedure (Doyle: 2005).

HIV stands for ‘Human Immuno Deficiency Virus’. This virus can cause AIDS. HIV is a slow-acting virus in that it is possible for a person to be infected with HIV for many years without knowing it or feeling ill. According to UNAIDS (2008: 38), HIV is a systemic viral condition that weakens the body's ability to fight infections. AIDS, a disease or condition caused by HIV, stands for ‘Acquired Immuno Deficiency Syndrome.’ It is the last stage of HIV infection. ‘Immune Deficiency’ means that the immune system, which protects the body from infections, does not
function properly. AIDS is the most dangerous Sexually Transmitted Disease (STD), affecting people of all ages (UNAIDS 2008: 14). Since the beginning of the HIV epidemic, 60 million people have been infected with the HIV, and 25 million people have died from HIV related causes world over (UNAIDS, 2008). HIV is found in bodily fluids. It is most prevalent in blood, semen, vaginal secretions, and breast milk. HIV cannot be transmitted through casual contact. But HIV can be transmitted by sexual contact with an infected person during anal and vaginal intercourse as well as exposure to contaminated blood through sharing or accidental exposure to contaminated needles, injecting illicit drugs, transfusion of contaminated blood products, accidental pricks while providing health care to patients, maternal-foetal transfer and breast feeding (Kamaara, 2005: 18).

Most people infected with HIV are usually not ill. Some of them live without symptoms for more than 10 years. A ‘carrier’\(^1\) can host the virus and pass it on to other people without knowing it. Once the virus is established in the body, the chances of getting AIDS increase. The virus is continually reproduced after it enters the body and ultimately this overwhelms the immune system and weakens the body's ability to fight lethal infections and cancers (Agadian 2005: 46).

Some of the frequently reported symptoms of HIV infection include: constant or rapid unexplained weight loss of more than 4.5 kilograms in two months; lack of appetite, unexplained long-lasting diarrhoea or bloody stools, constant fatigue that is not associated with physical activity or mental depression, persistent fevers, night sweats, dry cough or difficulty in breathing for more than two weeks, light-headedness, dizziness, mental disorders, a thick, whitish coating of yeast on the tongue or mouth that cannot be scraped off (this is called thrush), severe or recurring vaginal yeast infections and chronic pelvic inflammatory disease (PID), purplish growths or blotches on or under the skin, inside the mouth, or on the nose, eyelids, or rectum, swollen glands or enlarged lymph nodes in the neck, armpits, or groin for more than a month (Cook, 2005: 48). Many HIV/AIDS symptoms are similar to those of tuberculosis, influenza, pneumonia, minor yeast infections, and other STDs. Basically healthy people tend to ignore such symptoms until they are ill enough to seek medical care (ibid: 45). The antibodies to HIV develop weeks after infection, and blood tests cannot detect the presence of the virus before that time. HIV antibodies generally do not reach noticeable levels in the blood for an average of 1 to 3 months following infection and it may take antibodies even longer to be produced in quantities large enough to show up in a standard blood test. However, the person may already have high levels of HIV in their blood,

\(^1\) That is, a person infected with HIV.
sexual fluids or breast milk. Also, even after detecting the virus in the body a person can still live long without showing any symptom of HIV/AIDS.

The Sub-Saharan African region, into which Zambia falls, is the most affected with the spread of HIV and AIDS related deaths. According to estimates of the year 2011, 33.4 million people are living with the virus in the region. HIV prevalence in Zambia is estimated at 14.3%. Due to HIV treatment in the region and other developing nations, annual deaths from HIV are declining globally from 2.2 million in 2004 to 2 million in 2008. This is attributed largely to the scaling up of antiretroviral (ARV) therapy (Food and Agriculture Organization of the United Nations 2003: 10). This prompted Dr. Brian Chituwo, then Minister of Health in 2009, speaking at the launch of One Love ‘Kwasila’ Campaign, to declare that “… we have over 200,000 people living with HIV on ARVs … the message on prevention is now more important and relevant than ever before….“ (Chituwo, 2009).

The most affected group of the Zambian population are the youths within the range of 14 to 19 years. Children have also been much affected by the AIDS pandemic in Zambia. According to USAIDS (2006), there were 600,000 AIDS orphans in the country, thousands of whom were abandoned due to stigma or lack of resources, while others ran away because they had been mistreated and abused by their foster families.

AIDS has had a negative impact on the family and community life. It has also had a negative impact on the economic and social development of the country. The agricultural sector, which is one of the strongest bases of the country’s economy, has also not been spared by the pandemic. The Food and Agricultural Organisation of the United Nations (2003: 10) reports that all dimensions of food security—that is, availability, stability, access to and utilisation of food—are affected due to the high prevalence of HIV/AIDS. Cimperman (2005: 26) in her research rightly observes that the presence of HIV and AIDS has catastrophic effects on the infrastructure of nations and peoples. She further observes that falling life expectancy, large numbers of orphans, economic and business losses due to employee sickness, death and the destruction of family and community structures, undermine the overall development of nations. Kalyondo reports that the Zambian Business Coalition confirms in 2007 that 82% of known causes of employee deaths are HIV related, and only 18% of the staff is recruited to replace people who have died or left because of HIV related infections (Kalyondo 2009: 33).

In addition, informal institutions and customary or traditional practices have also been affected by HIV and AIDS (ibid: 56). Traditional safety mechanisms of caring for the orphans, the
elderly, the infirm and the destitute have been broken down due to the pandemic. Extended family and kinship systems together with mechanisms of transferring knowledge, values and beliefs from one generation to the next have been disrupted and social organisation undermined due to the wide spread of loss of active adults by AIDS.

HIV has also affected the education sector, making the attainment of “Education for All by 2015”, as enshrined in the Millennium Development Goals (MDGs), as it is difficult, if not almost impossible to accomplish. Many children do not attend school because their parents or guardians suffer from AIDS or have died from it. Kelly (2008) argues that, the epidemic has had a devastating effect on teachers, educators and educational administrators and that the education sector has experienced mortality and morbidity rates that are higher than those in the general population. For example, in the year 2000 alone, more than 2,000 teachers died throughout the country, while teachers’ training colleges produced only less than a thousand new graduates. Both children and teachers attending school face challenges coping with AIDS related illnesses, stress and malnutrition, making learning and teaching very difficult.

As can be seen from the above, HIV/AIDS has affected almost all households, communities and societies to such an extent that responses to mitigation or removal of these effects require the concerted effort of all stakeholders, mainly the government, the informal sector and religious institutions. HIV/AIDS education for prevention should continue to be a priority, with emphasis on sex and sexuality education being critical components of such programmes.

It is more than thirty years since the world launched the fight against HIV/AIDS. Politicians, traditional leaders, scientists, humanitarians, religious people, and many others have since been involved in this struggle in order to combat its impact on the population and the economy worldwide.

In the absence of a cure or vaccine, preventive programmes have been the mainstay of both the secular and religious institutions. The two institutions have worked together in providing the necessary information through preventive education programmes. A widely accepted preventive strategy has been the ABC model: A- Abstinence, B- Be faithful to your partner, and C- Condoms (Cimperman 2005: 47).

In addition to the ABC model in the fight against HIV/AIDS, male circumcision has been proposed as another means of HIV/AIDS prevention. Before the twenty-first century the question of male circumcision was not a problem because it was considered to be culturally or religiously bound. However, today researchers are considering it to be one of the effective measures of
HIV/AIDS prevention (Szabo and Short 2008: 86). Alanis and Lucidi (2004: 18) attest to the fact that male circumcision reduces the chances of HIV infection and they add that there is overwhelming evidence from ecological and biomedical studies in many African countries that male circumcision is highly effective in reducing HIV transmission to men.

During the 16th World Health Organisation (WHO) International Conference held in Addis Ababa, Ethiopia, 14 Eastern and Southern African countries revealed a steady progress in voluntary male medical circumcision (VMMC) as a means of HIV/AIDS prevention. They indicated that by the middle of 2011, more than 1.2 million males had undergone the procedure. To this effect, a number of countries in Africa such as Rwanda have embarked on a programme of massive male circumcision to save the population from HIV/AIDS infections (WHO/UNAIDS/UNICEF 2011).

In line with what has been stated above, Zambia has launched a ten-year program to circumcise more than 2.5 million men in an effort to curb HIV/AIDS. The UNAIDS report (2010), indicated that universal male circumcision in Sub-Saharan Africa could prevent 5.7 million new infections and three million deaths over 20 years. From the way things are going, male circumcision may soon become obligatory in Zambia. Therefore, it appears necessary to investigate male circumcision as a means of HIV prevention with the view to establishing its ethicality so that the Zambian population is well informed.

This is particularly important because, the effort faces challenges from religious groups and others who say there is not enough evidence to support that circumcision curbs AIDS. One of the sceptics is James Mwamba, an activist in the capital of the Northwestern Province of Zambia (Solwezi). He maintains that “if you go to areas where circumcision is practiced, you still find a good number of people that are HIV positive. We have seen an increase in people seeking the service, but it’s mostly for hygiene reasons” (Kalyondo 2009: 38).

1.2 STATEMENT OF THE PROBLEM

While male circumcision is alleged to be an effective new intervention in the fight against HIV and AIDS, it has provoked debate from different stakeholders. Some have ethical objections against male circumcision in general and have criticized it as deeply misguided, harmful and unethical. There are many conflicting views concerning male circumcision as a means of preventing HIV/AIDS.
Despite the fact that there is no scientific consensus regarding the practice of male circumcision as a means of HIV/AIDS prevention in Zambia, the Zambian government, through the Ministry of Health, has forged ahead with the operation in an attempt to curb HIV/AIDS infections among its citizens. But the moral or ethical background of such a decision has not yet been made known through sensitization in order to help people make informed decisions should they decide to undergo male circumcision. Informed decisions are required because male circumcision has its advantages and disadvantages.

Additionally, due to lack of sufficient information, some people feel compelled to ensure that their male children undergo circumcision while they are still young so that they are free from HIV/AIDS infections, a situation which may eventually make the practice obligatory, rather than being a matter of choice. For these reasons, this study seeks to evaluate the ethicality of male circumcision as a means to HIV/AIDS prevention. Stated as a question, the problem that will be evaluated is: From an ethical point of view, what types of male circumcision (if any) are ethically acceptable?

1.3 AIM AND OBJECTIVES OF THE STUDY

1.3.1 Aim of the Study
The aim of this study is to evaluate male circumcision as a means of HIV/AIDS prevention in Lusaka Urban from an ethical point of view.

1.3.2 Objectives
The objectives of the study are:

i. to explain the debate on male circumcision as a means of HIV/AIDS prevention.

ii. to present a detailed explanation of the advantages and disadvantages of the different kinds of male circumcision that are practiced in Lusaka urban.

iii. to compare, from an ethical point of view, the different types of male circumcision practised in Lusaka urban.

iv. to make recommendations on male circumcision practices in the Zambian context.

1.3.3 Research Questions
The research questions of this dissertation are:

i. what is the debate on male circumcision as a means of HIV/AIDS prevention?
ii. what are the advantages and disadvantages of the different kinds of male circumcision practiced in Lusaka urban?

iii. from an ethical point of view, what types of male circumcision should be practiced in Lusaka urban?

iv. what recommendations can be made on male circumcision practices in the Zambian context?

1.4 SIGNIFICANCE OF THE STUDY

The significance of this study is based on the new discovery of science that circumcision is an effective means of prevention of the transmission of the HIV. Some studies have been carried out on strategies for prevention of sexual transmission of HIV and AIDS among adolescents (Mbugua, 2004), Youth Sexuality and HIV/AIDS, (Kamaara, 2005), Devastating Effects of HIV/AIDS on children (Kelly, 2008) and Sex and HIV/AIDS among high school girls. It must be noted from the outset that to date no study has been conducted about ethical issues in relation to male circumcision as a means of HIV/AIDS prevention in Lusaka urban. This study, therefore, intends to evaluate the practice of male circumcision strategies with a view to generate enough new information that will help Zambians to reach an informed decision on how to use the most appropriate types of male circumcision in the prevention of HIV infections and avoid risky behaviours which may lead to contracting HIV/AIDS. As such, this study has five potential audiences: The Zambian government, The Ministry of Health, Medical Practitioners, Researchers, and the Zambian citizenry in general.

The findings of this study will widen the scope of the existing knowledge about male circumcision as a means of HIV/AIDS prevention. Particularly, it will provide new information on the subject under evaluation. The document may therefore serve as a reference to the Ministry of Health, principally in terms of health policy making. Secondly, having such knowledge available may provide health practitioners and the Zambian general public with the much needed insight into the ethical position of male circumcision as well as its advantages and disadvantages so as to be in a better position to make an informed decision should someone decide to undergo male circumcision. All in all, this study could act as a catalyst for researchers’ further enquiry.
CHAPTER 2: METHODOLOGY

This study is an ethical evaluation of male circumcision as a means of HIV/AIDS prevention in Lusaka urban and this chapter describes the methodology used and the limitations of the study. Since ethical evaluations rely on empirical data, this study employs both an empirical method and a philosophical method. In what follows, I shall first describe the empirical method used in this dissertation and then the method I have employed in my ethical assessment.

2.1 THE EMPIRICAL METHOD

2.1.1 Study Area and Sample Size
The study area comprised ten (10) circumcision service centres in Lusaka urban from both public and private institutions as eligible for inclusion in the study. These included Matero Referral Clinic, University Teaching Hospital (UTH), Young Women’s Christian Association (YWCA) Society For Family Healthy, Kanyama Clinic, University of Zambia Clinic (UNZA), Chelstone Clinic, Marie Stopes, Chipata Compound Clinic, Chinika Clinic and Chachacha Road Society for Family Healthy Centre. From each study area, a purposive sample of at least five (5) health practitioners of varying social variables such as rank, age, sex and background were considered for the study. A total sample of one hundred (100) circumcised male respondents from the study area were also interviewed in this study.

2.1.2 Sampling Techniques
Locke et al. (1987: 64) refer to sampling as “the process of selecting a portion of the population to represent the entire population.” Both convenience and purposive sampling techniques were employed to obtain samples from each of the ten (10) study areas to warrant a selection of information-rich cases from which the researcher learnt a great deal about the issues of central importance to the purpose of the study.

The researcher also applied methodological triangulation technique both in the collection and analysis of data. Methodological triangulation involves the conscious combination of quantitative and qualitative methodologies as a powerful solution to strengthen a research design where the logic is based on the fact that a single method can never adequately solve the problem of rival causal factors (Denzin, 1978 and Patton, 1990).

Thus, both the quantitative and qualitative methods were applied in this study. The quantitative method allowed the researcher to collect the data from the respondents in numerical
format, to exercise objective judgment, to achieve a high level of reliability and accuracy. Employing quantitative method allowed the researcher to arrive at more objective conclusions by minimizing subjectivity of judgment.

Employing the qualitative method allowed the researcher to collect the primary data in a flexible, non-structured way that allowed for the emergence of new information and interpretations of male circumcision as a means to HIV/AIDS prevention in Lusaka urban and to obtain a more realistic and hands-on feel of the world that cannot be experienced in the numerical data and statistical analysis used in quantitative research.

The qualitative method allowed the researcher to describe respondents’ perceptions of male circumcision more accurately and thoroughly. The researcher engaged in actual interaction with health practitioners and circumcised males through interviews. The respondents provided more authentic and open answers because both groups had the real experience. The interviews that were conducted with the respondents helped the researcher to determine a more holistic nature of male circumcision as a means of HIV/AIDS prevention in Lusaka urban. The respondents explained their understanding of the different types of male circumcision practiced in Lusaka urban as well as the advantages and disadvantages of the available types. They provided concrete examples of their experience of male circumcision in relation to HIV transmission. This method has been supported by Aguma (1995: 73) who observes that “qualitative research methods can give valuable insight into the local situation and people’s feelings and can help ascertain how local culture and beliefs affect human behavioural patterns.” Since qualitative research assumes the value of context and setting, it searches for a deeper understanding of the participants’ lived experiences of the phenomenon.

The researcher experienced a number of advantages by applying both methods in this ethical evaluation study. Quantitative methods ensured high levels of reliability of gathered data. The qualitative method permitted the obtaining of more in-depth information about how the respondents perceive male circumcision as a means of HIV/AIDS prevention. The use of different research methods allowed building on the strengths of each method and minimizing their weaknesses. The weaknesses of the quantitative method, such as failure to provide information about the context of the situation, inability to control the environment, and pre-determined outcomes, were compensated by interaction with the research participants during interviews as well as learning about the context and uncovering new research themes.
The weaknesses of the qualitative method, such as departing from the original objectives of the research, excessive subjectivity of judgment, and high requirements for the experience of the researcher, were compensated for by clearly stating the research problem, cross-checking with the results of the statistical analyses, and the theoretical foundation of the research.

Methodological triangulation was considered appropriate for this study because it aimed at evaluating male circumcision as a means to HIV/AIDS prevention in Lusaka urban from an ethical point of view. Thus, the technique was used to allow the researcher to come up with valid and well substantiated ethical conclusions about the state of male circumcision as a means of HIV/AIDS prevention in Lusaka urban.

2.1.3 Data Collection Procedure
The collection of data was done within the four weeks as was planned. The questionnaires were distributed to targeted respondents in the research areas. The questionnaires were self administered in order to have direct contact with the respondents and to ensure that questions received appropriate responses as well as making sure that the right persons answered them. The questionnaires were collected after three days. After collecting the questionnaires, the responses were categorized and enumerated. The researcher used desk review to review published and unpublished secondary data for related ideas.

This study employed convenience sampling for health practitioners. This procedure was appropriate to our study owing to the fact that the study targeted whichever organisation deals in male circumcision in Lusaka Urban. The purposive sampling targeted male respondents who have undergone male circumcision in order to collect specific answers through questionnaires and interviews in relation to the research questions at the centre of this study.
2.1.4 Types and Sources of Data

There are two types of data used in research, namely primary and secondary data. Locke et al. (1987: 99) stipulate that, “Primary data refer generally to information gathered or generated by the researcher for the purpose of the project at hand. These data are collected for the first time and the responsibility of processing it rests with the original investigator.” In other words, primary data are data that have not been generated by anyone else before but by the researcher. On the other hand, ‘secondary data’ refers to data that has already been collected by other people and are readily available in processed form such as articles, reports, theses, books and periodicals.

Primary data can further be classified into qualitative and quantitative data depending on the approach used. Quantitative data are data that represent a quantity of some sort: how much? how many? and how big? These questions demand numerical responses. Quantitative data are in numerical form and can be analysed with ease. Qualitative methods allowed us to stay to the empirical world. They were designed to ensure a close fit between the data and what people actually say and do. By observing people in their everyday lives, listening to them talk about what is on their minds, and looking at the documents they produced, the qualitative researcher obtained first-hand knowledge of social life unfiltered through concepts, operational definitions and rating scales.

For this study, both primary and secondary data were used. Primary data was collected through the use of questionnaires and interviews of health practitioners and circumcised males, who were the researcher’s main sources of primary data. Secondary data was obtained from relevant literature at the University of Zambia main library and the Department of Philosophy. Textbooks, research papers, the internet, newspapers and journals also provided secondary data on the literature related to this study. This data did not only provide the required deeper insight but also provided information on gaps in related works. The findings were analyzed and evaluated accordingly through the application of the Principle of the Lesser Evil and the Utilitarian theory.

2.1.5 Data Collection Instruments

The researcher used three sets of data collection instruments: Questionnaires, interviews (see Appendices A(i), A(ii) and B(i), B(ii) and desk review. The two sets of questionnaires and semi-structured interview guide were the instruments used for primary data collection. The questionnaires contained questions soliciting information on participants’ knowledge and experience of male circumcision as a means of HIV/AIDS prevention. These instruments provided
required answers to the research questions at the centre of this study. The two sets of questionnaires once developed were pre-tested. A pilot survey was conducted in Kamwala township (Lusaka) to test whether or not the questions were well phrased. No adjustments were made to the two sets of questionnaires, because the results of the pilot survey revealed that they were clearly understood.

2.1.6 Data Analysis
The analysis of data commenced during the data collection exercise by organizing field notes according to themes in relation to the objectives of the study. This was followed by identification, description, explanation and interpretation of the emerging themes and response categories in the context in which they occurred. The findings were also enumerated as has been reflected in Chapter Four on findings.

2.2 THE PHILOSOPHICAL METHOD

There are different methods used in Applied Ethics. In this study the researcher employed the deductive approach, which is also called the “Straight Forward Application Model,” or “Top-down Method of Applied Ethics.” This method ‘consists in the application of ethical theories or ethical principles to a certain problem with the aim to answering the ethical question of what ought to be done in connection with the problem’ (Spielthenner 2009: 29).

When the notion of ‘Applied Ethics’ gained a foothold in philosophy, it was widely presumed that general ethical theories were to be applied to particular moral problems or cases. In fact, it was this approach that gave ‘Applied’ Ethics its name. It is still one of the established methods in applied ethics, even though it has, as any method, limits and dangers (Beauchamp, 2003: 7-8).

According to this method, the ethical theory or ethical principle is the starting-point. The researcher applied the Principle of Lesser Evil and the Utilitarian theory to the study at hand in order to reach a conclusion about what should be done. On this view, an ethical evaluation of male circumcision as a means to HIV/AIDS prevention is equated with deductive reasoning that starts from the ethical principle and ethical theory at the centre of this study. This requires: i) a careful description of the case under consideration, ii) a clear definition of the ethical principles or theories that are intended to be applied, in order to see whether they are applicable to the issue; iii) the collection of empirical data that are required for applying the principles, and; iv) correct deductive
reasoning to make sure the principles together with the empirical data entail a judgement about what ought to be done in the study under consideration.

The principle and theory I have applied in this study are the Principle of the Lesser Evil and the theory of Utilitarianism. These are described in more detail in the Chapter on the Theoretical Framework, and their application is shown in the Chapter “Ethical Evaluation.”

2.3 LIMITATIONS OF THE STUDY

The study solely focused on ethical evaluation of male circumcision as a means of HIV/AIDS prevention in Lusaka urban. Succinctly put, the study measured and evaluated the types of male circumcision practiced in Lusaka urban in the light of the advantages and disadvantages of male circumcision from an ethical point of view. The other preventive measures such as abstinence and condom use were not part of this study.

One of the difficulties in this investigation was that the field work allowance was not given in good time. The researcher did not have money in time to meet the many financial challenges due to the fact that he was self-sponsored. Another limitation of this study is related to the method of data collection. The study was based on interviewing fifty (50) health practitioners and one hundred (100) circumcised males on their knowledge and experiences of male circumcision. As such, the sample involved was small and only ten health institutions were considered for this study. Therefore, the fact that the sample was small makes generalisations for health practitioners and the circumcised males to be made with caution.

Further, some of the clinics appearing on the official list at the provincial headquarters of the Ministry of Health as providing male circumcision surgeries have actually abandoned the practice, for instance, Cairo Road Centre. Therefore, the researcher opted for a sampling technique which could help acquire pertinent information. Thus, purposive sampling, a non probability sampling technique was applied. However, this technique demands generalisations of the study results to be done with caution.

Additionally, the fact that the study was limited to Lusaka Province, is another limitation. This means that the findings are limited to this particular study. In other words, the type(s) of male circumcision practiced in Lusaka urban as a means of HIV/AIDS prevention in Lusaka urban cannot serve as a basis to account for all types of male circumcision practiced country-wide.
2.4 ETHICAL ISSUES

This study deals with sensitive and personal issues involving sex. Therefore, it involves a number of ethical issues. In this respect, permission was sought from the HSS/Ed/Law/Inesor Research Ethics Committee and the Permanent Secretary for the Ministry of Health. At the beginning of each interview participants were informed about the purpose of the research and nature of the interview. Each participant was asked for their consent to participate in the interview. Participants were assured that confidentiality; privacy and anonymity were guaranteed and adhered to. They were further assured that they were at liberty to decline or accept to participate in the study.

2.5 SUMMARY

The chapter has presented the methodology which served as a backbone of this particular study. Particularly, it has highlighted the population investigated, the sampling techniques, instruments, data collection procedure and analysis. Further, it has discussed the limitations of the study and the ethical considerations. The next chapter presents the literature review of the study.
CHAPTER 3: LITERATURE REVIEW

This chapter presents a review of studies that have addressed the issue of male circumcision as a means of HIV/AIDS prevention. It provides a review of the available literature that is of direct relevance to this study in order to place this investigation within the context of similar studies. The review has been organized under the following sections: debate on male circumcision as a means of HIV prevention, historical background to male circumcision, statement by doctors opposing circumcision and the steps taken by 13 African countries on male circumcision as a means of HIV prevention.

3.1 DEBATE ON MALE CIRCUMCISION AS A MEANS OF HIV PREVENTION

3.1.1 Historical Background to Male Circumcision
The theory that male circumcision may be protective against HIV infection was invented and developed in North America. According to Professor Valiere Alcena, MD, he originated the theory that removing the foreskin can prevent HIV infection in an article in August 1986. The late Aaron J. Fink, MD, a noted North American advocate of male circumcision, then promoted Alcena's theory in letters to medical journals. North American Gerald N. Weiss, MD, who operates a website to promote circumcision, and others contributed to the development of the theory through a paper, which was published in Israel (1993), identifying the prepuce as a possible entry point for HIV (Weiss et al., 1993). North American circumcision enthusiasts have further promoted male circumcision with opinion pieces in medical journals (Halperin et al., 1999). Stephen Moses, Daniel T. Halperin, and Robert C. Bailey are other well-known North American promoters of male circumcision. However, they all agree that the effects of circumcision on male-to-female HIV transmission have not been extensively researched (Moses et al. 1994).

3.1.2 Statement by Doctors Opposing Circumcision
A number of medical doctors world over are however of the view that there have been a number of exaggerated claims made for the alleged efficacy of male circumcision in preventing female-to-male infection with the human immunodeficiency virus (HIV). This statement examines those claims and puts them in proper perspective.
They state that after the failure of observational studies to show a clear protective effect, circumcision advocates obtained funding from the United States National Institute of Health to conduct randomized controlled trials (RCTs) in Africa. Three RCTs to study the value of male circumcision in reducing HIV infection were conducted in Africa since the publication of the Cochrane Review alluded to above. The studies were intended to find out if circumcision is an effective intervention to prevent female-to-male HIV infection. An RCT under the supervision of Bertran Auvert, French circumcision proponent, was carried out in Orange Farm, South Africa. An RCT was carried out in Kenya under the supervision of North American circumcision proponent Robert C. Bailey and Stephen Moses, and an RCT was carried out in Uganda under the supervision of North American circumcision proponent Ronald H. Gray. Dr. Auvert has been a circumcision proponent since at least 2003. Professor Moses has been an advocate of circumcision at least since 1994, Professor Bailey has been a circumcision advocate since at least 1998.

All three studies found that non-circumcised males contract HIV infection more quickly than circumcised males. The conclusion of these doctors who oppose male circumcision as a means to HIV prevention is that, this may be because the circumcised males required a period of abstinence (of about six weeks) after their circumcision. They also attest to the fact that all three studies were terminated early, before the incidence of infection in circumcised males caught up with the incidence of infection in the non-circumcised males. Thus, they strongly feel that if the studies had continued for their scheduled time, it is probable that there would have been little difference between the circumcised group and the non-circumcised group. Mills and Siegfried point out that early termination of such studies cause the benefits to be exaggerated (Mills et al., 2007).

Dowsett and Couch et al., (2007) assert that the publication of the RCTs found insufficient evidence to support a program of circumcision to prevent HIV infection. They recommend that it is important that, while circumcision interventions are being planned, several points must be considered carefully, because in an event that the experiment fails, Africans are likely to feel abused and exploited by scientists who recommended the circumcision policy. In a region highly sensitive to previous colonial exploitation and suspicious of the biological warfare surrounding the origin of the virus, failure of circumcision is likely to be a big issue (Ntozi, 1997).

The RCTs on which the current claims are based have been carried out by men who have a previous history of promoting circumcision. The critics thus have little confidence in such studies, especially since contradictory evidence exists. They are also convinced that male circumcision may increase male-to-female transmission of HIV and mitigate any reduction in female-to-male
transmission. Thus, instituting a program of male circumcision is of dubious value, as it will divert resources from proven methods of epidemic control and it may generate a false sense of security (disinhibition) in males who have been circumcised.

From their research, they discovered six African countries where men are more likely to be HIV positive if they have been circumcised. These are: Cameroon, Ghana, Lesotho, Malawi, Rwanda, and Swaziland. For example, in Malawi, the HIV rate is 13.2% among circumcised men, but only 9.5% among intact men. In Rwanda, the HIV rate is 3.5% among circumcised men, but only 2.1% among intact men. They thus concluded that if circumcision really worked against HIV transmission, this just would not happen. They are concerned about male circumcision because of the people who are calling circumcision a “vaccine” or “invisible condom”, and viewing circumcision as an alternative to condoms. To this effect the South African National Communication Survey on HIV/AIDS, 2009 found that 15% of adults across age groups “believe that circumcised men do not need to use condoms.” Nevertheless these doctors opposing male circumcision maintain that ABC (Abstinence, Being faithful, and using Condoms) is the way forward.

Their other concern is that these RCTs, which studied HIV transmission among adults in Africa, cannot be used to support the practice of non-therapeutic circumcision of children. They state the fact that infant boys do not engage in sexual intercourse so that they are not subject to sexually-transmitted HIV infections. However, they are subject to various complications of circumcision, including infection through an open circumcision wound with various pathogens, such as deadly CA-MRSA (Bratu et al., 2005) and various surgical accidents, including urethral fistula (Limaye et al., 1968), penile denudation (Sotolongo et al., 1985), and traumatic amputation of the glans’ penis and pain (Gluckman et al., 1995). They envisage a situation where, by the time today’s newborn boys become sexually active, the HIV vaccine is likely to be available. Thus, circumcision today, in an attempt to prevent HIV infection in the distant future, is contra-indicated. Already the Bill and Melinda Gates Foundation has contributed $287 million to 16 research groups for the development of a vaccine (Barbara, 2006).
They add that the high infant mortality rates in African countries hardest hit by the HIV epidemic means many children will die before they become sexually active, further vitiating any protective effect of infant circumcision. They thus suggest that time, effort and money should better be spent on community health measures that would preserve their lives and those of their parents. Further, they state that prophylactic surgery is highly controversial and often unethical. They maintain that cutting off normal healthy human tissue without immediate benefit is not an ethically sound option in modern medicine. They recommend that there is ample time to educate the child about safe sex practices. As such they give an example of the South African Children’s Act, No. 38 2005, which prevents circumcision of minors without clear and immediate medical justification. Therefore, they hold that it would be illegal to circumcise infants and minors. Because of their age, children cannot grant consent, so any non-therapeutic circumcision of a child is a human rights violation and ethically inappropriate. (Reproductive Health and HIV Research Unit, Durban, 2010)

3.2 AFRICAN COUNTRIES ON MALE CIRCUMCISION

In support of male circumcision as a means of HIV prevention, Gray et al., (2007) state that scientific trials have shown that male circumcision can reduce a man’s risk of becoming infected with HIV during heterosexual intercourse by up to 70%. These findings have led to the decision by UNAIDS and the World Health Organization (WHO) to recommend circumcision as an important new element of HIV prevention.

Further, mathematical models have predicted that one new HIV infection could be averted for every 5 to 15 men who are newly circumcised (UNAIDS/WHO/SACEMA 2009). It has also been suggested that six million new HIV infections and three million deaths could be prevented in 20 years if all men in Sub-Saharan Africa became circumcised (Williams, 2006).

Properly carried out, circumcision programmes are believed to have the potential to lower HIV prevalence among the male population, therefore reducing a woman’s risk of exposure to men infected with the virus (Weiss et al., 2009). It has been calculated that in the long-term, mass Voluntary Medical Male Circumcision (VMMC) programmes could reduce the incidence of transmission from males to females by 46% (WHO/UNAIDS/UNICEF 2011). It is thus evident that even women will benefit from the scale-up of voluntary medical circumcision programmes in the long-term.
In March 2007, WHO released the results of an expert consultation to determine whether voluntary medical male circumcision should be promoted for preventing HIV infection. The experts, including representatives of governments, civil society, scientists and non-governmental organizations, advised that promoting VMMC should be recognized as an additional, important strategy for the prevention of heterosexually acquired HIV infection in men (WHO/UNAIDS 2007).

UNAIDS and WHO recommended that countries which have high prevalence generalized heterosexual HIV epidemics but that currently have low rates of male circumcision should urgently consider scaling up access to male circumcision services. Overall, around 62% of African men are already circumcised, but in Southern Africa (the region worst affected by HIV) the rate is less than 20%. Medical male circumcision is now widely recognized as an important HIV prevention tool, and several African countries have included it in their national HIV strategies (PlusNews: Global HIV/AIDS news and analysis 2010). Evidence for this is demonstrated by PlusNews that lists the progress of 13 nations in eastern and southern Africa identified as priority countries for male circumcision scale-up by the United Nations World Health Organization. An overview is given below.

3.2.1 Male Circumcision and HIV Prevention in Botswana

Five centres of excellence have been identified to scale up circumcision services, and Botswana's Ministry of Health aims to reach at least 460,000 HIV negative men and boys below the age of 49 years by 2012. More than 4,300 men have been circumcised since April 2009 (ibid.).

3.2.2 Male Circumcision and HIV Prevention in Kenya

The government of Kenya launched the Voluntary Medical Male Circumcision (VMMC) program in 2008, which is committed to circumcising 860,000 men over the next four years. One half of these men live in the Nyanza province, which has the highest HIV rate and the lowest MC rates in the country. With only 40,000 men circumcised in the first year, a “rapid results initiative” was conducted in 11 districts in Nyaza aimed at circumcising 30,000 men in 30 working days. They engaged in public education, aggressive community outreach, and pushed referrals to MC services from other health services. They sponsored processions through villages promoting MC services. At the end of the scheduled period, they had circumcised 36,077 men (ibid.).
Kisumu is the third largest city in Kenya and was the site of one of the three critical clinical trials that demonstrated the efficacy of male circumcision in preventing the transmission of HIV infection in men. The trial results were widely reported in the community and triggered a national committee to scale up circumcision.

### 3.2.3 Male Circumcision and HIV Prevention in Lesotho

According to a joint United Nations Program on HIV/AIDS (UNAIDS) at the end of 2007, the overall adult HIV prevalence in Lesotho was 23.2%, one of the highest rates in the world. The primary-mode of transmission was unprotected heterosexual sex. According to Williams (2006), the effective male circumcision rate in Lesotho was 0%. As such, the effort to scale up male circumcision (MC) services in Lesotho to reach 80% of adult and newborn males by 2015 was thought to result in averting more than 121,000 adult HIV infections over the period of 2009 to 2025.

Prior to this, in March 2007, participants at a high-level consultative meeting held by UNAIDS and the World Health Organization (WHO) concluded that male circumcision should be a priority prevention service in countries with high HIV prevalence rates and low prevalence of MC, due to its effectiveness in reducing men’s risk of acquiring HIV. Following this it was also decided that all other preventive measures be scaled up to 80% coverage by 2015. This was in order to scale up prevention interventions which would result in a further decline in the number of new adult HIV infections. About 4,000 men are circumcised annually at government and private clinics. A policy has been approved and launched. The Puisano Outreach Organization, a local NGO, is engaged in male circumcision campaigns throughout the country (ibid.).

The question to this effect was what kind of impact scaling up MC would have on the HIV epidemic if other prevention programs are scaled up as well. Results (not shown here) indicated that, if all other prevention interventions were scaled up to 80% coverage by 2015 with maximum impact, adding a scaled up program of MC to the scaled-up prevention interventions would result in a further decline in the number of new adult HIV infections from about 7,000 to a level of about 3,400 in 2025. Thus, a scaled-up MC program in the presence of scaled-up other prevention activities (assuming maximum impact) would have synergistic effects, hastening the decline in the number of new HIV infections in Lesotho (USAID Lesotho, 2009).
3.2.4 Male Circumcision and HIV Prevention in Malawi

Malawi is conducting data analysis to inform its male circumcision strategy. A local NGO, Banja la Mtsogolo, is providing male circumcision services in its clinics where, by 2010, it already had more than 19 trained clinicians performing the procedure (PlusNews: Global HIV/AIDS news and analysis 2010).

3.2.5 Male Circumcision and HIV Prevention in Mozambique

No formal policy for male circumcision has been developed in Mozambique, but an existing operational plan for HIV prevention includes circumcision. Five pilot sites were selected for scale-up in 2010 (ibid.).

3.2.6 Historical Context for Male Circumcision in Namibia

The relatively low prevalence of male circumcision in Namibia is related to a number of historical, social and political factors. The original inhabitants of this area, the Khoi-San people, such as Nama and San people, have not engaged to a significant degree in ritual circumcision as part of their cultural practices. However, for centuries male circumcision was an integral cultural practice among the Bantu-speaking people here (such as the Herero, Ovambo, and Kavango ethnic groups) who migrated from Central African regions and settled in this part of Africa.

Before the arrival of Europeans, some social developments, such as divine kingship, contributed to the decline of male circumcision in the Ovambo kingdoms, especially among members of the royal families in areas settled by Oshidonga and Oshikwanyama speakers. Before male circumcision was discontinued in these kingdoms, only circumcised men could become kings. Once the concept of divine kingship developed in the Donga and Kwanyama kingdoms, kings could no longer be circumcised because it was taboo for a divine person to lose blood, which was viewed as a bad omen (Loeb, 1967).

3.2.7 Male Circumcision and HIV Prevention in Namibia

By 2007, Namibia’s Ministry of Health and Social Services (MoHSS) had been exploring how to include male circumcision intervention in its HIV/AIDS prevention strategy. A qualitative research was carried out to assess the perception of male circumcision among Namibia’s general population and key stakeholders. This study was part of a larger situation assessment of male circumcision in Namibia designed to provide appropriate information for decision-making regarding a national prevention strategy. By that time HIV prevalence among pregnant women in Namibia was near
20%, and national HIV prevalence was estimated to be among the highest in the world (MOHSS/DSP, 2010).

Although many participants had heard of the relationship between HIV and male circumcision and could cite the 60% - 70% protective rate, most did not believe that HIV was related to circumcision since HIV is transmitted through blood and semen.

Despite significant efforts and funding to slow HIV incidence, the annual number of new infections remained stable. A renewed focus on prevention was urgently needed to slow these infections. To this effect, a draft policy was submitted to parliament and training of surgical health professionals was underway. Five circumcision pilot sites were identified, two of which are in operation.

Any HIV prevention strategy requires a diverse mix of evidence-based interventions, and male circumcision is one such intervention that was thought could be effective. Preliminary results from the 2006 – 2007 Namibia Demographic and Health Survey (NDHS) indicate that 21% of 15–49-year-old men there were circumcised, varying by region from 1% in Ohangwena to 57% in Omaheke. Other than the NDHS data, little in-depth information is available on male circumcision in Namibia. (USAID Namibia, 2009)

3.2.8 Male Circumcision and HIV Prevention in Rwanda
Since 2008 the government has been rolling out male circumcision in the army, where prevalence is 4.5%, compared to a national rate of 3%. A recent study suggested that Rwanda should also be scaling up circumcision across a broad range of age groups, especially the very young, where the procedure was found to be highly cost-effective. (PlusNews: Global HIV/AIDS news and analysis 2010).

3.2.9 Male Circumcision and HIV Prevention in South Africa
The government has been criticized for moving too slowly in developing a national circumcision strategy. By December 2009 the country had a draft policy but no mechanisms for training, quality assurance, or monitoring and evaluation. South Africa has the world’s largest HIV-positive population. About 35% of men are circumcised. Data from the only site currently providing free circumcision - Orange Farm, near Johannesburg - reveals that 14 253 men were circumcised in 2009 (ibid.).
3.2.10 Male Circumcision and HIV Prevention in Swaziland
The Ministry of Health and Human Services plans to provide circumcision to 80% of men aged 15 to 24 by the end of 2014. Just 8% of Swazi men are circumcised. The country which has one of the world's highest HIV prevalence rates developed a male circumcision strategy in 2008. By the end of 2009 more than 5,000 men had undergone the surgery.

3.2.11 Male Circumcision and HIV Prevention in Tanzania
A 2009 situation analysis found that male circumcision was accepted, even among traditionally non-circumcising communities, and 70% of Tanzanian men were circumcised. A national policy has since been developed and three demonstration sites have been set up (ibid.).

3.2.12 Male Circumcision and HIV Prevention in Uganda
This is one of the three countries where studies showed a link between male circumcision and HIV, but only 25% of men are circumcised and HIV prevalence is rising. There has been some criticism for failing to start male circumcision in time; the country still has no policy, nor has it started service delivery.

Dr. Tobian and his Uganda colleagues stopped their male circumcision trial because they discovered that it proved ineffective at preventing the spread of HIV from men to their female partners. Wawer's earlier studies of male circumcision in Uganda — like other studies in Kenya and South Africa — showed unequivocally that male circumcision could reduce female-to-male transmission rates (Tobian et al., 2011).

Tobian and his team were hopeful that male circumcision could reduce male-to-female transmission rates as well, given that in many places, women do not have access to barrier contraception or the power in sexual relationships to demand its use even if their partner's HIV status is known. Unfortunately, their hypothesis was incorrect (ibid).

Tobian’s team recruited 922 uncircumcised, HIV infected, men aged 15 to 49 years. Some were immediately circumcised and some had the procedure delayed for two years. The researchers also followed 163 wives or female sex partners of these men. They later stated that, “Circumcision of HIV-infected men did not reduce HIV transmission to female partners over 24 months; longer-term effects could not be assessed.” They thus recommended that, “Condom use after male circumcision is essential for HIV prevention” (ibid.).
Tobian and his colleagues pointed to one positive benefit of a wide-scale adult male circumcision program, by concluding that generally speaking, circumcised men are less likely to contract it from women than the other way around, because the small amount of vaginal fluid that actually gets inside the male urethra would be expelled on ejaculation. In uncircumcised men, however, it can get stuck under the foreskin, where the virus can stay alive for a while, and make its way in.

3.2.13 Male Circumcision and HIV Prevention in Zambia
Male circumcision prevalence in Zambia is estimated at 13%, and Zambia aims to circumcise about 250,000 men every year. More than 200 doctors, clinical officers and nurses have been trained to perform the procedure. Zambia has scaled up male circumcision in 36 out of 73 districts (USAID Zambia 2008). More than 16,000 men were circumcised at 11 sites in 2009, and the goal is to have 300 sites offering the services by 2014.

3.2.14 Male Circumcision and HIV Prevention in Zimbabwe
Scientific trials have shown that male circumcision can reduce a man’s risk of becoming infected with HIV during heterosexual intercourse by up to 60 percent. These findings have led to the decision by UNAIDS and the World Health Organization (WHO) to recommended circumcision as an important new element of HIV prevention. Since the decision was made, the demand for circumcision has been increasing. In Zimbabwe, 700 men requested to be circumcised within just two weeks of the government starting the roll out of voluntary medical male circumcision (VMMC) services for HIV prevention. In April 2009 the pilot phase of service delivery began, during which 1,818 men were circumcised at four sites. A national male circumcision policy was launched in November, 2009 (WHO 2009).

UNAIDS and WHO advanced that the greatest public health benefit would result from prioritizing circumcision for young males (aged 12-30 years), as well as men thought to be at higher risk for HIV. Further, promoting circumcision of newborn babies was considered as a longer-term strategy, and circumcision for men already infected with HIV was not recommended (Binagwaho et al. 2010). A 2010 UNAIDS report also suggested that older men need to be reached in order to achieve a target of 20 million more males becoming circumcised across Eastern and Southern Africa and to maximize the population-wide prevention benefits of VMMC (HIV and AIDS in Zimbabwe, 2012).
CHAPTER 4: THEORETICAL FRAMEWORK

This chapter describes the ethical principle and the ethical theory that have been used in this study. The researcher employed the Principle of the Lesser Evil and the Utilitarian theory since both are applicable to the problem under investigation. In what follows I shall first discuss the Principle of the Lesser Evil (which is an established principle for making ethical decisions) and then I shall outline Utilitarianism.

4.1 THE LESSER EVIL PRINCIPLE

The principle of the lesser evil is traceable within Ancient Greek thought. This principle states that in an ethical dilemma when one is faced with “two evils, the lesser one is to be always chosen”. The principle was later adopted by Catholic moral thinkers as a moral axiom. Currently, it plays an important practical role in law, political science, theology, medicine, bio-medical ethics and political philosophy and the media (Spielthenner, 2009: 140).

As already mentioned, the principle of the lesser evil is used when an individual (s) is faced with two conflicting situations that demand an ethical solution. In such circumstances, the principle of the lesser evil demands one to always discern the situation and choose consequently the lesser evil of the two evils. “Evil” has been used both as a predicate of actions and of a state of affairs. As a state of affairs, evil can be described in terms of pain, sickness, loss or even death. Depending on the various reasons behind human actions, evil takes different forms such as moral, physical, pre-moral or non-moral evils.

The principle of the lesser evil categorically belongs to consequential ethics that looks at the ends of an act. It is a consequentialistic principle. In applying the principle of the lesser evil, four conditions are to be considered, namely: one needs to show that there are only two reasonable alternatives available; there is need to find out the ethically relevant consequences of the two alternatives; one also needs to show that the consequences of both alternatives are (overall seen) evil. Lastly, the alternative which has comparatively better consequences is the lesser evil and is the one that ought to be chosen.

When working with the principle of the lesser evil, one is not ultimately and exclusively working towards achieving the absolute good, therefore, concepts such as “good” are not used or found. However, an act is always evaluated and valued as a lesser evil and not an ultimate evil cause of action. The choices among lesser evils will thus require that a prediction is made as to
what will bring about less harmful results. The choices involve deciding which one of two options is less harmful.

Our moral reasoning is to focus on how to minimize the harm. It is thus important to know that both choices involve evil, but one should opt for the lesser evil. Though the option, or the choice, still remains evil, it is not morally evil because there is reason for causing it or allowing it to happen. In making the distinction between a greater and lesser evil there has to be foreseen harm and one has to come to a rational anticipation of which course of action is likely to inflict the least harm and as such, one has to choose the lesser evil. Upon doing that, one is entitled to stick to it as the right course of action even if the price proves higher than anticipated. So, in resorting to the lesser evil, one should do so with full awareness that evil is involved while at the same time act under some justification and explainable state of necessity to only choose evil means as a last solution, having tried everything else.

4.2 UTILITARIANISM

According to Bramsted and Melituish (1978: 13) the term ‘Utilitarianism’ was originally coined to describe the school of thought formed by Jeremy Bentham (1748-1832). It was loosely used to describe those in the history of ethics whose criterion for moral judgement was based on maximizing the good. It is also important to mention that many utilitarians share the conviction that human actions are to be morally assessed in terms of their production of maximum value (Beauchamp, 1982: 80).

However, Utilitarianism is not a single ethical theory. It belongs to a broad group of ethical theories called ‘Consequentialist theories.’ These theories hold that the rightness or wrongness of an action depends solely on its consequences. The utility principle states that an act is morally right if there is no other possible act that has overall seen better consequences (Beauchamp, 1982). The implication of this is that when deciding whether an action is right or wrong, it is always necessary to go beyond the action to the consequences. If the consequences of an action are better than the consequences of its alternative(s), then this action is worth pursuing.

Another important point worth noting here is the distinction between hedonistic and pluralistic utilitarianism. Bentham and Mill belonged to hedonistic utilitarians who conceived utility in terms of happiness or pleasure. They argued that the good is equivalent to happiness or pleasure and that all other things are valuable only as means to the production of pleasure or avoidance of pain (ibid.: 81). Pluralistic utilitarians, on the on the other hand, do not measure
intrinsic value in terms of pleasure or happiness. Moore, a pluralist utilitarian, argued that “even certain states of consciousness involving consistent intellectual activity and aesthetic appreciation possess intrinsic value apart from their pleasantness” (ibid.: 83). A third approach, apart from hedonistic and pluralistic utilitarianism, is based on individual preferences. The components of this approach analyze utility in terms of an individual’s actual preferences not as intrinsically valuable experiences. The explanations put forward are that to maximize an individual’s utility is to maximize what he/she has chosen or would choose from the available alternatives. To maximize the utility of all persons affected by an action or policy is to maximize the utility of the aggregate group (ibid.: 84). This approach is favoured by many and some see it as superior to the other two. In this dissertation, I shall employ a contemporary version of utilitarianism, and in what follows, I shall describe its main components.

4.2.1 Welfarism
This component of utilitarianism states that the value of consequences depends on the welfare or well-being found in the consequences as opposed to other goods. The philosophical notion of well-being encompasses both the positive and negative aspects. The positive aspect means how well a person’s life is going for that person, that is, what is good for that person. It could also mean what is in the interest of a person. Another term that is used in this context is ‘flourishing.’ A flourishing life refers to a life that is going well. The negative aspect of well-being refers to a situation where someone is living in agony. Other terms which are used to describe this negative situation include ‘ill-being,’ ‘ill-faring’, or ‘unhappiness.’

4.2.2 Universal Consequentialism
This component states that the rightness of an action depends on the consequences of this action on all people as opposed to only the individual agent, present people or any other limited group. In other words, utilitarianism is not restricted to a particular group of people or individuals but it takes into consideration everyone who will be affected by the consequences of an action. As a universalistic theory, it tries to promote the well-being of all affected. That is to say, it seeks to promote a flourishing life not only for some individuals but for everyone who is directly and indirectly affected.
4.2.3 Maximizing the Good
Utilitarianism holds that the rightness of an action depends only on the best consequences as opposed to those that are satisfactory or are only an improvement on the status quo. For instance, if there are only two options available, one should choose that option that will result in more well-being than the other. In this respect, maximization entails that we do not choose an alternative that is worse than another that can be chosen.

4.2.4 Impartiality
This component holds that in determining moral goodness, benefits to one person matter just as much as similar benefits to any other person. In other words, utilitarianism requires impartiality. In the words of Bentham: “everyone to count for one, nobody for more than one”. In such a case, utilitarianism discourages bias either towards oneself or towards another person. This idea can be further clarified by comparing it with two bias views, that is, ‘Ethical Egoism’ and ‘Ethical Altruism.’ Ethical egoism is biased in favour of the agent. Others only count insofar as they influence the agent’s good. Ethical altruism on the other hand, refers to the idea that one must favour the welfare of others more than one’s own. However, utilitarianism is neither egoistic nor altruistic, it is impartial.

4.3 SUMMARY
This chapter has discussed the Principle of the Lesser Evil and Utilitarianism that will be applied in Chapter 5 to evaluate the findings of the study. The lesser evil Principle belongs to consequential ethics that looks at the end of an action. The lesser evil Principle is based on the premise that when faced with two conflicting situations that demand an ethical action, one has to discern the situation and choose the lesser evil of the two. It further states that our moral reasoning should be employed in order to minimize the harm. Utilitarianism belongs to consequentialist theories which hold that the rightness or wrongness of an action depend solely on its consequences. The utility principle also states that an act is morally right if there is no other possible act that has overall seen better consequences. In addition, the principle of utility has been discussed according to three approaches which are hedonistic utilitarian, pluralistic utilitarian and preference utility. Hedonistic utilitarianism judges utility value in terms of happiness and pleasure.
Pluralistic utilitarian, as argued by Moore, holds that even certain states of consciousness involving intellectual activity and aesthetic appreciation possess intrinsic value, apart from their pleasantness. Preference utility measures value in terms of individual’s preferences.
CHAPTER 5: RESEARCH FINDINGS AND DISCUSSION

The previous chapter outlined the ethical principle and the ethical theory that will be employed in this study. It also emphasized that data collection was not only guided by the objectives of the study but also by the ethical principle and theory because these determine what data are essential for this study. The present chapter presents methods of MC, methods of male circumcision practiced in Lusaka urban, the research findings and a discussion of the data. That means, it changes raw data into meaningful information based on the research questions stated in the first chapter of this dissertation. The contents of this chapter are based on the information gathered by the researcher from both health practitioners and circumcised males. Health practitioners shall be referred to as informants while circumcised males shall be referred to as participants. Specifically, objectives number (ii) and (iii) have been addressed in this chapter by presenting, identifying and explaining the methods of male circumcision and giving a detailed explanation of the advantages and disadvantages of male circumcision. Primary data was collected by using questionnaires and interviews from both informants and participants. For questionnaire and interview schedules, see Appendices A(i), A(ii) and B(i), B(ii).

5.1 METHODS OF MALE CIRCUMCISION

There are three widely used methods of male circumcision. These are the forceps-guided method, the dorsal slit method and the sleeve resection method. All three methods produce a good long-term result, but require different levels of skill.

Other methods, used in circumcision of infants and children, include the dorsal slit method, the plostibell method, the mogen clamp method and the Gomco clamp method. For this study the last three methods, which are mainly used in infants and children circumcision, have not been discussed in detail because they are not commonly practiced in Zambia.

5.1.1 Forceps-Guided Method of Circumcision

This is a simple step-by-step procedure, which can be learnt by surgeons and surgical assistants who are relatively new in surgery. It can be used in clinics with limited resources, and it can be done without an assistant. After administering the anesthesia, the foreskin is retracted and any adhesions separated. The intended line of incision is marked. The foreskin grasped with two artery forceps as illustrated in Figure 5.1. The forceps are placed at the apex of the foreskin, in such a
way as to put equal tension on the inside and outside surfaces of the foreskin. If this is not done correctly, there is a risk of leaving too much mucosal skin or of removing too much shaft skin.

Sufficient tension is put on the foreskin to pull the previously made mark to just below the glans. Taking care not to catch the glans, a long straight forceps is applied across the foreskin. Once the forceps is in position, the surgeon has to ensure that he/she feels the glans to check that it has not been accidentally caught in the forceps. The foreskin flush is cut away using the outer aspect of the forceps.

After cutting, the skin is pulled back to expose the raw area as demonstrated in Figure 5.2 above. Any bleeding vessels are clipped with artery forceps and tied off. The forceps-guided method produces a less tidy result initially, but has the advantage that it is a simple technique suitable for a clinic setting. In most clinical trials it has shown to produce consistently good results with low complication rates. However, it cannot be used for men with phimosis, since the foreskin cannot be retracted (WHO MC Manual, 2008).

5.1.2 Dorsal Slit Method of Circumcision

The dorsal slit method is probably the most widely used method worldwide. After administering the anesthesia, the foreskin is retracted and any adhesions removed. The intended line of incision is marked. Some surgeons prefer to mark a line of incision by making a very shallow incision using a scalpel. This is useful on a deeply pigmented man whom it is difficult to see the line of the marking pen or dabs of the gentian violet. Before making the shallow incision, a careful check must be made to ensure that the incision line is level with the corona and that even amounts of skin
are marked for removal from each side of the penis. The incision is made just through the skin; it is very important not to cut too deeply and divide blood vessels.

The foreskin is grasped with an artery forceps. Two artery forceps are placed on the foreskin. Using dissection scissors, the foreskin is cut free. Any skin tags on the inner edge of the skin can be trimmed approximately to the corona. Care has to be taken to trim only the skin and not cut deeper tissue. Any bleeding must be stopped, sutured and a dressing must be applied (ibid.).

5.1.3 Sleeve Resection Method of Circumcision

The sleeve resection method requires good surgical skill and is better suited to a hospital rather than a clinic setting. The technique requires an assistant. There is more room for surgical error, either by cutting too deep when making the two circular incisions or cutting too deep when dissecting the skin flap free (cf. Figure 5.5). After administering the anaesthesia the foreskin is retracted and any adhesions removed. The intended line of incision is marked with a V-shape, pointed towards the frenulum, on the underside of the penis. The foreskin is retracted and inner mucosal incision line marked proximal to the corona. Incisions are made using a scalpel along the marked lines. As the incision is made, the assistant retracts the skin with a moist gauze swab. The sleeve method produces an excellent result but requires highest level of surgical skill (WHO 2008).
5.1.4 Methods of Male Circumcision Practiced in Lusaka Urban

The data collected from the questionnaires and interviews with informants revealed that there is only one method of male circumcision practiced in Lusaka urban. Of all the methods discussed above, dorsal slit is the only method practiced in all the circumcision centers under investigation in Lusaka urban (cf. Figure 5.7).

Fig.5.7: Health practitioners carrying out MC using dorsal slit method
Photo by Kennedy Kabwe, Chachacha Society for Family Health, 10/11/2011
The researcher had an opportunity to observe circumcision sessions (cf. Figure 5.8 below), and the chance to interview both the informants (cf. Figures 5.9 and 5.10 on page 49) and the participants (cf. Figure 5.12 on page 51) in all study areas.

![Figure 5.8: Researcher observing MC operation](Photo by Alex Chandalala, Society for Family Health, 10/11/2011)

### 5.2 ADVANTAGES OF MALE CIRCUMCISION

The greatest advantage of circumcision is that it is a one-off procedure, with no ongoing costs or supply issues to worry about. Once a boy or man has undergone the procedure he will benefit from the preventive effect for the rest of his life.

There is also decreased risk of *HIV* infection because male circumcision has been proved to help prevent female to male transmission of *HIV*, reducing the risk of transmission by 60–70%. This is possible because male circumcision improves hygiene and can reduce a man’s chance of getting some STIs including syphilis, chancroid and human papilloma virus (HPV) (Weiss *et. al.*, 2008). Male circumcision also makes it easier to keep the penis clean and dry at all time.

Another advantage of male circumcision is that it decreases the risk of urinary tract infections in infants and adult men. For instance, it has been estimated that uncircumcised male infants have a 1% chance of acquiring a urinary tract infection. This type of infection is ten times less common in circumcised male infants, who have an estimated 0.1% chance of developing such an infection Lancet (*To et al.*, 1998). Circumcision also helps in prevention of phimosis, a condition that can result from scar tissue that makes a tight opening in the foreskin and prevents exposure of the head of the penis and the normal retraction of the foreskin.

Additionally, circumcision can as well prevent paraphimosis, a condition that happens when the foreskin is pulled back or down and trapped in the retracted position below the glans.
The tissue can become swollen and decrease the blood flow to the tip of the penis (Williams et al., 1995: 351). Also, circumcision helps in the prevention of balanitis and posthitis, which result from dirt, sand and other irritants that can collect under the foreskin and cause inflammation of the glans (balanitis) and foreskin (posthitis). Furthermore, male circumcision assists to prevent these conditions by making it easier to keep the head of the penis clear of possible irritants (Fergusson et al., 1988). Similarly, male circumcision reduces the risk of other sexually transmitted infections (STIs) such as genital herpes simplex virus (HSV) and human papillomavirus (HPV) (Auvert et al., 2005: 14). Once more, circumcision encourages decreased risk of cancer of the penis, which is much more common in men who are uncircumcised (Schoen, 1991: 304). Cervical cancer occurs less commonly in women with male sexual partners who are circumcised. Circumcision reduces vaginal infections caused by Trichomonas vaginalis and bacterial vaginosis in female sexual partners (Williams, 2006).

Physical reasons supporting the idea that circumcised men provide greater pleasure to women include that the foreskin is out of the way, there is no noise from moving foreskin, and penetration is easier. Additionally, in places where circumcision has become popular, it can also be used as a good entry-point for men to learn and know their HIV status, and therefore reduce the risk of infecting sexual partners.

In addition to the belief that male circumcision fulfilled one’s obligations to a cultural group where circumcision is the norm, other advantages noted during the research were that, male circumcision is a symbol of manhood and a way to earn respect. One man from Matero Referal Clinic, which is one of the study areas considered for this research, said: “When you are circumcised you become a real man because when you still have the foreskin, you are called a woman because when the boys are not circumcised they are treated like women at home and not allowed to eat food or meat, which is eaten by men, because they still have the foreskin.”

5.3 DISADVANTAGES OF MALE CIRCUMCISION

However, there are also disadvantages of male circumcision as a universal HIV prevention approach. This is why on its own, it is not a solution to the global HIV epidemic (Other concerns surrounding MC are discussed below).

Several health reasons can be cited to point out disadvantages of male circumcision. They include the loss of the foreskin as a protective covering, pain, or disfigurement. Circumcision is much less effective than condom use at preventing HIV transmission. If used correctly every time
a person has sex, condoms provide highly effective protection against HIV infection whereas circumcision only prevents about 60% of infections (Weller and Davis, 2002). Even if a man has been circumcised, he must still abstain, be faithful or use condoms to substantially cut his risk of infection. Moreover, unlike condoms, circumcision does not prevent pregnancy. Women might find it harder to insist on condom use by circumcised partners (WHO and UNAIDS, 2008). It is even possible that, in areas where circumcision is already widespread, publicity of the scientific findings could increase transmission of HIV. In communities where circumcision is viewed as a transition ceremony, the cultural meaning of tribal circumcision will be removed should circumcision be medicalized. A man is not considered to have successfully been initiated into manhood if he is cut in hospital. There is a belief that medical circumcision will remove the cultural meaning of circumcision because an initiation consists of more than simply a circumcision. Given such strong association of the practice of male circumcision with certain cultural groups, being circumcised would give the appearance of adopting another culture.

Unlike other methods of preventing HIV transmission during sex, circumcision requires medical intervention. To carry out the procedure safely requires considerable resources, otherwise it can be very risky. Side effects of poorly performed circumcision include serious bleeding and damage to the rest of the penis. In places and cases where facilities are poor such that tools are not properly used or not sterilized, it is likely that there can be a transmission of infections. Thus, there is a real risk that in such circumstances circumcision could spread HIV. Also, newly circumcised men must wait a few weeks (about 6 weeks) for their wounds to heal before having sex. If they don't, they are likely to face an increased risk of HIV infection through their broken skin.

An infant cannot consent to the procedure, the decision must be made by the family thereby infringing on that child’s human rights. It is believed that if circumcision is postponed until an older age the patient can evaluate the risks and benefits and consent to the procedure himself because the procedure is considered permanent and there is a risk that when the child is older he will be unhappy that he was circumcised as an infant.

A naturalistic objection to circumcision finds it wrong to alter the natural human body. Naturalism stresses the unique and independent moral standing of nature, life and particularly the living human body. In the context of circumcision, naturalism joins hands with the theology of the divine image inherent to humankind. Circumcision is irreconcilable with naturalism, since it principally rejects the natural human body for the sake of one that is physically altered. Circumcision violates bodily integrity. Naturalists point to a moral duty to treat one’s body
respectfully, not as a mere piece of property or raw material at the disposal of a person’s will. (Goldman, 1993). Where there is a lack of formal training programmes, uniform policy and adequate equipment and resources, complication rates as high as 20% have been reported (ibid). It can also be assumed that in places where both female genital cutting (FGC) is practiced and male circumcision for reasons of HIV prevention is promoted, some people may be wrongly led to consider that FGC could also reduce the risk of HIV infection, which is not true.

Another disadvantage is that some circumcised men believe they are immune to infection and may engage in more sexual risk-taking behaviors, such as having sex without condoms and having multiple partners.

5.4 FINDINGS

Ten male circumcision centres were considered in this study. They included, Matero Referal Clinic; University Teaching Hospital (UTH); Young Women’s Christian Association (YWCA); Society For Family Healthy; Kanyama Clinic; University of Zambia (UNZA) Clinic; Marie Stopes; Chelstone Clinic; Chipata Compound Clinic; Chinika Clinic and Chachacha Road Society for Family Healthy Centre. In each centre, 15 circumcised males and 5 health practitioners were interviewed. For interview schedules see Appendices B (i) for health practitioners and B(ii) for circumcised males. In total, 150 circumcised males participated in the study, and 50 health practitioners were also considered.

These two groups provided the primary data. Participants were give a consent form to read and sign before they proceeded with the interview (cf. Appendix C), thereafter they were interviewed. For those who could not read, the researcher read and interpreted the message for them.

As shown in Table 5.1 below and the ensuing Chart 5.1, of the total number of 150 circumcised participants interviewed, a majority, 124 (82.7%), were single, while 26 (17.3%) were married. From interviews with these participants, it was realized that most men are more concerned about HIV transmission before marriage. To this end, this study discovered that the concept of MC as a means of HIV/AIDS prevention is often mistakenly taken and viewed as a 100% HIV preventive measure, while in actual fact that may not be the case. To confirm this, a few participants, represented by 17.3%, testified to the fact that once married, most men become complacent about the virus and very few are interested in going for circumcision. In their
responses it was revealed that most couples go for HIV tests before marriage and a few when their wives are pregnant in line with prevention of mother-to-child transmission (PMTCT).

### Table 5.1

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>124</td>
<td>82.7%</td>
</tr>
<tr>
<td>Married</td>
<td>26</td>
<td>17.3%</td>
</tr>
<tr>
<td>Group Total</td>
<td>150</td>
<td>100%</td>
</tr>
</tbody>
</table>

### Chart 5.1

Age and marital status largely determine one’s lifestyle even more importantly when it comes to whether or not one should decide to go for male circumcision. A complete questionnaire was obtained from 150 participants. Of the total number of participants, 73 (48.7%) were 18-24 years old, followed by 67 (44.7%) those aged 25-34-years and 10 (6.7%) for those aged 35-44 years (See Table 5.2 and the matching Chart 5.2 below).

### Table 5.2

<table>
<thead>
<tr>
<th>Age Circumcised</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 - 24 yrs</td>
<td>73</td>
<td>48.7%</td>
</tr>
<tr>
<td>25 - 34 yrs</td>
<td>67</td>
<td>44.7%</td>
</tr>
<tr>
<td>35 - 44 yrs</td>
<td>10</td>
<td>6.7%</td>
</tr>
<tr>
<td>Group Total</td>
<td>150</td>
<td>100%</td>
</tr>
</tbody>
</table>

### Chart 5.2
The majority of the participants 136 (90.7%), decided to go for MC on their own and 14 (9.3%) did not decide to go for MC on their own (See Table 5.3 and the equivalent Chart 5.3).

### Table 5.3

<table>
<thead>
<tr>
<th>Decided on your own</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>136</td>
<td>90.7%</td>
</tr>
<tr>
<td>No</td>
<td>14</td>
<td>9.3%</td>
</tr>
<tr>
<td>Group Total</td>
<td>150</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

### Chart 5.3

Regarding the participants’ knowledge of the difference between a circumcised male and the uncircumcised male in relation to HIV/AIDS contraction, 140 (93.3%) expressed that there is a difference while 10 (6.7%) noted that there is no difference.

### Table 5.4

<table>
<thead>
<tr>
<th>Any difference between circumcised and uncircumcised males?</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>140</td>
<td>93.3%</td>
</tr>
<tr>
<td>No</td>
<td>10</td>
<td>6.7%</td>
</tr>
<tr>
<td>Group Total</td>
<td>150</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

### Chart 5.4

Of the 150 participants, 102 (68%) stated that people go for MC with the view of HIV/AIDS prevention and 45 (30%) did not think that to be the case. (This is illustrated in Table 5.5 and the related Chart 5.5).
Table 5.5

<table>
<thead>
<tr>
<th>In your view is MC a means of HIV prevention?</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>102</td>
<td>68.0%</td>
</tr>
<tr>
<td>No</td>
<td>48</td>
<td>32.0%</td>
</tr>
<tr>
<td>Group Total</td>
<td>150</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Chart 5.5

Is MC with a view of HIV prevention?

<table>
<thead>
<tr>
<th></th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>80</td>
</tr>
<tr>
<td>No</td>
<td>70</td>
</tr>
</tbody>
</table>

Similarly, 81 (54%) of the participants thought that MC is an effective means of HIV/AIDS prevention, while 69 (46%) did not think so (See Table 5.6 and the resultant Chart 5.6).

Table 5.6

<table>
<thead>
<tr>
<th>Is MC an effective HIV/AIDS preventive measure?</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>81</td>
<td>54.0%</td>
</tr>
<tr>
<td>No</td>
<td>69</td>
<td>46.0%</td>
</tr>
<tr>
<td>Group Total</td>
<td>150</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Chart 5.6

Is MC an effective HIV/AIDS prevention?

<table>
<thead>
<tr>
<th></th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>60</td>
</tr>
<tr>
<td>No</td>
<td>40</td>
</tr>
</tbody>
</table>

When asked to state whether there are any advantages of undergoing MC, an overwhelming majority 140 (93.3%) said yes and only 10 (6.7%) said no to the question (See Table 5.7 and Chart 5.7).
On the question about whether there are any disadvantages of male circumcision 77 (51.3%) and 73 (48.7%) said yes and no respectively to the question on the disadvantages of male circumcision (See Table 5.8 and Chart 5.8). Despite the fact that most of the participants understood the advantages of MC, quite a good number did not know that MC does not provide 100% protection.

On the question of encouraging others to go for MC 149 (99.1%) participants affirmed that they would encourage other people to go for male circumcision as a means of HIV/AIDS prevention and only one indicated that he would not encourage others (see Table 5.9 corresponding Chart 5.9).
Another completed questionnaire was obtained from 50 health practitioners referred to as informants. Table 5.10 and its corresponding Chart 5.10 reveal that 26 (52%) male and 24 (48%) female health practitioners carry out MC operations in different centres in Lusaka urban. More than 200 doctors, clinical officers and nurses have been trained to perform the procedure. Zambia has scaled up male circumcision in 36 out of 73 districts (USAID, 2008).

Further, informants were asked to indicate the number of years they had been working with their respective institutions in the area of circumcision and the responses are presented in Table 5.11 and the matching Chart 5.11. The majority, that is 23 (46%), stated 2-5 years. This was followed by 9 (18%) who had worked for less than 1 year, then 8 (16%) said 6-9 years another 7 (14%) indicated 10 years and above. Only 3 (6%) of the respondents did not respond. Health practitioners who were interviewed had differences in the number of years of experience in the work.
differences in the number of years on the job, the informants described the response from those who go for male circumcisions as overwhelming.

Table 5.11

<table>
<thead>
<tr>
<th>Number of years worked at the Institution</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1 Year</td>
<td>9</td>
<td>18.0%</td>
</tr>
<tr>
<td>2-5 Years</td>
<td>23</td>
<td>46.0%</td>
</tr>
<tr>
<td>6-9 Years</td>
<td>8</td>
<td>16.0%</td>
</tr>
<tr>
<td>10 Years and Above</td>
<td>7</td>
<td>14.0%</td>
</tr>
<tr>
<td>No Response</td>
<td>3</td>
<td>6.0%</td>
</tr>
<tr>
<td>Group Total</td>
<td>50</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

When asked if there is a difference between a circumcised and the uncircumcised male in relation to HIV/AIDS contraction and transmission, all 50 (100%) respondents stated that there is a difference between the two (see Table 5.12).

Table 5.12

<table>
<thead>
<tr>
<th>Difference between Circumcised and uncircumcised</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>50</td>
<td>100.0%</td>
</tr>
<tr>
<td>Group Total</td>
<td>50</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Thirty one (31) informants representing 62% of the total number of informants rated the response to male circumcision as a means of HIV/AIDS prevention to be good, whilst nineteen (19) informants representing 38% rated it to be excellent. (See Table 5.13 and corresponding Chart 5.13).
When asked whether they would encourage other people to go for male circumcision, an overwhelming majority of 100% admitted that they would encourage people to go for circumcision (See Table 5.14).

47 informants representing 94% of the total number of informants declared that male circumcision is effective in preventing HIV transmission in Lusaka urban, whereas 1 informant (2%) held that male circumcision is not effective in preventing HIV transmission in Lusaka urban, 2 informants (4%) did not respond (see Table 5.15 and corresponding Chart 5.15).
According to the response on the question of the types of male circumcision practiced in Lusaka urban, whose results are reflected in Table 5.16 and the corresponding Chart 5.16, 30 informants (60%) informants, said that there is only one type of male circumcision practiced in Lusaka urban that they know of, those who said two are represented by 17 informants (34%), then for those who said three are also represented by 1 (2%) and for those who said there are four types are represented by 2 (4%).

Table 5.16

<table>
<thead>
<tr>
<th>Methods of MC practiced in Lusaka urban</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>30</td>
<td>60%</td>
</tr>
<tr>
<td>Two</td>
<td>17</td>
<td>34%</td>
</tr>
<tr>
<td>Three</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>Four</td>
<td>2</td>
<td>4%</td>
</tr>
<tr>
<td>Group Total</td>
<td>50</td>
<td>100%</td>
</tr>
</tbody>
</table>

Knowing the advantages and disadvantages of male circumcision is very important when implementing any preventive measure of HIV and AIDS. An overwhelming majority of 48 informants (96%) responded that there are advantages on the methods of the male circumcision practiced in Lusaka urban, 1 informant (2%) responded that there are no advantages in the practice while another 1 (2%) did not respond. While 19 informants (38%) said there are disadvantages on the methods of male circumcision practiced in Lusaka urban and 31 informants (62%) said that there are no disadvantages on the methods of male circumcision practiced in Lusaka urban (See Table 5.18 and the corresponding Chart 5.18).

Table 5.17

<table>
<thead>
<tr>
<th>Are there any advantages of MC?</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>48</td>
<td>96%</td>
</tr>
<tr>
<td>No</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>No Response</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>Group Total</td>
<td>50</td>
<td>100%</td>
</tr>
</tbody>
</table>

Chart 5.16

![Bar chart showing methods of MC practiced in Lusaka urban]

Chart 5.17

![Bar chart showing any advantages of MC]
When asked if male circumcision has been well received by the general public, the majority, 49 informants representing (98%) responded in the affirmative while 1 informant representing (2%) did not respond (See Table 5.19 and the corresponding Chart 5.19).

The informants were also asked to state whether or not mandatory male circumcision could work effectively given the Zambia situation. 32 (64%) represents those that confirmed that it could work while 18 (36%) did not confirm (See Table 5.20 and the corresponding Chart 5.20).
The informants were also asked whether or not wide sensitization on the benefits of male circumcision takes place in communities and the responses are presented in Table 5.21 and the resultant Chart 5.21 in which 19 (38%) responded in the affirmative to show that there was sensitization while 31 (62%) stated that there was no wide sensitization taking place. It was also revealed that most people in Lusaka urban go for circumcision because of health reasons. Some participants when interviewed revealed that they go for circumcision because they do not want to contract HIV and other STIs. The informants felt that a clear and comprehensive education program—one that would incorporate local authorities, door-to-door educators, and media sources, such as radio and television - would reduce misconceptions and encourage uptake of male circumcision.

### Table 5.21

<table>
<thead>
<tr>
<th>Any sensitisation of MC in communities?</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>19</td>
<td>38%</td>
</tr>
<tr>
<td>No</td>
<td>31</td>
<td>62%</td>
</tr>
<tr>
<td>Group Total</td>
<td>50</td>
<td>100%</td>
</tr>
</tbody>
</table>

### Chart 5.21

Any sensitisation of MC in communities
5.5 DISCUSSION

The discussion will be based on the data collected through questionnaires and interviews with health practitioners and circumcised males. Permission from both practitioners and participants was sought to have their pictures and information included in this dissertation. The data discussed in this section was collected from 150 circumcised males (participants) and 50 healthy practitioners (informants) drawn from 10 study areas selected for this study.

5.5.1 Informants’ Views of Male Circumcision

The participation of health practitioners (informants) and circumcised males (participants) provide a variety of data. From the data that was collected, there was fair representation of both the young and old undergoing male circumcision. In all circumcision centres under investigation 31 informants representing (62%) of all informants revealed that a good number of males have responded positively to male circumcision (See Table 5.13 and corresponding Chart 5.13). To this effect there was an overwhelming request for the government to educate the public on male circumcision and clarify its role in improving health. From the data collected, 31 (62%) believed that no wide sensitization was taking place in communities, while only (19) 38% indicated that there is sensitization taking place (See Table 5.21 and corresponding Chart 5.21).

This means that there is more work to be done because many informants felt that a clear and comprehensive education program, engaging local authorities, door-to-door educators, and the media, would go far in clearing up misconceptions and encouraging the uptake of MC.

With specific regard to HIV, 47 informants representing (94%) of the total number of informants confirmed that male circumcision is effective in preventing HIV transmission. It was also disclosed by informants that male circumcision was a corrective medical measure for problems related to blockage and pain associated with urinating and other sexually transmitted diseases (STIs).

Discussions with informants revealed that the main perceived advantage of male circumcision was that of health and hygiene, with regard to cleanliness and disease prevention. The association of circumcision with cleanliness and disease prevention was based on the fact that the foreskin was viewed as a trap and host for bacteria (cf. Figure 5.9).
Understandably, the informants from the health field had a better understanding of the relationship between male circumcision and HIV and encouraged it as a strategy. When asked about the way forward in promoting male circumcision in Lusaka urban and around the country, one informant from Kanyama clinic (not in the photo), said, “I think the MoH should educate people about circumcision. It’s going to protect many, which means the nation won’t be infected anymore.”

5.5.2 Participants’ Views of Male Circumcision

Some of the participants were aware of the protective effect of male circumcision in relation to HIV transmission (cf. Figure 5.12). A few, however, believed that male circumcision provides 100% protection and that condom use is not necessary for circumcised men. Others, on the other hand, acknowledged only partial protection and strongly recommended the use of condoms even after circumcision.
When asked whether or not there are any advantages of male circumcision an overwhelming majority of 140 (93.3%) participants responded positively that there are advantages of male circumcision and that was what encouraged a lot of them to undergo male circumcision.

Some participants perceived male circumcision as a sign of compliance with certain cultures and traditions. For those belonging to circumcising cultures, having been circumcised was viewed as a symbol of cleanliness, a rite of passage into manhood, and a way to earn respect. They consider that compliance with this tradition was not only important to men individually, but also for parents of young boys and for sexually active women in their relationships with men. In contrast, those from cultures that did not traditionally practice circumcision saw having a circumcision as adopting a practice belonging to “other” cultures (cf. Figure 5.12).
Some still, were concerned that male circumcision may lead to disinhibition (increased sexual risk-taking) as people may think condoms are no longer necessary. On perceptions that circumcised men experienced and provided greater sexual pleasure, participants revealed they had experienced sexual intercourse both with and without their foreskins and revealed that such perceptions were related to beliefs that penetration is easier without the foreskin and that the trauma experienced from difficult penetration is reduced. Similarly, others claimed that a circumcision left one less layer of protection between the man and woman, regardless of condom use. Others said there would be no difference between being circumcised and uncircumcised if a condom is worn. Some felt that circumcision increased the size of the penis and enhanced sexual pleasure. Others felt that circumcision inhibited the growth of the penis and decreased sexual pleasure.

5.5.3 Participants’ Attitudes towards Male Circumcision
When asked whether they would encourage others to go for MC, 149 (99.1%) participants expressed a positive attitude by stating that they would encourage people to go for male circumcision. Favourable attitudes toward circumcision were reflected in a desire to be circumcised or to encourage others to do so and in being satisfied with their circumcision status. During the discussion in one of the research areas, participants who did not come from cultures or traditions that practice circumcision, felt the perceived health benefits were compelling. In this regard an older man from Chawama clinic described this perspective well by saying, “If you look at it, it’s this information of not spreading the diseases that makes one decide to be circumcised and it’s also something that will keep you healthy.” Following statements like this, the researcher discovered that participants had sufficient information about the benefits of circumcision, which if spread widely through sensitization, would encourage many people to go for circumcision and develop positive attitudes toward the procedure.

A young participant, when asked about what should be done in order to encourage others to go for circumcision, said, “If the government recommends male circumcision services, it should inform communities and the nation on the pros and cons of male circumcision”.

Despite the positive attitudes, participants expressed knowledge that the relationship between male circumcision and HIV varied. Participants revealed a high degree of acceptance of male circumcision with reasons ranging from cultural, to medical (disease prevention, hygiene), to
social (sexual pleasure, prerequisite to marriage) convictions. Regardless of the reason(s) held, the majority of the participants agreed that it should be promoted.

Finally, all those that were interviewed (health practitioners and circumcised males), were of the view that more sensitization is needed in communities, and that programmes to promote male circumcision should be scaled up to save many lives, not only from HIV infection and transmission but also from other STIs and cancers. The Government of Zambia is perceived to be the natural umbrella for a program to scale up male circumcision countrywide. Most informants suggested a progressive approach that is supported by widespread education.

5.6 SUMMARY

This chapter has presented the research findings along with some discussion of the findings and it has also described methods of circumcision. The information has been gathered primarily from questionnaires and interviews. The findings revealed that there are three widely used methods of male circumcision world-wide. These include forceps-guided method, dorsal slit and sleeve resection method. On the methods of male circumcision practised in Lusaka urban it was discovered that of the three widely used methods, only the dorsal slit method was practised in Lusaka urban. The chapter also presented the advantages and disadvantages of MC. Discussion of the findings were carried out under the following sub-headings: informants’ views of MC which revealed that the informants had vast knowledge on the MC and advanced that the Ministry of Health should educate the general public on issues surrounding MC; participants’ views of MC revealed participants’ knowledge of the partial protection given by male circumcision in the prevention of HIV transmission and strongly recommended the use of condoms even after circumcision. The participants’ attitudes towards MC were generally positive.
CHAPTER 6: ETHICAL EVALUATION

The previous chapter presented the findings and discussions concerning male circumcision as a means of HIV/AIDS prevention in Lusaka urban. It also presented the views of participants and informants on male circumcision as a new intervention in the fight against HIV/AIDS. The findings revealed that the Ministry of Health has not done much sensitization in communities on male circumcision as a means of HIV prevention. It was also discovered that most participants and informants alike would encourage others to go for male circumcision in an effort to curb the HIV/AIDS pandemic. However, having no clear information about the advantages and disadvantages of male circumcision, they suggested that the Ministry of Health should roll out sensitization campaigns in communities so that as people go for male circumcision, they will have all the necessary information that will enable them to make informed decisions about the matter.

This chapter gives an ethical evaluation of male circumcision as a means to HIV/AIDS prevention by applying the Principle of the Lesser Evil and theory of Utilitarianism which I have outlined in more detail in Chapter 3.

6.1 MALE CIRCUMCISION FROM THE PRINCIPLE OF THE LESSER EVIL’S POINT OF VIEW

The Principle of the Lesser Evil states that when we have to choose between two evils, the lesser evil ought to be chosen. This principle can therefore only be applied to an ethical issue if the agent has to choose between two options, both of which are, overall, seen as evils. An option is an evil if its total consequences are bad. In what follows, I shall argue that the conditions for applying the Principle of the Lesser Evil are satisfied.

In the study under consideration, it seems there are only two reasonable alternatives open to the Zambian authority (Ministry of Health) with regards to the policy on male circumcision (circumcising 250,000 males by the year 2015) in an effort to curb the HIV/AIDS pandemic. The two possible options available to the Ministry are that: (i) the Ministry chooses not to conduct male circumcision as an HIV/AIDS preventive measure (and ultimately continue having people infected by the virus and die from AIDS), or (ii) that the Ministry chooses to conduct male circumcision (which is estimated at about 60% – 70% in the prevention of the transmission of the virus as they are already doing).
In order to see whether the decision by the Ministry to conduct male circumcision is right or not we need to have a closer look at the total consequences (that is, the good and the bad consequences) of the two available alternatives open to the Ministry. However, we only need to look at the outcomes that are relevant from an ethical point of view. That is, roughly, at those outcomes which are good or bad for the individuals that are affected by the choice.

The decision to opt for male circumcision as a means to HIV/AIDS prevention has obviously a number of bad effects. As evidenced from the interviews (cf.fig 4.12) that were conducted with participants, a majority was concerned that male circumcision may lead to disinhibition. This is so because they felt that male circumcision makes some circumcised men to believe that they are immune to HIV infection and may engage in more sexual risk-taking behaviours, such as having sex without condoms and having multiple sexual partners which may result in increased HIV transmission. As such this renders the procedure bad rather than good. A contributing factor to this scenario is that there is usually not enough information prior to the operation as people are only given the information about male circumcision during the time they go to clinics and circumcision centres for the procedure during counselling sessions as was discovered from the participants during interviews. It was also discovered from the participants in all the study areas under this study that the information around circumcision prevailing in communities and that which is offered in clinics and circumcision centres are different. As a result a lot of people go for circumcision because they think once circumcised they will never contract the virus. As a matter of fact people end up being circumcised based on wrong information. One participant even stated that if he had known that male circumcision was not 100% protection he would not have opted for the operation but rather continued with the already existing preventive measures such as abstinence, being faithful to one sexual partner and condom use.

On the other hand, male circumcision has certainly positive effects, too. Above all, it does not only decrease the risk of HIV infection but also improves hygiene and reduces a man’s chances of getting STIs including syphilis, gonorrhea, chancroid and the human papilloma virus (Weiss et. al., 2008). Male circumcision also makes it easier to keep the penis clean and dry at all time.

The main bad effect of not conducting male circumcision (the second option of the Ministry) is that it would increase the levels of HIV infections in Lusaka urban, which are already very high 17.5% (Zambia Country Report on HIV and AIDS, 2010). In addition, it would also contribute to an increase in the number of street children as the orphans left behind by the victims of HIV/AIDS find themselves on the streets. This is due to the fact that relatives and friends of
their deceased parents are overburdened by looking after the AIDS patients and attending funerals leaving them with no resources to look after the orphans. Further, this leads to loss of manpower that can contribute positively to the economic and social development of the nation.

On the other hand, the alternative of not conducting male circumcision has also good consequences, such as making people to be more careful and thus, not developing a sense of disinhibition. In addition to the naturalistic objection to circumcision, which finds it wrong to alter the natural human body if circumcision is not conducted, there will be no body mutilation, no body pain and no possible infections that occur on those that undergo male circumcision.

If we consider the overall consequences, it seems to me that both alternatives are – overall seen – bad. That is to say that the people in Lusaka urban with regard to the problem of male circumcision are in a dilemma where the agent has to choose between two options that are both evils. I think that the total consequences of both options are bad because conducting male circumcision would not provide 100% HIV prevention. Not conducting male circumcision would lead to increased levels of more new HIV infections which the health sector is fighting to curb. Additionally, it would increase the number of street children who are mostly as a result of HIV/AIDS pandemic.

Is conducting male circumcision the right decision? Judged on the basis of the findings of this study, it seems to me that the total outcome of not conducting male circumcision is even worse than the consequences of conducting it. I think so for the following reasons: Not conducting male circumcision leaves the agent at a higher risk of contracting and transmitting the virus. In addition it would also contribute to poor hygiene which would promote a conducive environment for the breeding of the virus.

If this analysis is correct, the decision by the Ministry of Health to promote male circumcision as a means of HIV/AIDS prevention is right, according to the Principle of the Lesser Evil. It needs to be admitted that the policy is overall seen an evil, but since the alternative is worse, it is the lesser evil; and the Principle of the Lesser Evil requires that when we have to choose between two evils, the lesser evil ought to be chosen.
6.2 MALE CIRCUMCISION FROM A UTILITARIAN POINT OF VIEW

According to the contemporary version of utilitarianism that I am applying in this dissertation, when we are presented with options to choose from, we should choose an option that has the best overall consequences as compared to other options that can be chosen. Let us consider the following two options (policies) about male circumcision:

Option 1: No male circumcision conducted as a means of HIV/AIDS prevention.
Option 2: Male circumcision conducted as a means of HIV/AIDS prevention to circumcise at least 250,000 males.

It should be noted that in this evaluation, I do not aspire to find the best possible policy. I rather have a more moderate aim: I want to compare the policy of not conducting male circumcision to the current policy of the Zambian government to circumcise 250,000 males.

A policy that has better consequences than an alternative is, according to Utilitarianism, morally better than this alternative. That is to say, my aim in this section is to decide whether having this policy is morally better than not having it, from the utilitarian point of view. This requires comparing these two options to see which one of them has better consequences for the well-being of all those affected by them.

According to utilitarianism, Option 1 would be an even worse alternative. The possible consequences would be that people would continue to transmit and contract the HIV because the 60% to 70% prevention of HIV transmission that male circumcision provides would not be there. Consequently, people would become infected, sick, become a burden to their families and the nation, and ultimately die from AIDS.

Option 2 is better than Option 1 on the basis that the Policy of conducting circumcision of at least 250,000 males by 2015 in Zambia promotes the well-being of the people affected by HIV/AIDS. Zambia’s policy on male circumcision has contributed positively to curbing the HIV transmission in the country. Lusaka had an HIV prevalence rate of 17.5% by 2007 (Zambia Country Report on HIV and AIDS, 2010) which was the highest among all other provinces in the country. Curbing the increase of HIV transmission is therefore an important step by the Zambian government to ensure that the people are freed from the virus in order to contribute positively to the economic and social development of this young nation. This shows that the Zambian authorities through the Ministry of Health have a reason to make sure that their policy on male
circumcision is adhered to. In this regard, the policy promotes the well-being of all the affected parties (all Zambians) better than the option of not conducting circumcision. In this respect it promotes the quality of life of the Zambian population thereby contributing to the good life of the people through their positive contribution to the economic and social development of the nation.

Additionally, the other positive aspect of Option 2 is that not only will circumcision reduce HIV infections but also prevent the transmission of the virus that causes cervical cancer in women. Cervical cancer has claimed a lot of productive lives in Zambia.

With regard to Option 2, sensitization campaigns need to be scaled up so that people have sufficient information on the advantages of male circumcision. In a country where the HIV prevalence is high convincing people to go for male circumcision should not be a problem. What is required is proper sensitization and stressing the fact that male circumcision like many other preventive measures such as condom use is not hundred percent safe.

6.3 CONCLUSION

This chapter has presented the ethical evaluation using the Lesser Evil Principle and Utilitarian theory. According to the Principle of the Lesser Evil, it admits that the acts involved in both alternatives involved are evil, but since one alternative is worse than the other, the one chosen is the lesser evil. From the Utilitarian point of view the policy promotes the well-being of all the affected parties (all Zambians) better than the option of not conducting circumcision.
CHAPTER 7: SUMMARY, CONCLUSION AND RECOMMENDATIONS

7.1 SUMMARY

This dissertation evaluated male circumcision as a means of HIV/AIDS prevention in Lusaka urban from an ethical point of view. Chapter 1 presented the introduction to the entire study. Particularly, it presented the background of the study, the statement of the problem, the aim of the study, the objectives which were identified as follows: (i) to explain the debate on male circumcision as a means of HIV/AIDS prevention; (ii) to present a detailed explanation of the advantages and disadvantages of the different kinds of male circumcision that are practiced in Lusaka urban; (iii) to compare, from an ethical point of view, the different types of male circumcision practiced in Lusaka urban; (iv) to make recommendations on male circumcision practices in the Zambian context. Chapter 1 ended with a presentation of the research questions and an elucidation on the significance of the study.

Chapter 2 outlined the methodology, limitations and ethical issues of the study. In outlining the methodology, the empirical method and the philosophical method were described.

Chapter 3 reviewed relevant literature that have been written locally and abroad on the question of male circumcision as a means to HIV/AIDS prevention. Particularly, it discussed the efforts that 13 countries in Sub-Saharan Africa have made in putting in place the key services needed in circumcision programmes. The chapter also dealt with objective (i) of this study, that is the current debate on male circumcision as a means of HIV/AIDS prevention by presenting the arguments of medical doctors who oppose male circumcision as a means of HIV prevention.

Chapter 4 outlined the ethical principle and the theory employed in the ethical evaluation of this study. It started by describing the Principle of the Lesser Evil and then outlined Utilitarianism.

Chapter 5 presented and discussed the data collected through questionnaires and interviews with circumcised males and health practitioners. It interpreted collected data into meaningful information based on the research questions stated at the beginning of the study. This was achieved through explanation and discussion of the data collected for ethical evaluation. In this chapter objectives (ii) and (iii) were achieved by identifying and explaining the methods of male circumcision and giving the advantages and disadvantages of male circumcision.

Chapter 6 presented the ethical evaluation of the findings by applying the Principle of the Lesser Evil and the Utilitarian theory. The results of this ethical evaluation in applying the Lesser
Evil principle was that the two alternatives that were available were, overall, bad in that they were both evils. However, the decision by the Ministry of Health to promote male circumcision as a means of HIV/AIDS prevention was considered right, according to the Principle of the Lesser Evil. This was based on the fact that not conducting male circumcision leaves the agent at a higher risk of contracting and transmitting the virus. In addition it would also contribute to poor hygiene which would promote a conducive environment for the breeding of the virus.

According to Utilitarianism or the utilitarian point of view, the policy to conduct male circumcision as a means of HIV/AIDS prevention was seen to have better consequences (compared with the option not to circumcise) on the Zambian population but that there was need for consideration of the alternatives that have better overall consequences such as the need to sensitize the masses that male circumcision does not guarantee 100% protection against HIV transmission.

7.2 CONCLUSION

The rate of HIV prevalence in Lusaka province is very high. In 2007 it was estimated to be at 17.4% (ZDHS 2007). Compared to other provinces in the country, Lusaka province recorded the highest level of HIV prevalence in the country. The rates of HIV prevalence should therefore not be left unattended to but measures should be taken to reduce the levels by all possible means of prevention of transmission.

Male circumcision is one of the ways through which HIV infections can be prevented. It was with the understanding that male circumcision is on the side of HIV prevention that the study sought to establish. It is for this reason that I have demonstrated that with the necessary mechanisms in place, initiatives being adopted by the Zambian government through the Ministry of Health to expand male circumcision could represent a valuable new aspect of global HIV prevention efforts and save millions of lives.

Despite some perceived disadvantages, participants overall endorsed male circumcision, especially relative to health. There was overwhelming support for the government to educate the public on male circumcision.

Other concerns were related to the quality and safety of male circumcision procedures, accessibility, and the possible tendency toward disinhibition. The findings underscore that issues around education, training and services, and policies need urgent attention. As such, the findings ultimately recognize that such programmes are not a ‘magic bullet’ against HIV infections, and
recommended a continued focus and incorporation of proven HIV prevention measures, such that abstinence, being faithful to one sexual partner, the promotion of condom use, HIV testing and counselling which must not be sacrificed.

7.3 RECOMMENDATIONS

In view of the findings of this study, the following recommendations are made:

i) Zambia 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.

ii) 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.

iii) 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.

iv) Before policy makers and programme developers promote male circumcision for specific population groups, they should justify the reasons in consultation with members of such population groups, stakeholders and other critical decision makers through sensitization.

v) Finally, this study is considered a preliminary one that just “gives an idea” of male circumcision as a means of HIV/AIDS prevention in Lusaka urban from an ethical point of view. It should set the pace for other studies which would be much more comprehensive, covering a bigger number of the population by extending the research to all provinces.
REFERENCES


Cook, M., 2005. Was Karol Wojtyla the Greatest Mass Murderer of the 20th Century?


Medical Ethics and the Circumcision of Children, 2006. Seattle: Doctors Opposing Circumcision,


Ministry of Health and Social Services (MoHSS) [Namibia]. 2007. National policy on HIV/AIDS. Windhoek: MoHSS.


UNAIDS 2008. AIDS Update, Geneva: UNAIDS. Available at:

UNAIDS 2010. Report on the Global AIDS Epidemic, Available at:

HIV prevalence settings: what can mathematical modeling contribute to informed
decision making? Available at:
http://www.plosmedicine.org/article/info:doi/10.1371/journal.pmed.1000109 (accessed
6 January 2012).

USAID Lesotho 2009, Potential Cost and Impact of Expanding Male Circumcision in Lesotho,
Available at:
19 January 2012).

USAID Namibia 2009, Qualitative Research on Male Circumcision in Namibia, Available at:

What happened in Uganda? Available at:
(accessed 15 January 2012).

(accessed 17 January 2012)


Wawer, M. J., 2007. Trial of male circumcision: HIV, sexually transmitted disease (STD) and
behavioural effects in men, women and the community. Available at:

cells in the human prepuce: site of a diminished immune response”? Isr J Med Sci,
29(1), 42-43.

22(5).
WHO 2009. “Country experiences in the scale-up of male circumcision in the Eastern and Southern Africa Region: two years and counting”  
Dear Respondent,

You have been randomly selected to participate in the study about the effectiveness of male circumcision as a means of HIV/AIDS prevention in Lusaka Urban. The study is purely an academic exercise. Therefore, be assured that the information provided will be treated with utmost confidentiality. We thank you most sincerely for your corporation.

Tick as appropriate [ X ]

1. What is your sex?
   - Male [ ]
   - Female [ ]

2. For how long have you been working with this institution?
   - Less than 1 year [ ]
   - 2 – 5 years [ ]
   - 6 – 9 years [ ]
   - 10 years and above [ ]

3. According to you, is there a difference between a circumcised male and the uncircumcised male in relation to HIV/AIDS prevention?
   - Yes [ ]
   - No [ ]
4. How has been people’s response to male circumcision as a means of HIV/AIDS prevention?
   - Excellent [ ]
   - Good [ ]
   - Bad [ ]
   - Poor [ ]

5. In your opinion, would you encourage people to go for male circumcision as a way of HIV/AIDS prevention?
   - Yes [ ]
   - No [ ]

6. In your opinion, do you think male circumcision is effective in preventing HIV/AIDS?
   - Yes [ ]
   - No [ ]

7. How many and what methods of male circumcision are practiced in Lusaka urban that you know of?
   - One [ ]-------------------,-------------------
   - Two [ ]-------------------,-------------------
   - Three [ ]-------------------,-------------------,-------------------
   - Four [ ]-------------------,-------------------,-------------------,-------------------

8. Are there any advantages of male circumcision?
   - Yes [ ]
   - No [ ]

9. Are there any disadvantages of male circumcision?
   - Yes [ ]
   - No [ ]

10. Has the idea of male circumcision been well received by the general public?
    - Yes [ ]
    - No [ ]
11. Do you think mandatory male circumcision could work effectively in Zambian?
   Yes [ ]
   No [ ]

12. Has there been wide sensitization in communities on the benefits of male circumcision?
   Yes [ ]
   No [ ]

Any final comments?
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THANK YOU FOR YOUR TIME
Appendix A (ii): Questionnaire for the Circumcised

The University of Zambia
School of Humanities and Social Sciences
Department of Philosophy and Applied Ethics

Introduction
I am Kabwe Kennedy, an MA student at the University of Zambia. As per academic requirements, I am conducting a study on the effectiveness of male circumcision as a means of HIV/AIDS prevention in Lusaka urban. You have randomly been selected to participate in the study. We thank you most sincerely for your corporation and we promise that the information you will provide will be treated with utmost confidentiality and will only be used for academic purposes.

Tick as appropriate

1. What is your marital status?
   Single [ ]
   Married [ ]
   Divorced [ ]
   Widow/widower [ ]

2. At what age were you circumcised?
   18 – 24yrs [ ]
   25 – 34yrs [ ]
   35 – 44yrs [ ]
   45 – 54yrs [ ]
   55 – Above yrs[ ]

3. Did you decide to go for male circumcision on your own?
   Yes [ ]
   No [ ]
4. According to you, is there a difference between a circumcised and uncircumcised male in relation to *HIV/AIDS*?
   
   Yes [ ]
   No [ ]

5. Do you think many people are going for male circumcision because of *HIV/AIDS*?
   
   Yes [ ]
   No [ ]

6. Do you think Male Circumcision is an effective means of *HIV/AIDS* prevention?
   
   Yes [ ]
   No [ ]

7. Are there any advantages of being circumcised?
   
   Yes [ ]
   No [ ]

8. Are there any disadvantages of being circumcised?
   
   Yes [ ]
   No [ ]

9. Do you think enough information on male circumcision has reached the people?
   
   Yes [ ]
   No [ ]

10. Would you encourage other people to go for male circumcision?
    
    Yes [ ]
    No [ ]

Any other comments

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THANK YOU FOR YOUR TIME
Appendix B (i): SEMI-STRUCTURED INTERVIEW QUESTION GUIDE FOR HEALTH PRACTITIONERS

INTRODUCTION

1. Researcher’s self-introduction.
2. Respondent’s self-introduction.
3. Researcher explains the purpose of the interview.
4. Researcher requests respondent’s participation in the research.
5. Researcher assures the respondents’ participation as confidential.
6. Researcher presents the respondents with the consent forms.
7. Researcher thanks the respondents for their availability to take part in the research.

QUESTION GUIDE

1. What is male circumcision?
2. What is the relationship between male circumcision and sexually transmitted infections like HIV?
3. What are some of the advantages of circumcision?
4. What are some of the disadvantages male circumcision?
5. What would you say to someone who was considering going for male circumcision?
6. What is your institution doing with regard to male circumcision?
7. Any other opinion regarding male circumcision?
Appendix B (ii): SEMI-STRUCTURED INTERVIEW QUESTION GUIDE FOR CIRCUMCISED MALES

INTRODUCTION
1. Researcher’s self-introduction.
2. Respondent’s self-introduction.
3. Researcher explains the purpose of the interview.
4. Researcher requests respondent’s participation in the research.
5. Researcher assures the respondents’ participation as confidential.
6. Researcher presents the respondents with the consent forms.
7. Researcher thanks the respondents for their availability to take part in the research.

QUESTION GUIDE
1. What do you understand by male circumcision?
2. Why did you decide to go for male circumcision?
3. What (or who) do you think has had the biggest influence on your decision to go for male circumcision?
4. What was your experience during male circumcision operation?
5. What were your expectations of circumcision?
6. What problems did you have after circumcision?
7. What are some of the advantages of circumcision?
8. What are some of the disadvantages male circumcision?
9. What would you say to someone who was considering going for male circumcision?
10. What should the government do about male circumcision?
11. Any other opinion regarding male circumcision?
Appendix C: CONSENT FORM

UNZAREC FORM 1b

THE UNIVERSITY OF ZAMBIA
DIRECTORATE OF RESEARCH ND GRADUATE STUDIES

Telephone: 290258/ P. O. Box 32379
Fax: +260-1-290258/293937 Lusaka, Zambia

HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE
CONSENT FORM
(Translated into vernacular if necessary)

TITLE OF RESEARCH:

REFERENCE TO PARTICIPANT INFORMATION SHEET:

1. Make sure that you read the Information Sheet carefully, or that it has been explained to you to your satisfaction.
2. Take note of whether tape or ‘audio’ recording has been used.
3. Your participation in this research is entirely voluntary, i.e. you do not have to participate if you do not wish to.
4. Refusal to take part will involve no penalty or loss of services to which you are otherwise entitled.
5. If you decide to take part, you are still free to withdraw at any time without penalty or loss of services and without giving a reason for your withdrawal.
6. You may choose not to answer particular questions that are asked in the study. If there is anything that you would prefer not to discuss, please feel free to say so.
7. The information collected in this interview will be kept strictly confidential.
8. If you choose to participate in this research study, your signed consent is required below before I proceed with the interview with you.

VOLUNTARY CONSENT

I have read (or have had explained to me) the information about this research as contained in the Participant Information Sheet. I have had the opportunity to ask questions about it and any questions I have asked have been answered to my satisfaction.

I now consent voluntarily to be a participant in this project and understand that I have the right to end the interview at any time, and to choose not to answer particular questions that are asked in the study.

My signature below says that I am willing to participate in this research:

Participant’s name (Printed): …………………………………………………………………………………………………………………
Participant’s signature: ……………………………………… Consent Date: ……………………………………………………………
Researcher Conducting Informed Consent (Printed) ………………………………………………………………………………………
Signature of Researcher: ………………………………… Date: ………………………………………………………………………
Signature of parent/guardian: …………………………… Date: ………………………………………………………………………

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