

LUSAKA APEX MEDICAL UNIVERSITY



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MEDICINE

Public Health (CBE 410)

Research Report

**MEDICAL MALE CIRCUMCISION FOR HIV/AIDS PREVENTION:
ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE AMONG PRE-
MEDICAL MALE STUDENTS AT LUSAKA APEX MEDICAL UNIVERSITY,
CHALALA CAMPUS.**

**A Research Report submitted to the Lusaka Apex Medical University
As partial fulfilment for the Bachelor of Science degree in
Medicine and Surgery.**

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DECLARATION

I Saara .N. Hans, Student Number: MB15/01/004339, Lusaka Apex Medical University declare that this research report is my original work and has not been presented in any other University/Institution for consideration of any certification. This research proposal has been complemented by referenced sources duly acknowledged from the internet, these are specifically accredited and references cited using current Harvard System and in accordance with anti-plagiarism regulations.

Signature:



Date: 03/05/22

SUPERVISOR DECLARATION

I hereby certify that this project proposal has been read and evaluated by me. I hereby acknowledge that this proposal has been submitted for appraisal with my approval as a university supervisor.

Signature:



Date: 03/05/22

ACKNOWLEDGEMENTS

I express gratitude, honor and glory to God for showering his abundant mercies on me without which I would not be able to successfully conduct a project study. I would like to acknowledge My Supervisor MS Sampa Namwawa for the assistance and guidance to the development of this paper and who capacitated me to develop an understanding of the subject.

DEDICATION

This research paper is dedicated to my wonderful Aunt Anna Pokolo. You have been an inspiration and role model my whole life. You have been the best thing that has ever happened in my life and I am proud to call you my mother. I shall forever love you.

ABSTRACT

Background

Circumcision is defined as the permanent and complete removal of the foreskin (prepuce), the fold of skin that covers the head (or glans) of the penis and can be performed for medical reasons or as traditional and religious practices (WHO, 2018). The health burden of HIV infections is greatest in developing countries including Zambia, male circumcision is therefore one of the recommended HIV prevention intervention particularly in high prevalence areas, such as sub-Saharan Africa where transmission is largely related to heterosexual contact (WHO, 2018).

Objective

This study aimed at assessing the knowledge, attitude and practices of pre-medical male students on medical male circumcision with regard to HIV/AIDs prevention, at Lusaka Apex Medical University (LAMU), Zambia.

Methods

This study utilized a qualitative paradigm, guided by a Cross sectional survey design. 24 male participants between 18-25 years were selected by heterogeneous purposive sampling. Data was collected by means of semi-structured interviews with the aid of an interview guide and analyzed using NVivo software.

Results

The study revealed that majority of pre-medical male students at LAMU had good knowledge, positive attitude and good practices towards medical male circumcision with regard to HIV/AIDs prevention. Majority (17) were circumcised and majority revealed good knowledge on MC benefits including reducing HIV transmission risk, prevention of other STIs & cervical cancer and promotes good penile hygiene.

Conclusion

Although the study revealed majority of respondents to have good knowledge, positive attitude and good practices regarding MC, the absence of comprehensive MC educational efforts may have led to few respondents to show poor association of MC to HIV transmission. It is essential to ensure dissemination of information highlighting the role of MC in reducing the risk of HIV transmission and raise public awareness on the importance of combating HIV/AIDS in Zambia. Information communication should emphasize that MC does not provide absolute protection of HIV infection. Therefore, in as much as men get circumcised, they should as well engage in safe sexual practices, otherwise, cases of HIV infection may keep soaring high.

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LIST OF ABBREVIATIONS AND ACRONYMS

Abbreviations and meanings

AIDS.....	Acquired Immune Deficiency Syndromes
EIMC.....	Early Infant Male Circumcision
HIV.....	Human Immune-deficiency Virus
LAMU.....	Lusaka Apex Medical University
MC.....	Male Circumcision
MMC.....	Medical Male Circumcision
TMC.....	Traditional Male Circumcision
VMMC....	Voluntary Medical Male Circumcision
WHO.....	World Health Organization
STIs.....	Sexually Transmitted Infections
UNAIDS....	The Joint United Nations Programme on HIV/AIDS

DEFINITION OF KEY TERMS

Attitude- A particular feeling or opinion about something.

Circumcision- A procedure that removes the foreskin from the human penis.

Knowledge- Facts, information and skills acquired through experience or education; theoretical or practical understanding of the subject.

Practice- The actual application of or use of an idea, belief or method, as opposed to theories relating to it.

Homosexual- Sexual attraction/ behavior between members of the same sex or gender.

Heterosexual- Sexual attraction/ behavior between members of the opposite sex or gender.

CHAPTER ONE

1. INTRODUCTION

1.1 Background

Circumcision is defined as the permanent and complete removal of the foreskin (prepuce), the fold of skin that covers the head (or glans) of the penis and can be performed for medical reasons or as part of traditional and religious practices (WHO, 2018). Religion, cultural, medical, and recently public health reasons are known to be the major indications of the procedure, whereby, religious circumcision is practiced by the Jews; religious and cultural circumcision is also practiced by Muslims, Black Africans, Australian aborigines, and other ethnic groups in different parts of the world (Plank *et al.*, 2013). As stated by Plank *et al.*, (2013); in Western societies, circumcision is mostly performed for medical reasons, the most common of which is phimosis, while other medical indications are paraphimosis, balanitis (inflammation of the prepuce), posthitis (inflammation of the glans), localized condyloma acuminata and localized carcinoma.

The American Academy of Pediatrics Task Force on Circumcision (2012) mentioned that the specific benefits from male circumcision were identified for the prevention of urinary tract infections, acquisition of HIV, transmission of some sexually transmitted infections and prevention of penile cancer. Currently, the public health benefits of male circumcision are topic of interest particularly as regards Human Immunodeficiency Virus (HIV) infection as it has been shown to reduce the risk of transmission of HIV infection (Abdulwahab-Ahmed & Mungandi, 2013). According to Abdulwahab-Ahmed & Mungandi (2013), circumcision methods can be classified into one of the three types or combinations thereof: dorsal slit, shield and clamp, and excision. Many of the methods in use today fall in to one of these major classes. Shield and clamp adopts the use of device to effect circumcision obviating the use of knife in majority of cases. The device method is the commonly used method of circumcision in recent practice.

Uncircumcised

Mielke (2019), stipulates that there are divergent viewpoints on the purpose and function of the foreskin. Male circumcision opponents view the keratinized squamous

epithelium that covers the penile shaft and the foreskin in the uncircumcised penis as having protective functions, and beyond being epithelial debris, there is smegma, a natural emollient that protects and lubricates the glans (Mielke, 2019). Mielke (2019) again added that one author stated that the inner foreskin contains apocrine glands that secrete substances e.g. lysozymes and cytokines with antibacterial properties although it has not been proven in a biochemical research. However, a study done by WHO (2008) elicited that the substance smegma is a combination of exfoliated epithelial cells, transudated skin oils, moisture and bacteria and due to this, the inner foreskin and glans require regular cleaning to ensure adequate penile hygiene as there is a potential for secretions to accumulate in the space between foreskin and glans, potentially leading to proliferation of pathogens.

Circumcised

Mielke (2019) study furthermore established that the alternate view is that the biochemical and structural properties of the intact foreskin result in increased acquisition of HIV and other STIs, such that, during intercourse, the foreskin slides backward and exposes the inner mucosal surface with its high density of target cells for HIV, Langerhans cells, CD4+ cells, and macrophages and in turn providing an entry point for pathogens. Lymphoid areas of mucosal surfaces are primary sites for HIV infection and foreskin tissue has been identified as both having abundant HIV target cells and susceptibility to trauma because of its thinly keratinized surface (Donoval *et al.*, 2006; Hirbod *et al.*, 2010). Structurally, the folding of the foreskin on the non-erect uncircumcised penis creates a sub-preputial space, and removing the foreskin surgically help remove the reservoir for HIV, human papilloma virus (HPV), and other pathogens. In theory, removal of the foreskin reduces HIV target cells, eliminates the sticky medium for viruses, exposes the more keratinized penile shaft and eliminates the sub-preputial space which collectively diminishes pathogen exposure (Mielke, 2019).

The incidence of complications varies between 0.034% and 7.4% in communities where circumcision is widely practiced (Malone & Steinbrecher, 2007). Depending on the method used, complications described range from minor problems: bleeding, excess skin remaining glanular adhesions, cosmetically poor appearance, skin granuloma formation, denuding of the penis, abnormal rotation or chordee of the penis and meatal stenosis and major complications such as total penile amputation formation of urethral

fistula and altered or reduced penile sensation (Malone & Steinbrecher, 2007). Complications are however said to be uncommon, and circumcision benefits outweigh the procedural complications (Plank *et al.*, 2013). Wamai *et al.*, (2015) documented that male circumcision was suggested to prevent sexually transmitted infection as early as the 1850s and broadly as a sanitary measure in 1914, and when the three large randomized controlled trials in sub-Saharan Africa (involved South Africa, Kenya, and Uganda) reported that male circumcision reduced the risk of acquiring HIV infection in males by as much as 60%, attention to its health benefits became a world-wide discussion. In 2007, the World Health Organization (WHO) and the Joint United Nations Programme on HIV/AIDS (UNAIDS), announced that male circumcision was integral to comprehensive HIV prevention (Ruth, 2019).

About 25-33% of the total world male population is circumcised (Plank *et al.*, 2013). In the US, an average of a million newborn males are circumcised yearly as circumcision rate in US is as high as 70% and it is arguably the oldest surgical procedure in history (Plank *et al.*, 2013). In the UK, Halperin & Epstein (2019) indicated that circumcision of British men is on the decline and stands at 15.8% of 16-44 year olds, and the rates vary: high among Jewish men (98.7%), and lower among Hindus, Sikhs and Buddhist (9.8%). The overall low rate of circumcision in the UK likely follows on directives from the National Health System (NHS) that recommends circumcision only if medically indicated (Halperin & Epstein, 2019).

Hensen (2018) revealed that, between 2010 and 2016, the annual number of new HIV infections among individuals aged 15 years and older in eastern and southern Africa declined only by 11%. In the absence of a vaccine, ending the HIV epidemic by 2030 requires high coverage of anti-retroviral therapy (ART) and prevention strategies including voluntary medical male circumcision (VMMC) in countries with a high burden of HIV, and by 2015, progress in reaching 80% VMMC coverage targets among males aged 15-49 years was variable across the 14 VMMC priority countries in eastern and southern Africa (Hensen, 2018). Hensen (2018) further concluded that, in Zambia, where traditional circumcision is not widely practiced, VMMC was officially launched in 2009, and by 2016, 1.5 million males had been circumcised in, of whom an estimated 60% were aged over 15 years, with 2020 Fast Track targets calling for 80% VMMC coverage among males aged 15 to 49 years. Recognizing the need to increase VMMC

coverage, studies have explored barriers to VMMC uptake and evaluated strategies to address these, including incentive, group information sessions for males and their female partners, tailored information through SMS-messaging, postcards with messages challenging masculinity norms, sports-based VMMC information and motivation sessions, and transport vouchers and VMMC information delivered to men through their pregnant spouse. Few of these strategies have been effective at increasing coverage, particularly among men aged 25 years and older (Hensen, 2018). Although the World Health Organization has accepted and recommended medical male circumcision as an HIV prevention strategy, the success however of this strategy depends on its uptake within the community, something consequent upon cultural acceptance, knowledge, attitude and practice of its effectiveness in the prevention of HIV transmission (Herman-Roloff , Bailey & Agot 2012; Dickson *et al*, 2011). In 2019, a report by the Southern African Journal of HIV Medicine stated that behavioral change is an important instrument in the public health promotion of MMC, and for change and acceptability to happen, people's knowledge and attitude have to change (Olapade-Olaopa, Salami & Lawal, 2019).

A study by (Yang *et al.*, 2019) indicated that a high percentage of Zambia college students aged 18-25 years engage in risky sexual behaviors which are the important factors driving HIV/AIDS epidemic. Kelly (2002) as cited by Nshindano & Maraj (2008), stated that young people, aged 18-24, are at a stage of life characterized by sexual discovery and experimentation and as a result they are more likely to engage in higher risk sexual behaviors such as sex with many partners, increasing HIV/AIDS transmission. The role of negative attitude, lack of knowledge and its contribution to low circumcision rates is however unknown, thus, this study therefore sought to better understand the knowledge base and attitude of pre-medical male students on medical male circumcision with regard to HIV prevention, a case study at Lusaka Apex Medical University, Chalala Campus in Zambia.

1.2 Problem Statement

Southern African Journal of HIV Medicine, (2019); reported that; HIV is a major global health challenge especially in sub-Saharan Africa, and in 2013, more than 35 million people worldwide were infected and 1.5 million died of HIV and AIDS. According to the report by the Southern African Journal of HIV Medicine (2019), male circumcision

(MC), which is the surgical removal of the foreskin of the penis, supplement less effective strategies such as abstinence, faithfulness to a partner and the consistent use of condoms as means to prevent infection. East and Southern African countries have implemented MMC as a primary prevention strategy and the widespread of MMC introduction followed compelling evidence of the reduction of HIV acquisition in circumcised, uninfected and exposed men more than 40% (Halperin and Epstein, 2019). Halperin and Epstein (2019) stated that the biological reasonable and efficacy of the male circumcision procedure arises from the fact that the penile foreskin contain many CD4 receptor-bearing Langerhans cells and lymphocytes. These cells permit viral (HIV) invasion, and in addition, to the removal of vulnerable tissue, circumcision assists in increasing the thickness (keratinization) of residual skin, thereby reducing penile abrasions during intercourse. Circumcision may reduce the incidence of genital ulcers and in this way also protect from HIV infection.

The Zambian government has endorsed voluntary medical male circumcision (VMMC) as a biomedical strategy for HIV prevention after a decade of debating its effectiveness in the local setting (Mahule, 2016). According to Mahule (2016), the current policy recommends that male circumcision (MC) should be clinically based, as opposed to the alternative of traditional male circumcision (TMC). This is cardinal because, by removing the foreskin surgically, circumcision permanently eliminates the sub-preputial space and exposes the glans to air on both the erect and non-erect penis. Thus, reducing HIV transmission by 60%. However, Acceptability concerns are among the challenges threatening the mass rollout of VMMC. Jones *et al.*, (2018) asserted that; VMMC uptake in Africa could prevent 3 Million HIV infections across 10 years. In Zambia, however, approximately 80% of uncircumcised men report no interest in undergoing VMMC despite studies showing the effectiveness of male circumcision in reducing HIV transmission in heterosexual contact (Jones *et al.*, 2018). Many factors have been attributed to low MC rates in Zambia, especially in non-circumcision regions, of which the main concerns are inadequate knowledge, poor attitudes resulting in poor practice in turn.

As Zambia is advocating to circumcise 80% of all HIV-negative men, acceptability concerns are among the challenges threatening the mass rollout of VMMC, especially in non-circumcising provinces such as Lusaka (Mahule, 2016). This poses a huge HIV

transmission risk, as Zambia is among the 13 countries in sub-Saharan Africa where HIV prevalence is notoriously high (Banda,2021).Since the inception of the Voluntary Medical Male Circumcision services in Zambia in 2007, very little research has been conducted on the knowledge, attitude and practices of medical male circumcision in fighting HIV/AIDS. It is against such background that this work was done in order to explore the attitudes, knowledge and practices as they are the main barriers to achieve the scale-up required to realize the public health impact (MoH, 2016).

1.3 Rationale of Study

The low uptake of Voluntary Medical Male Circumcision services especially among the (WHO) target age group 15 – 49 years despite the studies showing the effectiveness of male circumcision in reducing HIV transmission (Jones *et al.*, 2018). It was the hope of the researcher that this research would be able to explore the attitudes, knowledge and practice among pre-medical male students at Lusaka Apex Medical University, considering the link between Male Circumcision (MC) and HIV infection, the results provided by this research would equally be of great value to policy makers and health care stakeholders on how to combat HIV transmission. Furthermore, it is imperative that this research be carried out to assess factors leading to poor attitude, lack of knowledge regarding male circumcision in order to help meet the national plan advocating to circumcise 80% of men (Mahule, 2016). The work is therefore, not only to add to the existent body of knowledge which increasingly enhance awareness on male circumcision as a HIV/AIDS preventative measure in the community, but also create a baseline upon which other scholars and researchers would use when they want to conduct similar studies in Zambia or elsewhere in the immediate or near future.

1.4 General Objective

To assess the knowledge, attitude and practices of medical male circumcision with regard to HIV prevention, among pre-medical male students at Lusaka Apex Medical University.

1.5 Specific Objectives

- To assess the knowledge of pre-medical male students at LAMU on medical male circumcision with regard to HIV prevention.
- To establish the attitude that pre-medical male students at LAMU have towards medical male circumcision in preventing HIV.

- To explore the practices associated with medical male circumcision among pre-medical male student at LAMU.

1.6 Research Questions

1. What knowledge do pre-medical male students at LAMU have on medical male circumcision with regard to HIV prevention?
2. What are the attitudes of pre-medical male students at LAMU towards medical male circumcision in prevention of HIV?
3. What practices among pre-medical male student at LAMU associated with medical male circumcision in prevention of HIV transmission?

CHAPTER TWO

2. LITERATURE REVIEW

2.1 Overview of male circumcision

World-wide, male circumcision is an important component in the prevention of diseases. It does not replace but strengthens established approaches to prevent and treat infection example; avoidance of risky sexual behaviors, condom use, anti-viral/antibiotic medications, and vaccinations. The role of male circumcision to diminish infections, whether urinary tract or sexually transmitted infections (STIs), conserves health resources for those with unpreventable illness and more broadly, can play a role in increasing the health of the population overall (Plank *et al.*,2013).

2.2 History of male circumcision

Ritual male circumcision is known to have been practiced by South Sea Islanders, Australian Aborigines, Sumatrans, Incas, Aztecs, Mayans and Ancient Egyptians while today, it is still practiced by Jews, Muslims and many tribes in East and Southern Africa (Doyle, 2005). Many claims have been made about ritual male circumcision, perhaps explaining why the practice is spreading not as a ritual but as a surgical procedure beyond those ethnic groups. At the beginning of the twentieth century, Doyle (2005) claimed that people practiced circumcision and believed it could cure or prevent no fewer than 100 conditions including alcoholism, asthma, epilepsy, enuresis, hernia, gout, rectal prolapse, rheumatism and kidney disease and it is not only an ancient procedure, today it is arguably the most widely practiced surgical procedure in the world, with rates ranging from 3–4 % in the UK and Scandinavia and to 77% of males

in the US. Circumcision was practiced by three groups: Jews and Muslims, Australian Aborigines and South Sea Islanders, and the Bantu of Africa (Doyle, 2005). According to McCann (2012), Circumcision can be traced back to about 15, 000 years to Ancient Egypt, yet it continues to be considered one of the most controversial surgeries today and these controversies are mostly based on religious, health, sexual, and ethical grounds. Hodges (2008), claimed that, since the Greek and Roman Empire, the foreskin has been valued but other groups such as Jews and the Islam have been practicing circumcision for religious purposes as recorded in the Holy Bible and Quran. In the 19th century, most Anglophone countries circumcised people for several other reasons, and one of them was an attempt to stop them from masturbating (McCann, 2012).

2.3 HIV and medical male circumcision

The health burden of HIV infections is greatest in developing countries where HIV is more prevalent, and treatment is least available and of the 39.3 million persons living with HIV worldwide, nearly 70% live in Sub-Saharan Africa, of those, adolescent girls and women account for a disproportionate percentage (59%) of new HIV infections among adults aged 15 and older. This contrasts with other parts of the world, where men account for 63% of the new adult HIV infections (Mielke, 2019). Globally, there were almost 90,000 more new HIV infections among men than women in 2017. Mielke (2019) study therefore pointed out that reaching more men with HIV treatment, more proactively with preventive measures such as circumcision is critical to breaking cycles of HIV transmission and reducing HIV incidence among young women. If fewer men acquire HIV because of male circumcision (MC), this will benefit women by reducing exposure to HIV-infected men. To date, there are no formal programs for male circumcision, whether for voluntary medical male circumcision (VMMC) or early infant male circumcision (EIMC) in developing countries, however, health care workers in developed and developing countries alike must be prepared to counsel parents that choosing EIMC could have protective benefits ranging from UTIs in infancy to STIs in adulthood, and in addition, health care workers must be able to counsel sexually active adolescent and adult males not only on safe sex practices, but that MC may be an option to promote their health or that of their partner, Mielke (2019) further stated.

Fink (1990), published an article in the New England Journal of Medicine arguing that Male Circumcision was correlated to low HIV prevalence. Since then, scientists have

argued about this correlation between MC and HIV transmission. Towards the end of the 20th century, some researchers had been conducting studies to analyse the supposed effect of MC lowering HIV incidence. One of the most fundamental studies was the one conducted by Larke *et al.* (2011), a meta-analysis of 27 cross sectional studies and the authors concluded that Male Circumcision had a positive correlation with low HIV prevalence. In the United States, Mielke (2019) study also documented that HIV prevalence is comparatively low and most new HIV infections are attributed to men having sex with men. Theoretically, certain groups in the United States, example African-American and Hispanic men with higher risk of HIV infections could benefit but this impact would be much less profound. In addition, the reality that individuals may identify as either homosexual or heterosexual but are bisexually active further confounds the potential effect of MC on homosexual transmission of HIV, and it is however less clear whether voluntary male medical circumcision programs, such as those employed in Africa would be as beneficial in developed nations (Mielke, 2019).

In the USA, the proportion of HIV cases attributable to heterosexual contact has, moreover, risen substantially with time in the developed countries (Morris & Klausner, 2015). According to Morris & Klausner (2015), the national statistics for Australia show that 25% of cases involved heterosexual contact, and after excluding cases from high prevalence countries, the number of cases whose exposure to HIV was attributed to heterosexual contact has increased by 28% over the past decade, 29% of these being in individuals born in Australia . Morris & Klausner (2015) again stated that there has been a steady rise in HIV prevalence in the WHO European Region, notably in some non-drug injecting, heterosexual populations, in Eastern Europe, as well as in Central Asia. In African Americans in the USA, HIV rates are rising faster than almost all other groups in that country. The US Centres for Disease Control and Prevention (CDC) has recommended male circumcision for HIV prevention in high prevalence groups such as those (Morris & Klausner, 2015). The World Health Organization, The Joint United Nations Programme on HIV/AIDS (UNAIDS), and the US Centre for Disease Control and Prevention (CDC) have endorsed and currently promote voluntary medical male circumcision (VMMC) in HIV-1 epidemic settings in which the major route of transmission is through heterosexual intercourse (Population Health Metrics, 2016). In March 2007, the World Health Organization (WHO) and the Joint United Nations Programme on HIV/AIDS (UNAIDS) convened an expert meeting to review the

evidence for male circumcision for HIV prevention, including data from three Randomized Controlled Trials (RCTs) conducted in Kenya, South Africa, and Uganda. The RCTs showed that circumcision reduced the rates of heterosexual men acquiring HIV through penetrative sex by 50–60%. In all three trials, significant reductions in HIV risk were seen in clinical settings where men received treatment for Sexually Transmitted Infections (STIs) which include free condoms, comprehensive HIV prevention messages, and circumcision performed in sterile conditions by trained personnel Morris & Klausner (2015) further stated. Based on the strength of evidence, WHO and UNAIDS recommended that male circumcision be considered an important new intervention for HIV prevention (Bailey *et al*, 2007). Today, it is argued that Male Circumcision has many health benefits such as preventing penile cancer, cervical cancer in women, HIV and other Sexually Transmitted Infections (Marshall *et al*, 2016; Kahalawe, 2020).

As a result, male circumcision is now a recommended strategy for HIV prevention in men in developing nations. By reducing the number of new infections in the population, the resource burden of HIV treatment is lessened, and fewer women and babies are exposed to HIV infection. Nearly 15 million voluntary medical male circumcisions (VMMC) have been performed for HIV prevention in 14 countries of eastern and southern Africa during the decade since WHO and UNAIDS recommended VMMC to be a component of HIV prevention intervention(WHO,2018) . Although MC has not been directly associated with decreases in HIV transmission to female partners, MC has health promotion benefits for women. High-consistency evidence exists that male circumcision protects women against cervical cancer, cervical dysplasia, herpes simplex virus type 2, chlamydia, and syphilis (WHO, 2018). Even in HIV infected men and women, MC appears to have a role in reducing co-infection with syphilis and STIs such as chlamydia and gonorrhea (Abdulwahab-Ahmed & Mungadi, 2013). Male circumcision therefore represents one of very few proven HIV prevention strategies particularly in high prevalence areas, such as sub-Saharan Africa where transmission is largely related to heterosexual contact (WHO, 2018). In sub-Saharan African countries, after three randomized controlled trials demonstrated that male circumcision (MC) reduces the risk of human immunodeficiency virus (HIV) acquisition by approximately 60%, the Joint United Nations Programme on HIV/AIDS (UNAIDS) and the World Health Organization (WHO) recommended in 2007 that countries with generalized

epidemics and low MC prevalence establish and scale up voluntary medical male circumcision (VMMC) as a component of comprehensive HIV prevention (Stegman *et al.*, 2021). Since then, 15 countries in sub-Saharan Africa prioritized by UNAIDS and WHO have included VMMC as part of prevention programming: Botswana, Eswatini, Ethiopia, Kenya, Lesotho, Malawi, Mozambique, Namibia, Rwanda, South Africa, South Sudan, Tanzania, Uganda, Zambia and Zimbabwe (Stegman *et al.*, 2021). Building from this, the study by (Stegman *et al.*, 2012) again reported that UNAIDS and WHO developed the Joint Strategic Action Framework to Accelerate the Scale-up of VMMC for HIV Prevention in eastern and southern Africa, 2012–2016, to guide scaling up VMMC among men aged 15–49 years. This was followed in 2016 by the Framework for Voluntary Medical Male Circumcision Effective HIV Prevention and a Gateway to Adolescent Boys' and Men's Health in eastern and southern Africa by 2021, to help integrate VMMC into sexual and reproductive health services for boys and men. Currently, it is estimated that around 26 million VMMCs have been performed in the 15 priority countries (Stegmal *et al.*, 2021). Despite this, UNAIDS Fast-Track targets for VMMC have yet to be achieved, and to accelerate the progress, the programme need accurate and reliable data for programme monitoring, strategic planning and effective resource allocation for VMMC (Stegman *et al.*, 2021).

In Zambia, Jones *et al.* (2014); study conducted in Lusaka on VMMC asserted that acceptability is low with lack of knowledge and poor attitude; 80% percent of uncircumcised men report no interest in undergoing VMMC. The same study elicited that men who had a prior discussion with their partners and those who endorsed VMMC as an HIV risk reduction act reported increased readiness to undergo VMMC. Similarly, endorsement of VMMC by female partners was also associated with increased readiness (Jones *et al.*, 2014). However, Jones *et al.* (2014); study had a small sample size to effectively represent a larger population of men's and women's attitudes. Additionally, it is important to be cognizant of the fact that male circumcision before VMMC program as a prevention strategy for HIV, was largely practiced due to traditional connotations. However, with the emergency of the HIV/AIDS pandemic, there has been the urge to demystify the practice from a traditional perspective to that of a prevention strategy (Kenneth, 2015), hence the need to assess knowledge and attitudes that may affect the uptake of the service (Chirwa *et al.*, 2021). Zambia had a high HIV/AIDS prevalence (19.7% in urban areas, 21% in Lusaka,) and a low rate of

MMC (12%), among those aged 15-49 and based upon WHO recommendations, The Zambian Ministry of Health set an ambitious goal of rapidly scaling up the availability of MMCs by 2020 which would require about 300,000 MMCs annually and would represent approximately 50% prevalence (Jones *et al.*, 2014). (Jones *et al.*, 2014) study report continuing, the 2010 nationwide Zambian Sexual Behavior Survey indicated that over 80% of uncircumcised men surveyed have several factors negatively influencing men's willingness to undergo MMC in traditionally non-circumcising populations, examples: fear of pain, fear of surgical complications, fear of reduced sexual functioning, perception of MMC providing only "partial protection" requiring continuing condom use, confusion regarding risk reduction and concerns regarding cultural acceptability.

The National AIDS Strategic Framework 2017–2021 priorities combination of HIV prevention with a view to reducing new HIV infections and with that, Zambia introduced VMMC in 2007 with the aim of performing two million circumcisions by the year 2020 (Chirwa *et al.*, 2021). The VMMC 80% coverage aim of uncircumcised men between ages of 15 and 49 years progress to the target was slow and the number of VMMC performed each year fell short of annual targets. The country operational plan for scale up of VMMC cited 2011 where 84,604 VMMCs represented only 56% of the 150,000-annual target. Rural provinces such as Northern, Muchinga and Eastern provinces were highlighted to have higher targets but with low circumcision prevalence rates and they were also identified as nontraditional circumcision areas that required greater demand-side efforts to address cultural acceptability, as compared to others (Chirwa *et al.*, 2021). Western and North Western Provinces have smaller population size and cultures that are already more accepting of circumcision. Traditional male circumcision is common among the Lunda and Luvale of North-Western province in Zambia and is also viewed as a rite of passage into manhood, usually performed in the months of June, July, November and December commonly referred to as the circumcision season. Traditional circumcision has been associated with surgical complications, increased risk of injury and even death among young men and boys (Chirwa *et al.*, 2021).

2.4 Knowledge, attitude and practice of male circumcision

Circumcised men were found to have positive beliefs with regard to MC and its benefits when compared with uncircumcised men (Westercamp & Bailey, 2007). In a Korean study, circumcised men favoured MC more than uncircumcised men (81.0% versus 53.5%, $p < 0.001$) and were more willing to request MC for their sons (Ku, Kim, Lee & Park, 2003). Similar findings were reported from studies done in Botswana and South Africa, where circumcised men were more likely to state positive health benefits of being circumcised and agreed about the advantages of MC (Kebaabetswe *et al*, 2003; Lagarde, *et al*, 2003) as cited by Lisulo (2015).

Lisulo (2015) stated that a study by Moses, Nagelker & Blanchard (1999), documented a positive biological correlation between MC and STIs (chancroid and syphilis) and lack of circumcision was thought to increase the risk of STIs and HIV infection due to the physiological nature of the prepuce, Fleming & Wasserhei (1999) as cited by Weiss *et al*, 2000). Circumcision has been found to protect against HIV transmission as viral entry may occur via micro-traumatic lesions or mini-ulcerations of the foreskin Moses, Nagelker & Blanchard (1999) as cited by Weiss, Quigley & Hayes (2000), or through trauma to the non-keratinised inner mucosal surface of the foreskin (Hussain &, Lehner T, 1995 as cited by Weiss, Quigley & Hayes, 2000). Furthermore, the presence of the foreskin may obscure the presence of genital ulcers which might easily be recognized in a circumcised penis (Aral & Holmes, 1999 as cited by Weiss, Quigley & Hayes, 2000).

In Tanzania, a qualitative study utilizing in depth interviews in a cohort of police officers 24 men and 10 women revealed that the participants were knowledgeable about MC as a prevention method for both STIs and HIV infection (Tarimo *et al.*, 2012) as cited by Lisulo (2015). The authors revealed that participants were knowledgeable about the effect of circumcision on penile hygiene and its contribution to STI prevention with emphasis being placed on HIV prevention. Lisulo (2015) again stated that, in Namibia, a qualitative study on the acceptability of MC as an HIV prevention strategy involving 13 traditionally non-circumcising communities was conducted and they revealed that, regardless of whether or not MC was typically done in the culture or area, male and female participants had a general understanding that the moist

and closed environment of the foreskin contributes to the growth of bacteria and that this may be related to negative health consequences. Generally, penile hygiene was believed to be a major facilitator of MC in both traditionally circumcising and non-circumcising communities (Halperin *et al*, 2005; Kebaabetswe *et al*, 2003; Lukobo & Bailey, 2007) as cited by Lisulo (2015). Lisulo (2015) further reported that a study conducted in Kenya, found that majority of men in Nyanza province associated MC with better penile hygiene, even among those who preferred to remain uncircumcised while in some African countries such as Zambia and Malawi, there is a belief that women's STI transmission is linked to their husbands/partners circumcision status (Lukobo & Bailey, 2007; Ngalande *et al*, 2006). Although prevention of STI was overwhelmingly mentioned as a health benefit of MC in non-circumcising communities, the association of MC and HIV specifically, was less evident (Halperin *et al*, 2015; Ngalande *et al*, 2006; Nnko *et al*, 2001), (Lisulo, 2015).

In Zambia, focus group discussions were conducted with urban and rural married and single men aged 18 to 39 and thirty-four focus group discussions were conducted; 17 with men and 17 with women in four districts (Lukobo & Bailey, 2007). The study assessed male circumcision practices, opinions, and acceptability as an intervention to improve male genital hygiene and reduce sexually transmitted infections, including HIV. Results therefore revealed different perceptions on male circumcision, with traditional groups practicing male circumcision revealing that uncircumcised men experienced premature ejaculation, decreased penile hygiene, unfit for marriage and male circumcision was believed to be a developmental milestone for a man. It was also perceived to protect one from sexual disease. Opinions were expressed with regards to enhanced sexual pleasure, circumcised men were thought to “perform” longer, thereby increasing their female partner's satisfaction (Lukobo & Bailey, 2007). However, men not practicing traditional male circumcision expressed limited interest in the practice although some considered undergoing MC because of beliefs that women preferred circumcised men (Lukobo & Bailey, 2007). In addition, non-circumcised participants revealed that they would adopt MC for themselves or their sons if it was proven to reduce the risk for HIV and STIs and on condition that it was offered free of charge or at a nominal cost.

The studies above highlighted a mixed attitude towards male circumcision and acceptability rate differs depending on the setting. Traditionally non circumcising regions have reported a low acceptability rate as compared to traditionally circumcising regions. Based on this observation, other studies have proposed that the cultural acceptability of circumcision services can be improved by engaging age and gender-based appropriate mobilisers which in turn will bring about improvements in knowledge, attitude and entirely improve medical male circumcision practice. Similarly, involving influential community leaders, providing a forum for men to discuss health issues was noted to have a likelihood of increasing acceptability rate (Semo *et al.*, 2018).

CHAPTER THREE

3. METHODOLOGY

3.1 Research design

This study utilized a qualitative paradigm, guided by a Cross sectional survey design. Austin *et al.*, (2014) defined qualitative methodology as techniques concerned with how human behavior can be explained, within the framework of the social structures in which that behavior takes place this involves asking participants about their experiences of things that happen in their lives and enables researchers to obtain insights into what it feels like to be another person and to understand the world as another experiences it. Thus the study explored the knowledge and practice of pre-medical male students at LAMU with regards to medical male circumcision in HIV prevention and as well, attained their attitude on the issue. A descriptive non-interventional type of study was utilized. Treece and Treece (1986) defined a descriptive study as any research not involving experimentation but is used to answer questions, satisfy curiosity or establish cause-effect relationship. It was also a cross sectional study because only a sample of the population was included in the study (Bryman, 2008). The study therefore required the use of a semi-structured interview guide.

3.2 Setting

This study was conducted at Lusaka Apex Medical University (LAMU) main Campus in Chalala. The private university was established in 2008, located along the Lusaka-Kasama road, approximately 13.1 kilometers by road, south of the Central Business District of the city of Lusaka, Zambia's capital and largest city. The University

maintains other campuses including Foxdale Campus, Mutandwa Campus and the Tick Campus. Pre-medical sciences classes are only offered at Chalala Campus

3.3 Study population

The study population comprised of students at Chalala Campus, under the faculty of Pre medical sciences. Pre-medical male students were chosen on the researcher's assumption that majority just begun university life from high schools and may be at risk of being involved in risky sexual behaviors and majority had a high chance to fall in the WHO scale up Zambian targeted age group (15-29 years) who can partake in voluntary medical male circumcision. At the time of the study, as provided by the faculty, the Pre-med faculty accommodated approximately 1003 students, who were in their first and second year of study, and of the 1003 premedical students, about 534 were male students, of which 412 were in their first year while 122 male students were in their second year of study. The first year had two semesters, while the second year only had one group.

3.4 Sample size

For phenomenological studies, Morse (1995) argued that the final sample size was determined by thematic saturation, the point at which new data appears to no longer contribute to the findings due to repetition of themes and comments by participants. A study done by Patton (2002) stated that the interviewer and note taker agreed that that thematic saturation was achieved following completion of 20 interviews and in support, Creswell (1998) also stated that sample size guidelines suggested a range between 20 and 30 interviews to be adequate. Researchers have therefore proposed 30 as an approximate or working number of interviews at which one could expect to be reaching theoretical saturation when using a semi-structured interview approach Morse (2000), although this can vary depending on the heterogeneity of respondents interviewed and complexity of the issues explored.

In this study, those recommendations helped the researcher estimate how many participants needed. The study sample comprised of 24 students.

3.5 Sampling method and technique

According to Latham (2007), sampling refers to taking a representative selection of the population and using the data collected as research information. This study utilized a

non-probability sampling technique known as heterogeneous purposive sampling. A non-probability sampling is a type of sampling where each member of the population does not have known probability of being selected in the sample (Bhardwaj, 2019). A heterogeneous (maximum variation) sampling is a type of purposive sampling technique used to capture a wide range of perspectives relating to what the researchers are interested in studying, that is, maximum variation sampling is a search for variations in perspectives, ranging from those conditions that are view to be typical through to those that are more extreme in nature (Rai & Thapa, 2015). Purposive sampling is also called deliberate or judgmental sampling, as the members of the sample are selected with judgment of particular criteria which are important for the research (Bhardwaj, 2019). In this study, the researcher approached participants focusing on gender, age, faculty & year of study.

24 male students who participated were selected after an approval of consent was obtained, 12 first years and 12 second year pre-medical students who were within the age range of 18-25 years.

3.6 Study variables

Dependent variables	Independent variables
-Knowledge, attitude and practice	-Demographics(age, nationality, marital status, ethnicity, religion) -Circumcision status

Table 1. Study Variables

3.6.1 Inclusion criteria

Only pre-medical male students either in the 1st or 2nd year of study who were willing to take part in the study and were between the ages of 18-25 years were included in the sample size.

3.6.2 Exclusion criteria

Pre-medical female students, lecturers at LAMU, pre-medical male students who were above or below the targeted age (18-25 years), any student who attended classes or were involved in any other activity at Chalala campus but not part of Pre-medical

science faculty, together with students who wished to withdraw at any stage of the study and those who should refuse consent.

3.7 Data Collection method

The study used a semi-structured interview method in collecting the data. Semi-structured interviews are interviews that use wide range of broad open-ended questions to cover the basis of inquiry frequently letting the interviewee digress to a certain degree so as to provide a basis for context and a possible direction that could be cardinal to the phenomenon being investigated (Isaacs *et al.*, 2014). The method allow the researcher to compare answers given by the various participants, Hallett and Lamont (2015) and this approach allowed participants to feel more at ease and build up confidence and rapport that will provide great useful data that better developed the interview (Gill *et al.*, 2008).

Before data collection was carried out, the researcher gained permission from the school, Lusaka Apex Medical University, Chalala campus, for the students to have consent of the project study. The researcher carried out interviews one on one with the help of a semi-structured interview guide. The interview guide helped the researcher not to leave important questions. The open ended questions were neutral, understandable, and the researcher begun with the questions that allowed participants to easily answer and progress to the more sensitive ones. The information and responses were noted/written down by the researcher through verbatim note taking.

3.8 Data Collection tools/Instrumentations

The researcher alone was involved in the data collection process, and data collection sheets were used in noting down responses. A semi-structured interview guide was also used for guidance in collecting data. The interview guide focused on participant's demographic data, their general knowledge, practice and their attitude towards medical male circumcision with regard to HIV/AIDS prevention.

3.9 Reliability and validity

LeCompte and Goetz (1982) defined reliability in qualitative research as the degree to which other researchers performing similar observations in the field and analysis such as reading field notes transcribed from narrative data would generate similar

interpretations and results. Validity in research is concerned with accuracy and truthfulness of scientific findings (Cypress, 2017).

Reliability and validity were enhanced through pretesting of the research interview guide before it was used in the interviews. Sensitivity and reactions of the respondents about the research tool as well as all ethical issues were considered and addressed while conducting the study.

3.10 Trustworthiness

Credibility

Credibility refers to the extent to which a research account is believable and appropriate, with particular reference to the level of agreement between the participants and the researcher (Pernecky, 2012). To confirm the internal validity of the findings, data was collected by means of semi-structured interviews that involved different participants. At the end of each interview the participants signed a compulsory declaration to confirm that the information given in the interview were true, complete and accurate.

Dependability

In order to increase the reliability of the research, a detailed explanation of the study, its purpose and methods to be used were explained to the participants to be involved in the study. A transparent description of the research steps taken from the start of the research to the development and reporting of the research was included in the final study report. Dependability referred to the consistency and reliability of the research findings and the degree to which research procedures were documented, allowing someone outside the research to follow, audit and critique the research process (Junior and Kamienski, 2021).

Transferability

This study aimed to satisfy transferability through the use of purposive sampling and it allowed the researcher to access all possible perceptions of participants of different socio-demographic variables and geographic expanses.

Conformability

To eliminate the researcher's objectivity and biasness regarding the study, the researcher only interpreted and reported the collected data obtained from the interviews.

3.11 Data analysis and interpretation

The study used the framework method for analysis, which is part of a broad family of analysis methods often termed thematic analysis or qualitative content analysis. Thematic analysis is a method of analyzing qualitative data, which is usually applied to a set of texts, such as interview transcripts, (Caulfield, 2020). The researcher closely examined the data to identify common themes – topics, ideas and patterns of meaning that came up repeatedly. This method had four basic steps; 1. Familiarization with, and organization of transcripts. 2. Identification of possible themes 3. Review and analysis of themes to identify structure 4. Construction of theoretical model, constantly checking against new data (Chapman, Hadfield & Chapman, 2015).

Familiarization

The first step was to get to know the data. It was important for the researcher to get a thorough overview of all the data collected before analyzing individual items. It involved reading through the text and taking initial notes, and generally, the researcher looked through the data and got familiar with it.

Coding

The researcher coded the data by manually inspecting and tagging for codes, using highlighter pens and markers. This was the data retrieval stage which produced a data set. Coding meant highlighting sections of a text, usually phrases or sentences and coming up with shorthand labels or “codes” to describe their content.

Generating themes

The researcher looked over the codes created, identified patterns among them, and started coming up with themes. Themes were generally broader than codes and could be combined with several codes into a single theme.

Reviewing themes

The researcher made sure that the themes were useful and accurate for representation of the data.

Defining and naming themes

Defining themes involved formulating each theme and figuring out how it helped us understand the data. Naming themes involved coming up with a succinct and easily understandable name for each theme. Data was analyzed using NVivo software.

Writing up

The researcher then wrote an analysis of the data.

3. 12 Data Management

Data management in qualitative research was defined as a designed structure for systematizing, categorizing and filing the materials to make them efficiently retrievable and duplicable. It may also involve converting data representing human interactions into written reports, and it allows researchers to accumulate information in various forms of location for different research purposes, while maintaining the security of the data. For data management, this study will involve confidentiality, human subject's protection together with data storage, sharing and ownership (Williams &Wilkins, 2009).

Confidentiality

The responsibility for information obtained in the interaction between the professional and the client, or simply the protection of the data collected by the researcher (Williams & Wilkins, 2009). Participant's privacy and confidentiality was protected as data was prepared in a way that reduced the possibility of identifying individual participants which involved removing noticeable personal identifiers, altering the forms of documentation and encoding data elements.

Protection of human subjects

The researcher exercised honesty, and was open-minded when conducting the study, was respectful and sensitive to potential problems and handled them appropriately. Participants were made aware of the potential risk involved in participating in the study that were possible and they were provided with options such as withdrawal from the study, incase undesirable events occurred. The researcher encouraged participants to only share relevant information and prevented them from sharing information that may be too confidential and were not important for the study.

Data storage and record keeping

This research data was transformed into a retrievable form which prevented its loss or deterioration and it was stored in a hard copy bound in a note book and again in a kept electronic copy. The data was therefore protected for possible future use in verifying research findings, setting priorities or reanalyzing.

Data sharing

According to Williams & Wilkins (2009), data sharing is necessary because it can potentially help researchers validate, broaden and generalize findings as well as build new theories, thus, Sharing of this data depended on the researcher's preference.

Data ownership

Williams & Wilkins (2009) stated that, in qualitative research, funding agencies, research institutions, participants (in some cases) or researcher might own the data.

In this study, the researcher owns the data.

3.13 Ethical Consideration

Ethical approval beforehand was obtained from Lusaka Apex Medical University (LAMU) Research Ethics Committee in Lusaka, Zambia. During the study, ethical transparency was ensured as each selected participant for the study was given a letter of consent and a brief explanation including the purpose of the study. Each selected participant despite giving consent were to freely choose either to complete participation in the interview or not. There were no risks or direct benefits for the participants who took part in the study. The confidentiality and anonymity of participant's personal details were protected and fully maintained throughout the study report, which was achieved by the use of unique identification codes for each interview/respondent. Lastly, all answered and recorded information were stored and locked in a secure cabinet.

3.14 Dissemination of findings

Findings from the study were well organized and recorded in a definite report. A copy was then to be submitted to LAMU. Consequently, in published or unpublished form, this data may then be used to the benefit of relevant stakeholders to ensure improved health care practices and more effective prevention efforts based on new research knowledge.

CHAPTER FOUR

4. DATA PRESENTATION AND RESULTS

4.1 Introduction

This chapter analyzed data collected on male circumcision as an HIV/AIDS prevention strategy among pre-medical male students at Lusaka Apex Medical University and presents some of the key findings. The objective of the study was to determine the knowledge, attitude and practices of pre-medical male students towards male circumcision in HIV/AIDS prevention, therefore, analysis had three goals. Firstly, to assess the knowledge of pre-medical male students at LAMU on medical male

circumcision with regard to HIV prevention. Secondly, to establish the attitude that pre-medical male students at LAMU have towards medical male circumcision in preventing HIV. Thirdly, to explore the practices associated with medical male circumcision among pre-medical male students at LAMU. Data was analyzed by thematic analysis using NVivo software. Briefly, the researcher followed stages in the qualitative data analysis process. Firstly, data gathered on knowledge, attitudes and perceptions was transcribed from the data sheet notes to create a data corpus. Secondly, the data corpus was manually inspected and tagged for codes, using highlighter pens and markers. This was the data retrieval stage which produced a data set. Thirdly, the researcher constructed open coding scheme (Corbin & Strauss 2014) which included going through the data set several times in order to create tentative labels for chunks of data based on the three general factors of knowledge, attitudes and practices. The coding scheme ranged from broad codes to sub-codes falling under knowledge, attitudes and practices. Finally, data was interpreted in order to come up with sets of findings.

4.2 Demographic Characteristics

There were twenty four (24) respondents to the study. The respondents from the sample were labelled as respondent 1 (R1) to respondent 24 (R24). The study participants comprised of 24 participants of the age group 18 to 25 years of age. Majority of respondents were aged 18-20 years, while the least 24-25 years of age. Majority of respondents were Zambians by Nationality (21) while others were Indians (3). 23 respondents were single meaning only one respondent was married. 12 respondents were in first year and the other 12 in their second year of study. In terms of religious affiliation, majority were Christians (19) as shown in table 4.2.1;

Variable	RESPONSE	Frequency
Age	18-20 years	13
	21-23 years	8
	24-25 years	3
Nationality	Zambian	21
	Others	3 (Indian)

Marital Status	Married	1
	Single	23
Religion	Christianity	19
	Islam	2
	Hinduism	3
Year of study	1 st year	12
	2 nd year	12

Table 4.2.1 Demographic Characteristics of Respondents

4.3 Knowledge regarding Male Circumcision in HIV/AIDs prevention

Results of the study revealed that the respondents had good knowledge on male circumcision in HIV/AIDs prevention. All the respondents admitted to have heard of male circumcision and they were also aware of its role in HIV/AIDs prevention. There were various sources of information, but the most common sources included friends/family as well as Television. All 24 respondents reported that they had at some point discussed male circumcision with friends or family. These interpersonal and community processes helped to drive knowledge of male circumcision as an HIV prevention procedure. All the respondents were able to give an explanation of what they understood about medical male circumcision. The following phrases were used by majority of respondents;

“Male circumcision is a procedure which involves surgically cutting of the foreskin of the male penis...” (R1)

“Male circumcision is a procedure in which the foreskin of the penis is removed by surgical means...usually, someone undergoing medical male circumcision is not expected to feel pain because they are given an injection that produces numbness and no pain....” (R5)

Majority of respondents also knew the health benefits of medical male circumcision. The response that was common amongst the respondents was that medical male

circumcision helps in the prevention of sexually transmitted infections and good hygiene of the penis. Furthermore, majority of respondents were also able to state some of the sexually transmitted diseases that could be prevented if they were successfully circumcised. Although not entirely sexually transmitted, HIV was also listed amongst the responses.

“Male circumcision is very important to us....it can help us not to contract STIs. It may protect against HIV and those gonorrhea infections” (R24)

Circumcision is when the foreskin on the penis is cut off. You may think you are clean but the foreskin trap a lot of dirt and may increase the risk of contracting STIs including HIV. Circumcision help keep the penis clean ” (R11)

“I think circumcision keeps the penis clean and reduces the risk of contracting HIV and other STIs” (R16)

Majority of respondents reported that circumcision was relevant in HIV prevention, with some who appeared not entirely accept that male circumcision was primarily an HIV prevention procedure. They saw it, rather, as a tool for genital hygiene and others as for better sexual intercourse experience as it helps them last longer before ejaculating.

“I did my circumcision not because I believed that it helps in the prevention of HIV/AIDs....I just wanted to always keep my penis clean...and indeed am always clean ever since I got circumcised....” (R18)

“My friend kept telling me that circumcision helps to last longer in bed...according to his experience....I got circumcised 2 months ago...I can’t wait to try it so that I make my own judgment...” (R14)

Despite majority of respondents showing good knowledge on male circumcision in keeping male genitals clean and preventing STIs, few of them did not confidently express that circumcision may aid in reducing HIV transmission. There is further evidence that knowledge of MMC was not uniform across the data set. R23, for instance, did not think MMC would work for him as he was not HIV positive. This belief conflicted with the view held by R4 who reasons that MMC is useless for HIV

positive people. In R4's words *"Those abstaining and those who are already HIV+ "* would gain little from MMC.

4.4 Attitude towards Medical Male Circumcision in HIV/AIDs Prevention

Generally, results revealed that medical students were divided into two groups when it came to their attitude towards male circumcision, namely; a) Medical students with positive attitude and b) Medical students with negative attitude.

Majority of respondents had a positive attitude towards medical male circumcision. This was evidenced by the findings that 19 out of 24 study participants demonstrated a positive attitude towards male circumcision. Majority of respondents agreed that male circumcision has a lot of health benefits and can be useful in the prevention of HIV. Majority of those circumcised explained that they saw male circumcision as an STI prevention measure which include HIV. Respondents with a positive attitude who were not yet circumcised agreed that if medical male circumcision services were being offered for free at a health centre, they would surely go without hesitation and they could also encourage other men to take the step and get a share of the benefits of medical male circumcision. Amongst the reason cited included that male circumcision helps in the prevention of cervical cancer in women, therefore, if more men were circumcised, cases of cervical cancer may reduce. They also cited the hygienic benefit on top of prevention of HIV and other STIs.

"I have learned from multiple sources before that male circumcision may help in the prevention of cervical cancer....if it's true, men should get circumcised so that they protect their partners..." (R20)

The respondents with a negative attitude towards male circumcision comprised of 5 medical students out of 24 total participants. They pointed out that they did not see the point in medically circumcising students and fairly disagreed with encouraging more men to go for circumcision as they are convinced it's a personal choice. They used a human rights and ethics perspective to argue that medical circumcision should be an individual choice. The suggestion is that male circumcision campaigns do not allow for individuals to exercise freedom of choice to refuse since they package male circumcision as necessary for an HIV-free generation. Some respondents opposed to male circumcision because they perceived it as being too painful.

4.5 Practices towards Medical Male Circumcision in HIV prevention

Results showed that majority of study participants were circumcised. 17 medical students out of a total of 24 were circumcised. This means that only 7 students were uncircumcised. It was observed that most of the respondents were circumcised surgically by authorized personnel at a clinic or hospital. 11 out of 17 medical students were circumcised when they were in the age ranges of 10-15 years of age, 4 students under 16-18 years while the other 2 medical students were unable to recall the age circumcision was done as they were too young. Therefore, those who got circumcised when they were babies had little to share on what prompted them to undergo male circumcision. For the medical students that got circumcised when they were grown up, their major influence was from friends and family. They were challenged to get circumcised as they felt like it was going to help them keep the genitals clean and also prevent catching sexually transmitted diseases. Results showed that, of the medically circumcised respondents, 3 respondents were circumcised because of their religion. They belonged to an Islamic religious group, and according to them, circumcision is an important practice in Islamic. The other 12 were circumcised with hygiene reasons and they considered medical male circumcision an STI preventive measure. The 2 respondents that got circumcised during childhood cited that they belonged to a tribe called Chewa, which highly practice male circumcision for all male children. Seven respondents were not circumcised at all and a variety of reasons were given when asked if they would go for circumcision if offered for free. Some reasoned with not wanting to let go of their foreskin because they believed that the foreskin serves of purpose of protecting the penis from infection and injury. Other respondents reported that they believed that male circumcision causes an individual to lose sensitivity to sexual stimulation which may lead to not enjoying sexual intercourse. It was also noted that some respondents were willing to get circumcised but they were scared of pain during the procedure. In summary the study identified five themes on the practices of medical students on medical male circumcision as to why they got circumcised as shown in table 4.5.1;

Theme	Respondent	Response
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Hygiene	R5, R7, R8, R12, R13, R14, R21 ,R18, R20, R24	“getting circumcised promotes good penis hygiene”
Religion	R9, R10 ,R22	“it’s an obligation in my religion to get circumcised”
Ethnicity	R3 , R15	“Am Chewa by tribe...Every male child is supposed to get circumcised”
HIV prevention	R5, R7, R2, R8, R12, R13, R19, R21,	“male circumcision helps in the prevention of HIV transmission...even if it’s not 100% safe, it reduces the risk”
STI prevention	R5, R7, R2, R8, R12, R13, R19, R21,	“circumcision prevents STIs”
Cervical Cancer prevention in females	R5, R12, R2	“it also helps prevent cervical cancer in women...especially for men with multiple sexual partners”
Need to last longer during sexual intercourse	R19, R14	“it improves an erection and may help me last longer in bed”

CHAPTER FIVE

5.1 Introduction

This chapter presents and discusses the study findings by correlating the present study findings to past studies on the same topic. The chapter further gives probable reasons to the study findings, concludes and also presents the researcher's recommendations. The objective of the study was to determine the knowledge, attitude and practices of premedical male students towards medical male circumcision with regard to HIV/AIDs prevention, at Lusaka Apex Medical University, Chalala campus. Data was collected by means of semi-structured interviews, with the aid of open ended question interview guide which gave room for the respondent to give explanations for their responses and open up about sensitive issues. Data was analyzed using NVivo software.

5.2 Discussion

Knowledge of Premedical Students on MC in HIV/AIDs Prevention

Results of the study revealed that majority of the respondents had good knowledge on male circumcision in HIV/AIDs prevention. This was shown as all 24 respondents reported that they had at some point discussed male circumcision with friends or family. All the respondents admitted to have heard of male circumcision and majority were also aware of its role in STI prevention which included HIV. There were various sources of information, but the most common sources included friends/family as well as Television. The interpersonal and community processes helped to drive knowledge of male circumcision as an STI prevention. Although HIV was not primarily mentioned, majority of respondent agreed that male circumcision help reduce risks in contracting HIV during unprotected sexual intercourse. All the respondents were able to give an explanation of what they understood about medical male circumcision and majority of respondents also knew the health benefits of medical male circumcision. The response that was common amongst the respondents was that medical male circumcision helps in the prevention of sexually transmitted infections and good hygiene of the penis. Although HIV is also considered to be a sexually transmitted infection, few respondents could not mention HIV with other sexually transmitted diseases, they did not believed that HIV transmission risks could be reduced if they were successfully circumcised, and they poorly associated MC to HIV transmission. Education provides people with the knowledge and skills that can lead to a better quality of life. All the respondents attended secondary school and are now attending tertiary education meaning that

majority were exposed to information on male circumcision. It was also noted that male circumcision is a highly talked about topic in communities, and that facilitated information dissemination and better knowledge on the subject showed by good knowledge in majority of respondents. The findings presented above are supported by Chikutsa (2011) who noted that the knowledge of MC as an HIV prevention intervention was high. Similarly, Tarimo *et al.*, (2012) revealed that the participants were knowledgeable about the benefits of circumcision on penile hygiene and its contribution to STI prevention and emphasis was placed on HIV prevention. This suggests that increasing awareness of the benefits of circumcision was associated with a significant increase in knowledge of MC as an HIV/AIDS preventative method. Respondents revealed good knowledge on the benefits regarding MMC on HIV infection, other STIs, cervical cancer prevention and penile hygiene. Of the 24 participants, 19 of the respondents were able to give sensible responses, thus the number of the respondents who answered affirmatively concerning the benefits of circumcision was high. The association of male circumcision to HIV, other STIs, cervical cancer and penile hygiene in this study are in line with results from other studies in Africa, (Marshall *et al.*, 2016; Kahalawe, 2020). Various studies have highlighted the effects of male circumcision on sexual transmitted diseases, including HIV and penile hygiene (Weiss, Quigley & Hayes, 2000; Doyle *et al.*, 2012; Wilson and de Beyer, 2006).

Attitude of premedical students towards MC in HIV/AIDs Prevention

Majority of respondents had a positive attitude towards medical male circumcision. This was evidenced by the findings that 19 out of 24 study participants demonstrated a positive attitude towards male circumcision. Majority of respondents agreed that male circumcision can be useful in the prevention of HIV/AIDs, they were circumcised because they saw medical male circumcision as an STI including HIV preventative measure. Respondents with a positive attitude that were not circumcised agreed that if medical male circumcision services were being offered for free at a health centre, they would surely go without hesitation and they could also encourage other men to take the step and get a share of the benefits of medical male circumcision. This finding is similar to what was found in Kenya, Swaziland, Tanzania and Zimbabwe (Atkins *et al.*, 2020). Similarly, a multinational study conducted on women revealed that women favored male circumcision for their male partners (Mpumuzibwe, 2018). Willingness to be

circumcised suggests that men are aware of the health benefits of male circumcision. The present study was also consistent with other studies conducted in Botswana (Plank *et al.*, 2013), and Kenya (Odeny *et al.*, 2012), which revealed that majority of the respondents would definitely be circumcised if the procedure was carried out at a health facility and free of charge. This finding suggests that for the effective adoption of male circumcision among non-circumcising communities, the Government should continue offering the procedure free of charge. The present study also revealed that religion and ethnicity contributed to the attitude towards male circumcision. For some religions and ethnic groups, male circumcision is part and parcel of them, so it is easy for them to take the step without much to oppose about. Level of education was also observed to play a role in the study findings on the attitude. Higher education level comes with higher knowledge levels. When majority of people understand a topic, they are equipped with sound knowledge and facts which assists in making informed decisions, hence, positive attitude. Likewise, Halperin *et al.*, (2005) and Nnko *et al* (2001) reported that educational level was associated with higher rates of circumcision especially among non-circumcising communities. This might be explained by the fact that circumcision is becoming more publicized and acceptable and through the widespread interaction of various ethnic groups practicing male circumcision, there might be an attitude transformation especially among societies possessing higher levels of education.

Practices of premedical students towards MC in HIV/AIDs prevention

The study showed that majority of study participants were circumcised. 17 medical students out of a total of 24 were circumcised. This means that only 7 students were uncircumcised. It was observed that most of the respondents were circumcised surgically by authorized personnel, at a clinic or hospital. 11 out of 17 medical students were circumcised while they were in the age ranges of 10-15 years of age, 4 students while within 16-18 age range and the other 2 medical students could not elicit the age it was done as they were too young when they got circumcised. Therefore, those who got circumcised while they were babies had little to share on what prompted them to undergo male circumcision. For the medical students that got circumcised when they were grown up, their major influence was from friends and family. They were challenged to get circumcised as they felt like it was going to help them keep the genitals clean and also prevent catching sexually transmitted diseases. Results showed

that, of the medically circumcised respondents, 3 respondents were circumcised because of their religion. The other 12 were circumcised because they saw medical male circumcision as an STI and HIV preventive measure through individual's own decisions, family and friends influence, while the 2 respondents that got circumcised during childhood cited that they belonged to a tribe called Chewa, which highly practice male circumcision for all male children. Male circumcision is now a recommended strategy for HIV prevention in men in developing nations and by reducing the number of new infections in the population, the resource burden of HIV treatment is lessened, and fewer women and babies are exposed to HIV infection (WHO, 2018). A Kenyan study revealed that the two principal reasons favoring male circumcision were reduced risk of STD/HIV infection and need for good genital hygiene, the perceptions of religious and cultural factors as reasons for circumcision were less cited by respondents (Odeny *et al.*, 2012). These finding contradicts reports from Iliyasu *et al.*, (2012) who revealed that participants in his study attributed the practice of male circumcision to fulfilling religious obligations and Mandzik & Young (2019) who noted that some participants believed that circumcision will increase their sexual power making them last longer in bed during sexual intercourse. Literature has shown that nearly 15 million voluntary medical male circumcisions (VMMC) have been performed for HIV prevention in 14 countries of eastern and southern Africa during the decade since WHO and UNAIDS recommended VMMC to be a component of HIV prevention intervention (WHO, 2018). Although MC has not been directly associated with decreases in HIV transmission to female partners, MC has health promotion benefits for women. High-consistency evidence exists that male circumcision protects women against cervical cancer, cervical dysplasia, herpes simplex virus type 2, chlamydia, and syphilis (WHO, 2018). Even in HIV infected men and women, MC appears to have a role in reducing co-infection with syphilis and STIs such as chlamydia and gonorrhea (Abdulwahab-Ahmed & Mungadi, 2013). Male circumcision therefore represents one of very few proven HIV prevention strategies particularly in high prevalence areas, such as sub-Saharan Africa where transmission is largely related to heterosexual contact (WHO, 2018).

CHAPTER SIX

6. CONCLUSION AND RECOMMENDATION

6.1 Introduction

This chapter presents the conclusion and recommendations of the study. The objective of the study was to determine the knowledge, attitude and practices of pre-medical male students towards medical male circumcision in HIV/AIDs prevention, at Lusaka Apex Medical University.

6.2 Conclusion

The objective of the study was to determine the knowledge, attitude and practices of premedical male students towards male circumcision in HIV/AIDs prevention, therefore, analysis had three goals. Firstly, to assess the knowledge of pre-medical male students at LAMU on medical male circumcision with regard to HIV prevention, secondly, to establish the attitude that pre-medical male students at LAMU have towards medical male circumcision in preventing HIV, and thirdly, to explore the practices associated with medical male circumcision among pre-medical male students at LAMU. Data was analyzed by thematic analysis using NVivo software. The study revealed that majority of premedical students at Lusaka Apex Medical University had good knowledge, positive attitude and good practices towards Medical male circumcision in HIV/AIDs prevention. Majority of respondents revealed good knowledge about the benefits of male circumcision regarding HIV transmission, other STIs, cervical cancer prevention as well as penile hygiene. Only few respondents poorly associated MC to HIV transmission. The number of the respondents (19 out of 24 students) who answered affirmatively concerning the benefits of circumcision was high. The association of male circumcision to HIV, other STIs, cervical cancer and penile hygiene in this study was strong with majority of respondents and was in line with results from other studies in Africa (Marshal *et al*, 2016; Kahalawe, 2020); (Odeny *et al.*, 2012); Iliyasu *et al.*, (2012) and WHO (2018) study, which highlighted the effects of male circumcision on sexual transmitted diseases, including HIV and penile hygiene. There is concern that the majority of the respondents may view themselves at a low risk of HIV infection.

6.3 Recommendations

Although circumcision seems to present relevant lifetime medical benefits, it is not without any risks like Malone & Steinbrecher (2007) study have stipulated. The current study revealed that the pain that may be associated with the procedure, inaccessible services, cultural and religious norms may prevent clients from accessing male circumcision services. Within traditionally non-circumcising communities, circumcision is regarded as a voluntary procedure that may be unlikely to take precedence over competing needs. Instituting cost related to the procedure may not go well within these populations. The absence of comprehensive male circumcision educational efforts may have serious consequences including lack of knowledge and males engaging in risky compensation behavior. Specific focus needs to be given to these issues; the guarantee of safe and affordable procedures should be afforded to communities and the expansion of male circumcision services must be embedded within comprehensive HIV prevention programmes, including informed consent and risk-reduction education. It is essential to ensure the dissemination of accurate and factual information, highlighting the MC health benefits and a more clear emphasis on circumcision and its role in reducing the risk of HIV transmission through implementation of well-planned educational programmes. It is again important to raise public awareness on the importance of combating HIV/AIDS in Zambia. Information communication should emphasize that MC does not provide absolute protection of HIV infection. Therefore, in as much as men get circumcised, they should as well engage in safe sexual practices, otherwise, cases of HIV infection may keep soaring high.

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APPENDICES

Appendix I: Project plan

Time Frame: March 2022, to November, 2022

Event	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCT	NOV
Research proposal writing									
Presentation and submission of final proposal									
Ethics clearance									
Pilot study									
Data collection									
Report writing and submission									

Appendix V: Budget

Proposed Budget

No.	Expenses	Cost (ZMW)
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1.	Printing and Binding	500
2.	Ethical approval fee	500
3.	Transport	500
4.	Stationary	100
5.	Incidental expenses	300
6.	TOTAL	1900

Appendix II: Resources

Funding for this study will be sponsored by the researcher herself. She is based within the stated town and will adequately contribute to the study as and when needed. All supervisors are well qualified and experienced, therefore, they will aid in the completion of this project.

Appendix III: Information sheet

Introduction

I, Saara N. Hans, 6th year Medical student at Lusaka Apex Medical University (LAMU) will be conducting a study under the supervision of MS Namwawa, regarding medical male circumcision for HIV/AIDS prevention: assessment of Knowledge, Attitude and Practice among Pre-medical male students at Lusaka Apex Medical University. I am hence asking you to volunteer for this research study. This study is will be conducted at LAMU, faculty of pre-medical sciences, Chalala campus.

Purpose of study:

The purpose of this study is to assess pre-medical male students on their knowledge, attitudes and practices of medical male circumcision (MMC) with regard to HIV prevention.

Study procedure:

As a chosen participant for this study, the study that is to be carried out will be briefly explained to you and upon full understanding, a consent form shall be provided to you to read and sign. Your signature shall stand as an agreement to take part in the study. You shall be required to participate by answering interview questions. Please ensure that you fully understand the questions before you attempt to answer.

Please note:

Your participation in this study is voluntary, hence you may cease to partake in the study at any time. Your decision to partake in the study shall be fully respected and will

not affect you in any manner. If you wish withdraw from the study at any stage please inform the researcher beforehand.

There are no perceived risks or direct benefits in participation or withdrawal from this study.

Confidentiality

All information collected from the study will remain confidential and none of your personal details shall be disclosed at any time. Information from the study shall be kept at a secure site and shall be fully destroyed upon completion and marking of the study. In an event of any publication concerning this study, anonymity shall be maintained on any comment or quote from the participant.

Contact details for any clarifications regarding the study

If you seek any questions or clarifications regarding the study feel free to contact Saara N. Hans, Lusaka Apex Medical University, Email: ndalukasaara@gmail.com ,TELL: +260954152896 or you could contact MS Namwawa (Supervisor), Lusaka Apex Medical University.

Appendix IV: Consent form

Consent page for the Participant

I (participant's full name)_____ hereby
certify that have fully read and understood the procedures, risks and benefits associated
with the study. All my queries regarding the study have been fully addressed, hence I
fully declare that I have decided to partake in this study voluntarily and that the
information I shall provide are true, complete and accurate to the best of my knowledge.

Signature of participant: _____

Date: _____

Appendix VI: INTERVIEW GUIDE

1. DEMOGRAPHICS

QUESTION	RESPONSE
a) Age	
b) Nationality	
c) Marital Status	
d) Province you were born	
e) Ethnicity	
f) Religion	
g) Year of study (Indicate year & semester)	

2. MALE CIRCUMCICION PRACTICE AND SOURCE OF INFORMATION

QUESTION	RESPONSE
a) Have you heard of male circumcision?	
b) If" Yes" Where did you hear of male circumcision from?	
c) Is male circumcision practiced in your tribe?	
d) Have you been circumcised?	

(If YES, at what age was it performed)	
e) Who performed your circumcision?	
f) Where did the circumcision take place?	
g) Who influenced your circumcision?	
h) What was the main reason you were circumcised?	

3. KNOWLEDGE ABOUT MEDICAL MALE CIRCUMCISION

QUESTION	RESPONSE
a) What do you understand about medical male circumcision?	
b) What do you know about the health benefits of medical male circumcision?	

c) What do you know about medical male circumcision disadvantages?	
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4. KNOWLEDGE AND ATTITUDE TOWARD MEDICAL MALE CIRCUMCISION IN HIV/AIDS PREVENTION

QUESTION	RESPONSE
a) Are you aware of medical male circumcision to have been aiding in prevention of HIV/AIDS transmission? What was the source of information?	
b) If medical male circumcision was to be offered for free at the hospital, would you go for it? (Give a reason/s for your answer)	
c) Would you encourage men to go for medical male circumcision? (Give a reason/s for your answer)	

e) What do you think can be done to encourage/ convince more men to go for medical male circumcision?	
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Appendix VII: LAMUBREC Application form

\\LAMUREC Form No. 1

LUSAKA APEX MEDICAL UNIVERSITY



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P.O. Box 31909
Lusaka, Zambia

E-mail: lamurec@lamu.edu.com

FWA00028892

IRB 00012669

APPLICATION FOR ETHICAL APPROVAL FOR PROPOSED RESEARCH INVOLVING HUMAN PARTICIPANTS

To be submitted in 13 copies to the Secretary of the Research Ethics Committee

1. TITLE OF STUDY:

An assessment of Knowledge, Attitude and Practice of medical male circumcision with regard to HIV prevention among pre-medical male students at Lusaka Apex Medical University.

2. PRINCIPAL INVESTIGATOR:

Name: SAARA .N. HANS

Qualifications: BSc HUMAN BIOLOGY

Present Appointment/Affiliations: STUDENT

3a. OTHER INVESTIGATORS:

Name:

Qualifications:

Present Appointment/Affiliations:

Name:

Qualifications:

Present Appointment/Affiliations:

3b. SUPERVISORS (For student research):

Name: MS SAMPA NAMWAWA

Qualifications: MPH, BSC.

Present Appointment/Affiliations:

Name:

Qualifications:

Present Appointment/Affiliations:

4. SUMMARY OF PROPOSED RESEARCH:

To include aims and objectives, participants to be studied, research methods (Questionnaires, physical examination, specimens to be collected, laboratory investigations, standard and experimental therapies, environmental changes, etc.) And Statistical analyses. Simple or lay terminology should be used as much as possible.

(Use not more than one additional A4 sheet if necessary.)

HIV/AIDS transmission has been one of the top public health related challenges and this is especially imperative for the African nations which bear 67% of the world's HIV/AIDS (WHO, 2010). As an HIV prevention strategy, the scale up of voluntary medical male circumcision (VMMC) in is underway in 14 targeted African countries including Zambia. Although service delivery efforts of VMMC is well documented to have proven success, Zambia remain behind in meeting circumcision targets and yet majority of uncircumcised men expressed little interest in undergoing VMMC. A better understanding of men's VMMC- seeking behaviors/attitudes, knowledge and acceptability of VMMC is needed to improve communication and interventions to accelerate the uptake. It is cardinal to again target high risk groups especially the young adults who are more involved in risky sexual behaviors that increase HIV/AIDS transmission. This qualitative study aims at understanding the knowledge, attitudes and practices towards voluntary medical male circumcision with regard to HIV/AIDS prevention among pre-

medical male students at Lusaka Apex Medical University, in Chalala. The study will involve 12 pre-medical male students from the 1st year and 12 students from the 2nd year of pre-medical study, who are between the ages 18-25 years old. This will happen after consent and permission from the relevant authorities and participants is sought. An interview guide will be used during the study, using open ended questions.

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5. ARE THE PARTICIPANTS DEPENDENT ON ANY OF THE INVESTIGATORS?

As students:	No	as employees:	No
As patients:	No	In other ways:	No

If 'Yes' to any of the above, give details:

6. POSSIBLE BENEFITS TO PARTICIPANTS:

Once an understanding of pre-medical male student's knowledge, attitude and practice on medical male circumcision is established, it will benefit the community and society of which the participants are members of when or if policy makers find need to increase awareness of medical male circumcision.

7. POSSIBLE RISKS TO PARTICIPANTS:

No known possible risks.

8. POSSIBLE BENEFITS TO THE COMMUNITY:

It will reduce the rate of HIV/AIDS transmission which in turn will decrease the rate of morbidity and mortality.

9. BUDGET:

(a) Financial support (requested or granted): No **Sponsor:**
No

(b) Are there costs which will be carried by other institutions (e.g. the Hospital)? No

(c) Are there costs which will be carried by the participants involved (e.g. travel, Accommodation, meals, treatment)? No

(d) Will the care or the time spent in hospital be prolonged? No

If 'Yes' to any of the above, give details:

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10. SUBMISSION:

Attachments include the following in 4 copies each:

- | | | |
|--|-----|----|
| (a) The full protocol | yes | |
| (b) Questionnaire | Yes | |
| (c) Informed Consent Form | Yes | |
| (d) Approval from the appropriate Research Committee | | No |

* Delete as appropriate.

NA: Not applicable

11. DECLARATION:

I SAARA NDALUKA HANS (Full Name)

Apply to the Research Ethics Committee of the Lusaka Apex Medical University for approval of the above research proposal involving human participants, as conforming with recognized ethical standards and as not impinging on the rights of the individuals.

Date: 29 April 2022

Signed:



PRINCIPAL INVESTIGATOR

Contact Address

PHI,
Grey Zulu Street
Lusaka
Zambia

Telephone No.: 0954152896 Fax No: N/A Email: ndalukasaara@gmail.com

Full name of Head of Department: MS FAUSTINA MWENDA

Signed:

Date: 03/05/22

HEAD OF DEPARTMENT

Full name of Supervisor: MS SAMPANAMWAWA

Signed:



Date: 03/05/22

SUPERVISOR

Appendix VIII: Proof of Payment

 CASH DEPOSIT

Transaction Branch:	ACCESS BANK - ACACIA PARK
Account Branch:	ACCESS BANK - ACACIA PARK
Transaction Date:	2022-05-03 14:28:23 PM
Owner of the Account:	LUSAKA APEX MEDICAL UNIVERSITY
Transaction Reference:	FIB2212330380821
Depositor's Name:	STUDENT#MB1501004339 SAARA N. HANUWASE
Transaction Currency:	ZMW
Transaction Amount:	300.00
Transaction Account:	0030011356451
Amount in words:	THREE HUNDRED ONLY




CUSTOMER'S SIGNATURE

Appendix IX: Letter to Ethics

LUSAKA APEX
MEDICAL UNIVERSITY



Faculty of Medicine and Surgery
Mutandwa Campus
P O Box 31909
LUSAKA
2nd September, 2022

To Whom it may Concern

Dear Sir /Madam

RE: REQUEST FOR PERMISSION TO CONDUCT A RESEARCH STUDY AT YOUR FACILITY -Ms Saara Hans -MB/15/01/004339

The above subject matter refers

The bearer of this letter **Ms Saara Hans -MB/15/01/004339** is a 6th year bonafide student of the Lusaka Apex Medical University in the Faculty of Medicine and Surgery. Currently she is undergoing a rotation in Pubic health and the component requires that students carry out studies in any area of interest in Public Health.

The student wishes to conduct a Research Study on the Topic **Medical male circumcision for HIV/AIDS prevention: Assessment of Knowledge, Attitude and Practice among Pre-medical male students at Lusaka Apex Medical University, Chalala Campus.**

The purpose of this letter is to request for permission to allow the student to conduct this study at your Faculty. The study has been granted ethical approval by the Lusaka Apex Medical University Biomedical Research Ethics Committee (LAMUBREC.) The Approval Letter is attached.

The assistance rendered will be highly appreciated.

Yours Faithfully,



Appendix X: LAMUBREC Approval

LUSAKA APEX
MEDICAL UNIVERSITY



**LUSAKA APEX MEDICAL UNIVERSITY BIO-MEDICAL
RESEARCH ETHICS COMMITTEE
(LAMUBREC)**

Telephone: +260 976051832/0977480460

Email: lamubrec@lamu.edu.zm
FWA 00029892
IRB 00001131

Foxdale Campus
Plot N° 3073
P O Box 31909
LUSAKA, ZAMBIA

Ref: 00314-22

2nd August 2022

The Principal Investigator
M/s Saara N Hans
C/O Lusaka Apex Medical University
Faculty of Health Sciences
LUSAKA



Dear M/s Saara N Hans,

**RE: AN ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE OF
MEDICAL MALE CIRCUMCISION WITH REGARD TO HIV/AIDS
PREVENTION AMONG PRE-MEDICAL MALE STUDENTS AT LUSAKA APEX
MEDICAL UNIVERSITY**

The above mentioned research proposal was submitted to Lusaka Apex Medical University Bio-Medical Ethics Committee (LAMUBREC) on 27th July 2022. The review was based on the following documents that were submitted.

- a. Study Proposal
- b. Questionnaires
- c. Participant's Consent Form

We are pleased to inform you that your research proposal has been approved with minor corrections as shown on the feedback report. Kindly make the corrections to the satisfaction of your Supervisor.

APPROVAL NUMBER**Ref: 00314-22**

The number should be used on all correspondence, consent forms and documents as appropriate.

- **APPROVAL DATE:**
- **TYPE OF APPROVAL:**
- **EXPIRATION DATE OF APPROVAL**

28th July 2022
Expedited
27th July 2023

After this date, this project may only continue upon renewal. For purposes of renewal a submitted report on a standard form obtained from the LAMUBREC offices should be submitted one month before the expiration date for continuing review.

- **SERIOUS ADVERSE EVENT REPORTING (SAE):** All SAEs and any other serious challenges/problems having to do with participant welfare and participant safety and study must be reported to LAMUBREC offices.
- **MODIFICATIONS:** Prior to LAMUBREC approval using standard forms obtainable from LAMUREC offices is required before implementing any changes in the Protocol (including changes in the consent documents).
- **TERMINATION OF STUDY:** On termination of study, a report has to be submitted to LAMUBREC using standard forms obtained from the LAMUBREC Offices.
- **QUESTIONS:** Please contact the LAMUBREC Secretariat on Telephone Numbers: +260976051832/0977480460/0966480460 or by email on lamubrec@lamu.edu.zm.
- **OTHER**
Please be reminded to send copies of your research for our records. You are also required to submit electronic copies of your publications in peer-review journals that may emanate from this study.

Yours Sincerely,



Dr Oswell Khondowe *PhD, MSc PT, MSc APA, BSc PT, Dip PT*
Chairperson

Appendix XI: Approval to Collect Data



**LUSAKA APEX
MEDICAL UNIVERSITY**

Plot No. 12681/ M, Hillview Park,
Along Kasama Road,
Lilaka South,
P.O. Box 31909,
Lusaka - Zambia.

Cell: +260 977 799 544
+260 955 799 244
+260 954 878 756
Email: registrar@lamu.edu.zm
Website: www.lamu.edu.zm

29th August, 2022

TO WHOM IT MAY CONCERN

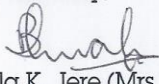
RE: **INTRODUCTORY LETTER STUDENT – SAARA N. HANS TO CONDUCT
RESEARCH WITHIN THE UNIVERSITY – MB/15/01/004339**

The above named is a bonafide student of Lusaka Apex Medical University. She is in her 6th year of study pursuing a Bachelor of Science in Medicine and Surgery.

As a requirement for the award of a Bachelor of Science in Medicine and Surgery, she is required to conduct a research study. The Topic is: **"An assessment of knowledge, Attitude and Practice of Medical Male Circumcision with regard to HIV/AIDS prevention among pre-medical male students at Lusaka Apex Medical University."** The student will be required to present an identification card during the research.

Your assistance will be greatly appreciated.

Yours faithfully,


Towela K. Jere (Mrs.)
ACTING REGISTRAR



"Knowledge and excellence"