DETERMINANTS OF UPTAKE OF HIV/AIDS VOLUNTARY COUNSELLING AND TESTING SERVICES AMONG THE HEALTH CARE WORKERS AT MERU TEACHING AND REFERRAL HOSPITAL, MERU COUNTY KENYA

WILFRED MURIKI MURIUNGI

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DECLARATION AND APPROVAL

Declaration

This research thesis is my original work and has not been presented for a degree in any other university other than Mount Kenya University for academic credit.

Name: ...Wilfred Muriki Muriungi

Reg. No. ...MPH 2022/49742...

Signature..................................... Date......15/04/2025.......

Approval

We approve that the candidate has carried out the work documented in this thesis under our supervision as University supervisors.

Signature.............................. Date...15/04/2025..........

Dr. John Kariuki (Ph.D.)

Dean School of Public Health

Mount Kenya University

Signature.............................. Date...15/04/2025.........

Dr. Alfred Owino Odongo (Ph.D.)

College of Health Sciences

School of Public Health

Mount Kenya University

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DEDICATION

The love, support, and sacrifices of my family and friends have been instrumental in my academic success, and I am very grateful to them.

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ABSTRACT

Healthcare workers have a higher prevalence of HIV infection necessitating the need to prioritize access to healthcare services and other preventative programmes, such as VCT.The purpose of this research at Meru Teaching and Referral Hospital was to identify healthcare providers' motivations for using VCT services. This research set out to address the following objectives: VCT uptake among healthcare personnel, the various obstacles to VCT uptake, evaluation of how healthcare providers' sociodemographic factors affect patients' willingness to use VCTs, and determine the impact of understanding HIV/AIDS on this conduct. In this descriptive cross-sectional study, participants filled out a semi-structured questionnaire to provide quantitative data. The research drew from a stratified random sample of 193 people, as a representative of the healthcare industry as a whole. The questionnaire was returned by a very high percentage of people (97.93%), and all of the replies were legitimate. Researcher used SPSS version 21 to examine the data, using multiple linear regression and frequency distribution. At 0.05 level of confidence, we looked for statistically significant values. The correlation between variables was established using Ordinary Least Squares (OLS) regression. Researchers found that 97.9% of hospital healthcare personnel participated in VCT services, with the main motivation being a desire to learn their HIV status. Age was the most significant demographic variables affecting the use of VCT services (P-value = 0.042<0.05 from the individual significance, gender (P-value = 0.062>0.05), profession (P-value = 0.158>0.05), education (P-value = 0.122>0.05), and marital status (P-value = 0.113>0.05) do not have an influence on the uptake of VCT services among the health care providers. There was a high level of knowledge regarding HIV prevention and transmission among healthcare workers, with 100% of the participants recording to have participated in HIV education. Knowledge of sexual contact in the transmission and spread of HIV virus was shown to have a statistically significant effect on health personnel' use of VCT services. (P-value = 0.000 < 0.05). The factors highlighted as barriers were found to have less or no impact in hindering the participation in VCT services, but rather impact participation in VCT services among the participants. The moderation effect was assessed using the Andrew F. Hayes process macro model in SPSS to study how the interaction between an independent variables and a moderator variable influences link between independent and dependent factors. It was evident that the availability of protocols for exposed healthcare workers and post-exposure prevention at the hospital did not moderate the demographic factors since there was no significance level on the interaction between the variables, p = 0.074 > 0.05. However, the administration's role in encouraging the staff to HIV testing has increased the significance of demographic factors in influencing the uptake of VCT services. (p=0.039 < 0.049 < 0.05).

Concerns about confidentiality and the stigma were major obstacles to the use of VCT services. Institutional guidelines, post-exposure preventive efforts, and government legislation influence the adoption of VCT services.

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LIST OF ABBREVIATION AND ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome.
ART	Antiretroviral Therapy
ARV	Anti-Retroviral
CD 4	Cluster of Differentiation 4.
CDC	Centre for Disease Control.
ECDC	European Centre for Disease and Control.
HIV	Human Immunodeficiency Virus.
HTC	Health Facility Testing and Counseling.
HCW	Health Care Worker
KAIS	Kenya Aids Indicator Survey.
KDHS	Kenya Demographic Health Survey.
KNBS	Kenya National bureau of Statistics.
MoH	Ministries of Health in Kenya
NASCOP	National Aids & STI Control Programme.
PMTCT	Prevention of mother to Child transmission.
PLWHA	People Living with HIV/ AIDS
PLHIV	People living with HIV and AIDS
TPB	Theory of planned behavior
UNAIDs	United Nations Aids.
VCT	Voluntary Counseling and Testing.
WHO	World Health Organization

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CHAPTER ONE: INTRODUCTION

1.1 Background to the study

HIV/AIDS is a deadly pandemic that has mostly devastated underdeveloped nations over the last two decades. It was declared an emergency by many governments in these developing countries. Since the AIDS pandemic's inception in the early 1980s, an estimated 38.1 million individuals had the virus by the year 2021 (UNAIDS, 2021). According to the WHO HIV factsheet, there were 39 million patients with HIV at the end of 2022, with the majority (25.6 million) living in Sub-Saharan Africa. [WHO. HIV Data and Statistics 2023.] In 2022, 1.3 million new cases of HIV were reported worldwide, with 630,000 deaths related to HIV in the same year. There may be more than one route for the AIDS virus to spread. Transmission may occur from mother to kid via pregnancy and breast-feeding, or through sexual encounter with an infected individual (UNAIDS, 2023).

Although HIV/AIDS cannot yet be cured, effective preventative interventions are available. These include behavior that help people reduce their exposure to the virus. Those already infected are able to extend their lives through the use on Antiretroviral ARV which are medications mainly used to treat infections resulting from retroviruses. In HIV, death is not caused directly, nevertheless opportunistic infections like pneumonia and tuberculosis are to blame (UNAIDS, 2023).

When it comes to fighting the HIV pandemic in Africa, VCT is an indispensable instrument. Voluntary counselling and testing (VCT) has emerged as a crucial weapon in the never-ending fight against the HIV epidemic in Africa. The importance of this rests in the fact that it has made various contributions to the battle against this terrible illness. To

begin, VCT is essential for the early detection process. It allows for the rapid start of treatment and prevention efforts by giving people the chance to find out their HIV status(UNAIDS, 2023).By getting in there early, we can enhance health outcomes for individuals and slow the spread of the infection. A behavioural intervention platform is also provided by VCT. People may learn more about how to reduce their risk of HIV transmission via counselling and education, including safer sexual practices and measures when sharing needles. This kind of information equips people to make smart choices for their health and wellness. To go beyond just preventing HIV, VCT also helps those who test positive get the medicine, care, and support they need. Its function in linking those who test negative to preventatives like pre-exposure prophylaxis (PrEP) and risk reduction education is equally crucial. Everyone, regardless of their HIV status, will have access to the tools they need to be healthy thanks to this all-encompassing strategy. The stigmatisation of people living with HIV/AIDS is another goal of VCT programmes (UNAIDS, 2023). They encourage HIV testing and treatment without prejudice by encouraging understanding and acceptance. VCT data helps surveillance efforts by revealing HIV prevalence and distribution in communities. This information helps plan and execute targeted preventive and treatment programmes, maximizing pandemic resources (Costa, Viscardi, Feijo, & Fontanari, 2022). VCT becomes a complete tool for tackling Africa's HIV epidemic concerns beyond testing. Its involvement in early identification, behavioural intervention, access to treatment, stigma reduction, and monitoring makes it essential to HIV/AIDS prevention. To know one's HIV status is a major step; Nevertheless, research shows that it encourages initiative and allows people to adjust their behaviour appropriately (Costa, Viscardi, Feijo, & Fontanari, 2022).

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Health care providers should know their HIV status for the same reasons that the general public should: so that they can alter their behavior and engage in safe sex, gain access to care and support, serve as role models in the support and care of the sick, and lead the charge in advocating for HIV/AIDS awareness and suppression.

Rates of HIV infection in Cameroonian health care professionals was recently established in a research was 4.20% with accidental expose to blood being the highest contributing factor (Domkam *et al.,* 2018). Health care workers are considered a high-risk group when it comes to HIV infection. Its effects and sequel remain the top killers. Thus, the introduction of programs specifically designed to assist HIV/AIDS among health care professionals is urgently required. They especially need psychosocial support to help them deal with the pandemic. Due to their association with HIV caregiving, health care employees are often overlooked as intended recipients of intervention programs. Instead, individuals gain knowledge about the condition by participation in the activities.

It is believed that health care staff are knowledgeable about HIV, thus all efforts are focused towards the patients. The researchers focused on health care professionals because of their significant chance of acquiring HIV/AIDS. They're in charge of the VCT facilities and educating the folks that come there. Additionally, it is assumed that health care workers have already been tested before they can educate others regarding the same.

The main global framework that enables the support of global response network to the pandemic are nations of the world. The efforts are directed to the World Health Organization Which Is mandated to perform by the U.N. General Assembly Resolution (WHO, 2022). One of the interventions initiated is the VCT. This is an important

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component that has affected the response to HIV infections. This type of intervention is the client initiates when they visit the Centre for testing and counselling.

VCT is a vital part of HIV-prevention strategies. Changing people's habits is the primary focus of these facilities. According to research in other countries and in Kenya, when people are aware of their standing, they are more likely to alter their actions for the better. In order to avoid contracting an illness or an opportunistic infection, individuals need to be conscious of their situation. When used in conjunction with other preventative strategies, VCT opens the door to treatment and assistance for individuals who test positive. It provides the people with the means to learn about and comprehend their HIV status. Users' individual requirements were taken into account throughout the system's development, taking into account the distinctive nature of each user's HIV-related concerns and situations. The goal of the intervention is risk mitigation, not risk elimination. (Costa, Viscardi, Feijo, & Fontanari, 2022).

VCT services are rendered through sites that meet the guidelines that were published in 2001. They are registered by the ministry of Health after assessing they meet the standard. Voluntary Counselling and Testing has reported major success in the country and many people are eager to use these services. The readiness of people shows the success of the program in the country (Costa, Viscardi, Feijo, & Fontanari, 2022). In Kenya, AIDS patients and those suffering from illnesses associated to the virus take up the vast majority of hospital beds. Comprehensive Care Centre have many clients who have continued to increase the burden of care for health care workers and it continues to increase the risk of infection to health care providers. In many cases, many people are infected but they are not aware of their infection.

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Medical professionals play a vital part in HIV/AIDS awareness, prevention, and treatment. The factors that influence Kenyan healthcare professionals' decisions to adopt VCT services are little understood. A large percentage of those who participated in this research used VCT services, the healthcare providers but this was more among the female caregivers than males. There is thus a need to encourage more male carers to use VCT by encouraging the caregivers to attend VCT centers with their partners. Uptake of VCT services at the facility faced some challenges that hindered the uptake of VCT services such as fear of stigmatization, lack of confidentiality among the healthcare professionals, anxiety about testing positive and not being at danger of contracting HIV. Some of the carers' reluctance to undergo HIV testing at VCT centres might be explained by these obstacles.

1.2 Problem statement

According to the National Aids Control council's 2021 report, 4.8% of Kenyans are HIV positive, or around 1.34 million people. According to the World AIDS Day report 2023, Meru county record had 30,912 people living with HIV infections with a prevalence of 2.4% compared to that of 5.6% nationally while that of 2024 was 26,727 people living with HIV a prevalence of 1.73% . The prevalence rate indicates a high risk in of contracting HIV among healthcare personnel providing care to this group due to occupational exposure. When it comes to HIV prevention, care, and support, VCT is a crucial connection. Testing helps individuals make educated choices about their sexual health and behavior, both of which are critical for limiting the spread of HIV.

HIV may spread from person to person in a number of different ways. Those affected at some time in their lives must seek medical attention, often including testing and counseling

pausing a high risk to healthcare workers through accidents involving exposure to potentially infectious substances, including blood, human tissue, and body fluids, and contaminated environmental surfaces (Rasweswe, 2020).

VCT centers in most public government facilities are so isolated from the main facility creating sense of discrimination to those looking for service and for these reasons, they may be too ashamed to use VCT services. It is challenging for healthcare staff to comprehend the advantages that VCT's contributions to HIV/AIDS therapy and prevention are not considered to be particularly dangerous.

In Kenya and many parts of the world very few studies have been done regarding relationship of HIV and health care workers. The few studies available still show that health care workers are vulnerable to HIV and they need support to attend VCT. Despite occupational risk they are also at risk of exposure from sexual transmission.

Insufficient understanding of HIV and HIV transmission was found among health care personnel in a research conducted in Montenegro (Gledović *et al*., 2015) Another research conducted on healthcare workers in Port Harcourt, Nigeria, found that 33% of healthcare workers were exposed to bodily fluids on job, and 32% were injured by needle sticks. Doctors had a high likelihood of infection than other health care workers (Akpuh *et al.*, 2020). According to Tamatave (Madagascar) in 2004 documented that health care workers had reduced knowledge on how HIV is transmitted. In the report, 61% of them report to have never advised any of their patient to get tested and less than 10% of them had correct counselling precaution.

Many people in the medical field take VCT services and familiarity with them for granted. Few studies have looked at what factors influence health care providers in Kenya to use VCT services. It's likely that few people use VCT's services. With the hope of elucidating these factors, this research was designed.

1.3 Purpose of the study

To combat rising HIV infections and the alarmingly low screening rates among healthcare professionals, the researchers set out to identify what factors influence health care professionals' use of VCT services. This is measured based on the knowledge towards VCT uptake and HIV/AIDS, demographic distribution of the healthcare workers and reasons why people don't use VCT services more often. This research also is useful in providing insight in prevention strategies to HIV infection having strong knowledge on the effects of the virus.

1.4 Research Objectives

1.4.1 Broad objectives

The broad objective of this study was to establish the determinants of uptake of voluntary counselling and testing services among health care workers in Meru Teaching and Referral Hospital, Meru County Kenya.

1.4.2 Specific objectives

i. To establish the level of the uptake of VCT services by health care workers at Meru Teaching and Referral Hospital Kenya.
ii. To determine the socio-demographic factors that influence uptake of VCT service among health care workers at Meru Teaching and Referral Hospital Kenya.

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iii. To establish healthcare workers HIV/AIDs knowledge on uptake of HIV voluntary counselling and testing at Meru Teaching and Referral Hospital Kenya.

iv. To establish the barriers to accessibility of VCT services by healthcare workers at Meru Teaching and Referral Hospital Kenya.

1.5 Research Questions

i. What is the level of uptake of VCT services by health care workers at Meru Teaching and Referral Hospital?

ii. What are the socio-demographic factors influencing uptake of VCT service among health care workers at Meru Teaching and Referral Hospital?

iii. To what extent are healthcare workers knowledgeable on HIV/AIDs and uptake of HIV voluntary counselling and testing at Meru Teaching and Referral Hospital?

iv. What are the barriers to accessibility of VCT services by health care workers at Meru Teaching and Referral Hospital?

1.6 Significance of the study

Overarching, we want to learn foundational understanding of the variables that impact health care professionals' use of VCT services and to collect information on health care workers' perspectives on VCT use. This data is helpful for planning VCT health initiatives that benefit medical staff. National policymakers may find this study useful for learning more about testing participation. Access to HIV/AIDS management should be universal, and HIV infection rates should be at zero, so the report may be shared with the Health Department, donors, and partners. The plan lays up the groundwork for an innovative, interdisciplinary. HIV and AIDS research portfolio that targets the present and unique aspects to prevent the spread of the illness.

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1.7 Scope of study

This study assessed the frequency with which VCT Services are used from the medical team healthcare workers at Meru County's Teaching and Referral Hospital. The use of VCT among healthcare workers at Meru Referral Hospital was studied along with their HIV/AIDS knowledge, socio demographic characteristics, and impediments to VCT adoption. A total of 193 Participants were recruited from the facility. A semi-structured questionnaire was used for this study.

1.9 Study limitations

Participant's willingness to respond to all questions in the questionnaire was one of the limitation and this was minimized by keeping the questions clear, concise, and relevant to avoid participant fatigue and also emphasizing the privacy of responses to alleviate concerns and increase willingness to respond. Assuring participant's information confidentiality was also a limitation and this was minimized with no use of personal identifiers.

1.9 Delimitation of study

For the sake of accuracy, this research was only conducted at Meru Teaching and Referral Hospital, the county's primary healthcare facility. A convenience sample of 193 health care personnel from the institution served as the research population. In addition, the project focused on answering four research questions on the extent to which awareness of HIV/AIDS, social demographics, accessibility, and other variables affect the use of VCT services. Only four goals were examined in depth, but their impact on VCT adoption within the population of interest was measured in great detail.

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1.10 Assumption of study

Researchers predicated that participants would have a basic understanding of HIV/AIDS which would help them answer the questions properly, efficiently, and openly. The study also assumed that the distribution of the population under study was normal and the sampling technique used would be helpful in yielding data that was representative. The research presupposed that the study's data collection tools have adequate validity and reliability. In addition, it was assumed that the study's variables were to remain stable and that all participants were accessible until the study's conclusion. The estimated sample size was also believed to be statistically significant for determining trends in HIV/VCT service use by health care workers at Meru Teaching and Referral Hospital.

1.11 Operational definition of terms

Health care worker - somebody with medical training who works in a hospital or clinic.

Health Facility- place where sick or injured individuals may get treatment, such as a clinic, hospital, or dispensary.

Hospital- Medical Center That Provides Both Inpatient and Outpatient Care Along with Surgical and Other Related Services.

Paramedical staff- includes everyone else who works in the medical field, such as lab techs, radiographers, dietitians, pharmacists, dentists, therapists, therapists, public health officers, etc.

Testing - The HIV virus may be detected with this medical test.

Testing Site- Testing for HIV may take place anywhere; a van is just as good as a structure.

Uptake of HIV test- requires a positive result from an HIV test.

Utilize VCT services- should be tested for HIV, get counseling, and hear the results in a VCT facility.

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CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

In Sub-Saharan Africa, HIV is still not being tackled properly. Over three quarters of all new HIV diagnoses and nearly all AIDS-related fatalities are caused by HIV/AIDS. The WHO, which is a branch of the UN, is always working to lower infection rates by boosting testing of vulnerable groups (WHO, 2018). It has been discovered that health care workers are neglected when it comes to prevention programs for HIV despite working in high-risk areas. They are exposed both in occupational factors and non-occupational factors. Few studies have also been conducted to determine what variables lead healthcare providers to employ VCT services or what causes HIV (Mashoto *et al*., 2015).

2.2 Overview of the HIV Pandemic

HIV causes Acquired Immunodeficiency Syndrome (AIDS), a worldwide health issue recognised by the WHO in 2018. By that year, 37.9 million individuals globally had HIV, posing a public health crisis. In 2018, Sub-Saharan Africa had 1.1 million new HIV cases out of 1.7 million worldwide. UNAIDS estimates that Kenya has 1 million HIV-positive persons in 2016.

According to report on demographic indicators, in 2015 the prevalence on HIV/AIDs in Kenya reduced from 5.9% to 4.9% in 2018. Among that data 4% were adults. Since the beginning of the pandemic over two decades ago, the disease has continued to be a major problem that has affected the economic and social development in Kenya (NASCOP, 2009). The HIV prevalence rate is 10% in urban areas, whereas it is just 6% in rural areas (NASCOP, 2009). Many variables explain the HIV prevalence gap between urban and rural regions. Due to drug users' dangerous behaviours including unprotected sex and

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needle sharing, HIV spreads quicker in urban areas. Urban areas have greater access to healthcare, including HIV testing and treatment, but stigma may stop individuals from seeking help (NASCOP, 2009. Urban regions have more poverty and unemployment, which might worsen HIV-related behaviours. Due to lower population density, rural locations may have lower HIV prevalence rates, restricting its spread. However, cultural norms and inadequate access to education and healthcare may hamper HIV knowledge and prevention. These differences highlight the necessity for specialised HIV treatments for urban and rural populations.

World Bank statistics show that 4% of adult populations are living with HIV (WORLD BANK, 2021). A higher proportion of women (6.9%) than males (4.4%; KAIS, 2012) test positive. There are various reasons why more women than males test positive for HIV. Due to their vaginal tract anatomy, women are more susceptible to HIV transmission during heterosexual interaction. Gender inequality may also put women at danger by making it harder for them to negotiate safe sexual practices or coerced into sex (KAIS, 2012). Sexual violence, which is more common among women, increases HIV rates. Vertical transmission from mother to child during pregnancy, delivery, or nursing increases HIV load on women. Limited healthcare access, HIV/AIDS stigma, and cultural norms that discourage women from testing and treating worsen the problem (KAIS, 2012). To reduce HIV's disproportionate effect on women, gender equality, healthcare access, and stigma reduction must be addressed.

The HIV epidemic is widespread because it touches every demographic. However, there are significant sex, age, and geographic variations in the condition (Kwena *et al.,* 2019). Significant advancements have been made in the areas of better diagnostics, counseling,

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treatment, and care; behavioral shifts; and financial support but not everyone has easy access to these services.

The entry of HIV/AIDS treatment is testing and counselling remains the best and basic strategy that is used for dealing with the pandemic. When one is aware of their status, it is important for the individual, the population and also the government. For those who are negative, it is important for them to receive counselling which will inform their decisions. As a result, they will be more inclined to practice healthy and safe sexual activities. However, people who are positive may begin receiving treatment immediately after being informed of their HIV status. Many clinics provide free medical care to patients. Furthermore, they are better able to safeguard themselves, their relationships, and the broader populace from infection (Li Liu *et al*., 2008).

2.3 HIV/ AIDS Knowledge on transmission and prevention.

A survey found that 84 percent of respondents in Uson State, Nigeria, knew where to get HIV testing and counseling services. They learned about it via the media, health professionals, friends, and campaigns (Ijadunola, 2011). Despite having adequate knowledge on Regarding HIV/AIDS, it failed to transfer into understanding the virus's spread and how to avoid it.

Additionally, they still have many myths on HIV and VCT uptake (Ijadunola, 2011).

Prior to the implementation of PMTC in government prenatal clinics, knowledge of the components of HIV testing and counselling was limited (NASCOP, 2008). The program also received more public hype after 2006 world AIDS Day, which encouraged many people to get tested.

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2.3.1 Modes of HIV Transmission

A person's viral load must be high enough for them to transmit HIV to another human (Quinn, 2000). There is a risk of 0.23 percent for healthcare workers who get HIV through a needle stick involving contaminated blood. In other words, if left untreated, 2.3% of every 1,000 such wounds was get infected. Splashes from bodily fluids, especially if obviously bloody, are regarded to provide a negligible risk of exposure. Whether blood is present or not, the risk of HIV transmission via a fluid splash on intact skin or mucous membranes is very low. Health care workers risk contracting HIV when they come into touch with contaminated blood during transfusions, surgeries, or blood collection (Hubbard, 2007). Needle sticks and injections with unsterilized needles from an infected patient are major causes of HIV/AIDS transmission among healthcare professionals (Hubbard, 2007). In 2006, 2.5% of all newly reported illnesses were found in the healthcare workforce (Gelmon, 2020).

2.3.2 HIV Prevention Strategies

Many methods strategies for halting HIV's recent spread worldwide, less than one in five people have access to very effective forms of preventive methods. An estimate of 62 million people were HIV-positive between 2005 and 2020; UNAIDS and WHO estimate that expanding access programs would help avert this number (Manawr, 2021).

The most effective prevention programs combine different ways to get the desired goals. Adopting the different ways of prevention can help in reducing infections within the shortest time possible (Auerbach & Coates, 2000). Care providers may protect themselves from potential HIV transmission by using protective gear including gloves, goggles, and

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shields while handling patients infected with the virus. The CDC suggests giving exposed employees a short course of antiretroviral medication as once prevent the spread of disease.

Preventing the Transmission of HIV at Work necessitates that all blood and other body fluids from patients be regarded as potentially infectious. Therefore, they must always take the following measures for the prevention of infection: Always take precautions (with gloves and/or eyewear) before handling any bodily fluids. Use caution while using and disposing of sharp tools, and always wash your hands after coming into physical contact with bodily fluids. Needle stick injuries may be avoided with the aid of safety equipment. Proper usage of such devices has the potential to lessen the likelihood of contracting HIV. Sharp medical device disposal is a leading cause of percutaneous injuries such needle sticking and cuts.

Accidental injury and the spread of HIV may be avoided by disposing of used syringes and other sharp equipment in designated "sharps" receptacles. Although preventing occupational exposures is the most effective method, procedures for post-exposure treatment of healthcare workers should be in place. The CDC updated their recommendations to account for new information and PEP recommendations for handling HIV exposures among medical personnel.

Reducing the likelihood of contracting and spreading HIV through safer sexual behaviors, such as abstaining from or delaying using condoms often, cutting down on sex partners one has, and engaging in sexual activity are all initiatives aimed at encouraging positive behavioral change (Valdiserri, 1989) where a wide variety of high-risk groups have benefited from these initiatives.

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High-quality condoms that effectively stop HIV virus and other sexually transmitted diseases are readily accessible (Institute of Medicine, 2005). The United States National Institute of Health published an analysis of many research on the efficacy of condoms in 2001. The potential for HIV transmission decreased by 85%, the study found, just by consistently using condoms (Institute of Medicine, 2005). The spread of HIV may be slowed distribution of sterilized needles and counseling are two examples of harm reduction techniques (Hurley, 2006). VCT services may be included during blood transfusion to guarantee that the blood has been checked for HIV (Sloand, 1997).

2.4 Barriers to HIV VCT

People have a right by a process of informed consent, counseling, and testing, which is considered a human right by UNAIDS (2005).

2.4.1 Availability of ARVs

90% of all HIV-positive individuals will be on long-term antiretroviral treatment by 2020, according to UNAIDS effective antiretroviral medication. By June of 2014, 13.6 million individuals, including those in low-resource nations, were receiving care and treatment for HIV/AIDS (UNAIDS, 2015). Another study found that 76.7% of HIV-positive individuals are able to get antiretroviral medication and 86.2% know their HIV status (UNAIDS, 2014).

In 2003, just 6,000 patients in Kenya were using ART. There are now 596,000 grownups and 60,000 kids, or 42% of adults and 31% of kids respectively. Between 2009 and 2013, the HIV infection rate fell by 32%. As ART treatment rates rose, the HIV/AIDS epidemic's prevalence dropped from 10.5% in 2009 to 6% in 2013. In addition to lowering rates of

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mother-to-child transmission, ART also increases testing rates, decreases social isolation, and lessens prejudice (Piot *et al.,* 2001)..

2.4.2 Confidentiality

Because HIV status is considered sensitive personal information, it must be kept private and not disclosed without the individual's permission (Njau *et al.,* 2014). Njau (2014) found that people would rather get tested in a large facility than at home because the former offers more privacy and anonymity. Additionally, these hospitals provided better data since so many persons were examined. Findings from this study also indicate that individuals worry about coming out if they test at home (Njau *et al.,* 2014). Many women, according to Turan (2008), would rather have a home birth than submit to an unannounced HIV test. Concerns about confidentiality hinder HIV Voluntary Counselling and Testing (VCT) for numerous reasons. First, people may avoid testing if they think their HIV status will be revealed. When HIV-positive people are stigmatised, this issue is extremely prominent (Njau *et al.,* 2014).. Even though testing is vital to health, fear of social stigma or job loss might dissuade people from being tested. Confidentiality breaches may also damage healthcare provider and system confidence. People are less inclined to use VCT services if they fear for their personal data. Testing may also affect family dynamics or interpersonal connections, complicating the choice. Kenya's HIV policy recommendations now emphasize confidentiality rather than anonymity. Since the patients knows their privacy will be protected, they may relax and get better treatment (NASCOP, 2010). Study participants are more likely to go to the VCT for testing if they are convinced that their status will be kept secret (Odhiambo *et al.*, 2013).

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2.4.3 Fear of positive results

Previous research has shown that in the United States, a risk group is under-tested because individuals are too embarrassed to learn their test results (Kellerman *et al.,* 2002). Indonesian drug users in the province of Bali were polled, and 55% said they wouldn't be tested for positive findings (Ford *et al.,* 2004). Taking the HIV test is hampered by apprehension about the results, according to another qualitative research of the at-risk group Sawitri et al. (2006) Since AIDS therapy is unavailable, Ford (2005) found that respondents worried about HIV-positive results.

2.4.4 Perception to risk of HIV infection

People who don't think they're at risk tend to avoid being tested for HIV. In the United States, persons with high-risk activities often don't get tested because they don't believe they're at danger (Kellerman *et al.,* 2002). Most people avoid being tested because they are anxious about having a positive result. New infections are a major cause of HIV spread (Biraro *et al.,* 2013).

2.4.5 Stigma and Discrimination

According to UNAIDS, 50% of men and 35% of women shown to have discriminatory attitude to people with HIV in some countries. People are afraid of getting stigmatized which reduces their chances of getting tested, exposing their status, and starting the use of ARVs (WHO, 2011). Because of the discriminatory nature of stigma, persons with HIV may be denied employment opportunities, schooling, medical treatment, and freedom of travel (UNAIDS, 2005). Only a third of PLWHIV in another Johnson research disclosed family members about their identity, out of fear of judgment and disgrace. Half or more of these persons have faced prejudice from their partners.

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Most patients with HIV experience internal stigma, low self-esteem, despair, and a possible perception of discrimination from medical staff. Because of this, they are less likely to take part in preventative measures like preventing trans placental transfer (Garumma *et al.,* 2012). Sexual interaction is the main HIV transmission method, stigmatization of those infected is common in sub-Saharan Africa (stigma research, 2004). Sixty-four percent of nations in 2014 passed legal protections for those living with HIV/AIDS (UNAIDS, 2015).

2.5 Social demographic characteristics of health care providers and VCT

2.5.1 Age and VCT

Those older are more likely to use VCT services, although WHO reports that Youth and young 50% of HIV infections occur among 10–24-year-olds, only a small percentage of those afflicted seek VCT services. One possible explanation for this low rate is the emotional toll finding out one has HIV (WHO, 2013). For numerous reasons, older people are more likely to use Voluntary Counselling and Testing (VCT) for HIV testing. First, having experienced HIV/AIDS awareness boosts their comprehension of the necessity of knowing their HIV status and the advantages of VCT services. Due to prior behaviours or sexually transmitted illnesses, elderly people may regard themselves as at higher risk of HIV infection and seek testing as a precaution. As they age, people become more health-conscious and schedule frequent checkups and tests. HIV testing, which is essential to health, is part of this proactive strategy. Additionally, older people have established ties with healthcare practitioners and greater access to healthcare services, making HIV testing simpler for them (Sanga *et al., 2015*). Additionally, changing HIV/AIDS views may have lowered HIV testing stigma, making older people more comfortable obtaining these

treatments without fear of prejudice. Health education and outreach may have focused on HIV testing and VCT services for older adults. Through these campaigns, elderly people may have learned about HIV/AIDS and been urged to test. According to research conducted in Arusha, Tanzania, VCT use rose with age, which is correlated with more HIV-related education (Sanga *et al., 2015*).

Many sexually active adults believe they are not at danger for HIV infection since they are beyond the age of 50. Caretakers attribute HIV symptoms in the elderly to the natural ageing process (Mutevedzi *et al.,* 2011). Also, unlike younger individuals, who benefit from HIV prevention programs, seniors have fewer opportunities to learn about the virus and how to protect themselves from it (Agress, 2013). After conducting studies in Nigeria, Kalu *et al*. (2014) discovered those over the age of 50 had a much lower rate of testing than those under the age of 50. Making testing services more accessible dramatically improves patients' chances of receiving treatment. According to research by Takele *et al*. (2015), those over 45 higher HIV testing rates than those under 45.

2.5.2 Gender and VCT

Tests for HIV were only administered to individuals exhibiting symptoms, whereas partners of HIV-positive men were screened for themselves (Paxton, 2005). Researchers found that, outside of pregnancy, males tended to get HIV tests more often than women. Men use healthcare less regularly, just when essential or for periodic checkups. HIV/AIDS stigma may disproportionately impact women, causing them to fear judgment, discrimination, and secrecy, which might deter testing. Men may have more access to testing services owing to geography or financial level. Due to behaviors like several sexual partners or drug addiction, males may consider themselves as at increased risk of HIV

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infection and seek testing more often(Paxton, 2005). Also, women are more likely to have HIV testing during pregnancy as part of standard prenatal care, which may reduce testing rates outside of pregnancy. Outside of PMTCT, women were more likely to have VCT in 2008 than men. In Mpumalanga province, South Africa, 72.7% of PMTCT clients and just 27.3% of VCT clients were female. Another research found that despite the prevalence of serodiscordance, most men still relied on their partners' HIV status using test results. Zerbe *et al*. (2014) found that women in Lesotho had easier access to testing, but males had irrational fears about it.

2.5.3 Marital Status and VCT

Researchers have shown that spouses increase one other's risk of HIV infections. More married persons than single ones become infected. Furthermore, people who are married have a greater likelihood of being tested than those who are not married (Matovu *et al.,* 2005). Several factors may increase spouses' HIV risk. First, partners commonly exchange needles or have unprotected intercourse, which increases HIV risk. One or both partners may be uninformed of the other's HIV status or risk factors due to poor communication about sexual health or risk behaviors. In monogamous relationships, trust may lead to a false feeling of security since partners may think they are not at danger of HIV from one other. However, hidden extramarital relationships or HIV risk factors may damage confidence and promote transmission. Power disparities in partnerships may also hinder one partner's capacity to negotiate safer sex or obtain HIV prevention programs. Limited access to condoms or HIV testing may further raise relationship transmission risk (Matovu *et al.,* 2005). HIV stigma and discrimination may deter spouses from reporting their HIV

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status or seeking testing and treatment. This concealment may impede couples from preventing HIV transmission.

However, compared to their married, widowed, divorced, or separated colleagues, teachers who are single are more likely to seek treatment at the VCT out of a fear of contracting or already having the illness (Skovdal *et al.,* 2011). Couple testing was reported to increase HIV testing participation among males in a 2010 research in Zimbabwe (Skovdal *et al.,* 2011).

Research conducted in Kenya found that more boda-boda (commercial bicycle) operators were subjected to testing when their spouses accompanied them to VCT centers (Odhiambo *et al.,* 2012). This is connected to the fact that loving couples encourage and inspire one another emotionally. Despite being at a high risk of HIV (17%-21% among single, married, and divorced women), fewer women used VCT services (NASCOP, 2008). HIV awareness efforts need to shift their emphasis more towards married couples.

2.5.4 Religion and VCT

Many people believe that engaging in religiously forbidden activities is the root cause of HIV infection and that individuals infected are cursed or sinners (FHI, 2005). Researchers in London found that religious affiliation or practice did not prevent black Africans from being tested for and beginning ARTs (Fakoya, 2012).

There was no correlation between religious fervor and either testing for or using ARVs. Fakoya (2012) found that members who frequently attended services were more likely to experience discrimination after coming out to others. People with HIV have a different perspective now, and many credit their faith for helping them cope with the condition (Makoae *et al.,* 2008).

Many religious organizations and government agencies now require HIV testing prior to engagement or marriage. The Anglican Church in Nigeria has mandated that HIV testing be done before any wedding takes place inside its walls. This action is expected to slow the disease's spread (Minchakpu, 2004). In addition, numerous religious leaders proclaimed the need of testing prospective spouses for the virus (Luginaah *et al.,* 2005). The disease's "window time." was neglected by these criteria.

It is now lawful to undergo a premarital test in several nations including Saudi Arabia, the United Arab Emirates, and Guinea (Burns, 2010). Another research found that young individuals who participated in religious activities were less likely to submit to VCT testing in Ethiopia. Those who regularly attended worship were 27% less likely to make use of the VCT facility (Anteneh *et al.,* 2013).

However, a different research conducted in Tanzania found that religious affiliation was associated with VCT usage (Mahande *et al*., 2009). Catholics tended to have a lower VCT participation rate than other religious groups. The church's sermons on the topic of VCT's contraceptive and condom services may have anything to do with this (Mahande *et al*., 2009). Another research by Nyuzaghl *et al*. (2011) VCT service users were more likely to be Christian, and more likely to be female, than Muslim. In Ghana, where Christianity is the dominant religion, this research was conducted.

2.6 Level of VCT uptake among healthcare workers

HIV infection is widespread in the medical community (HCWs) related to sexual contact and occupational exposure in sub-Saharan Africa (Kinoti SN, 2003) while many people should, many choose refusal to undergo HIV testing. As a result of alarming mortality and

disease rates caused by HIV/AIDS, many nations in sub-Saharan Africa have traditionally had an insufficient supply of educated health care workers (HCWs) (S Duale, 2003).

High AIDS mortality rates among HCWs may be attributed to a lack of interest in receiving HIV treatment (Mavedzenge SN, 2011). However, despite the prevalence of HIV among HCWs and the accessibility of antiretroviral medicines (ARVs), Many healthcare workers still decline HIV testing and avoid accessing treatment and prevention programs (Mavedzenge SN,2011). Post-exposure prophylaxis (PEP) with antiretroviral drugs may also be used to prevent HIV sero-conversion after needle stick injuries. The Kenyan Ministry of Health recommends that an HIV test and diagnosis be performed prior to starting PEP (NASCOP, 2011).

PEP adoption was just 4% among HCWs with needle stick injuries in central Kenya, according to a research (Chakaya JM, *et al*.2008) HCWs' reluctance to undergo HIV testing and their belief that needle stick injuries posed little danger were major factors in the poor adoption (Makokha BB, 2013). Similarly, the Kenya Health Workers Survey found that HCWs were worried about getting HIV tested for fear that their coworkers would find out their status or that they wouldn't have enough privacy (NASCOP) 2006.

Growing research suggests that HCWs self-test for HIV at a high rate worldwide (Mavedzenge SN, 2011). Seventy percent of HCWs self-tested for HIV at some point, according to a study done in Ethiopia (Mekonnen D, 2013) Reason Number One: You Have to Have Some Personal Space. Accordingly, a well-implemented HIV self-testing program may be an efficient means of improving adoption of HIV testing with enhanced

privacy, and increasing admission into HIV prevention, care, and treatment program, such as early ARVs and access to PEP.

2.7 Literature Review Summary and Research Gap.

In conclusion, the variables related to VCT uptake among health care professionals were analyzed using a literature study. These factors included education level, social demographic features, and obstacles related to VCT adoption. Recent statistics showed that healthcare workers are at high risk and more susceptible to contracting HIV/AIDS from their dangerous workplace; however, Insufficient information was available to determine what variables may affect interest in VCT services by healthcare workers in Kenya.

This literature reviewed in this study found that health care workers in general have a deep familiarity with HIV/AIDS (K.T.Ijadunola, 2011). Nonetheless, just 26% of people have been tested for HIV/AIDS despite widespread awareness of the disease (KAIS, 2007). Undiagnosed HIV patients are a big concern. This group of people poses a threat because they may unwillingly spread the virus to others, undermining prevention efforts. It's also essential to make sure this untested group gets the medical attention they need to extend their lives.

This study aimed to better understand how medical professionals at Meru Teaching and Referral Hospital in, Kenya, use HIV/AIDS VCT services. These factors include familiarity with HIV/AIDS, demographics of the medical staff, and obstacles to VCT services.

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2.8 Theoretical framework

Because of the key role that risk behavior modification counselling plays in reducing the spread of HIV/AIDS, many low-resource communities have begun offering volunteer HIV counselling and testing (Lucyida K, 2006). Medical practitioners shape public opinion on HIV/AIDS and public health efforts (Anthony C, 2008). Healthcare providers' use of VCT, or voluntary counselling and testing, involves a number of crucial elements. First, it helps prevent HIV infection among healthcare providers (Anthony C, 2008). Secondly, healthcare professionals should undergo VCT to set a positive example and encourage increased VCT rates among the general population. (Anthony C, 2008). Needle stick injuries and other therapeutic practices provide a third danger to healthcare workers' health (Anthony C, 2008). Protecting healthcare professionals in low-income countries like Kenya and Ethiopia, where hospitals and clinics are chronically understaffed, is crucial because it helps save valuable expertise from being lost (Anthony C, 2008). Understanding the variables related to HIV testing and their theoretical basis is crucial for promoting higher VCT adoption.

2.8.1 Theory of planned behavior (TPB)

TPB, Azjen's (1985) cognitive theory of planned behavior, proposes that people's decisions to participate in certain behaviors, including using health services or not using them, are determined by their intentions to do so. The concept of planned conduct revolves upon the idea of intentions, which are affected by beliefs, norms, and feelings of agency

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(Ajzen,1991).

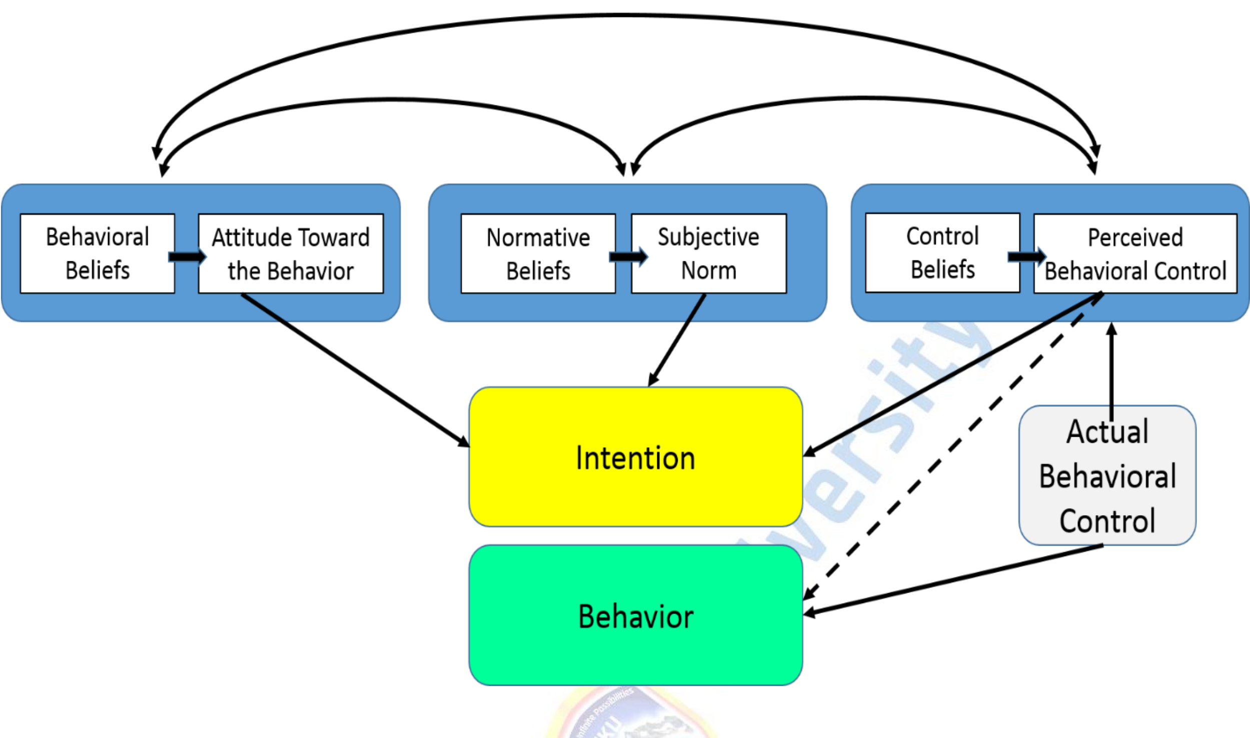

Figure 1 Theory of planned behavior

When it comes to understanding and forecasting behaviors and behavioral intents, the social science's Theory of Planned Behavior (TPB) offers a helpful cognitive paradigm (Fishbein M, 2005). Various research have used theoretical models to discover variables linked with the use of VCT services (Voluntary Counselling and Testing) (De Paoli MM, 2004), Condom usage intentions (Lugoe W, 1999) and sexual debut postponement intents are two examples of sexual behaviors that have been studied in relation to the notion of planned behavior (Deodatus Conatus K, 2006). Theory is utilised to create successful HIV prevention and control education programmes (Fishbein M, 2005). There are various good reasons to apply TPB to doctors and nurses. First, both internal and external influences affect healthcare professionals' ability to make decisions. Second, factors including access to resources, training opportunities, and peer encouragement likely all play a role in

healthcare professionals' willingness to provide VCT services Finally, stigma and prejudice may exist because normative issues about the spread of HIV/AIDS has been slow. Intention to employ VCT services is influenced by attitudes and social pressure among healthcare professionals. Self-testing is common among healthcare professionals. This might indicate a heightened fear stigma connected with HIV infection and disclosure. Belief-based components (indirect measures) of TPB may have a higher impact on the intent to use VCT. In order to increase healthcare providers' intent to use VCT services, strategies should be developed to help them resist societal pressure and programs should be developed to change unfavorable attitudes towards VCT use.

2.9 Conceptual framework

The conceptual structure in Fig. 2 described, the various determinants that affect healthcare providers' VCT adoption. How determinants (independent variables) affected the VCT uptake or no uptake (dependent variable). It explains the relationship between HIV/AIDS knowledge, social demographic characteristics, barriers to VCT government/institutional policies and uptake of VCT services among the healthcare workers at Meru Teaching and Referral Hospital. It examined how social demographic characteristics, HIV/AIDs knowledge and barriers to VCT services influenced VCT uptake or no uptake. The study also examined the influence of guidelines set out by the government for HIV testing, together with policy and institutional backing, as intervening variables. Organizational support and a comprehensive strategy for HIV/AIDS testing and management were found to increase the percentage of people who want to test for HIV from prior research and avoid infections. The study evaluated how independent variables affect VCT service adoption.

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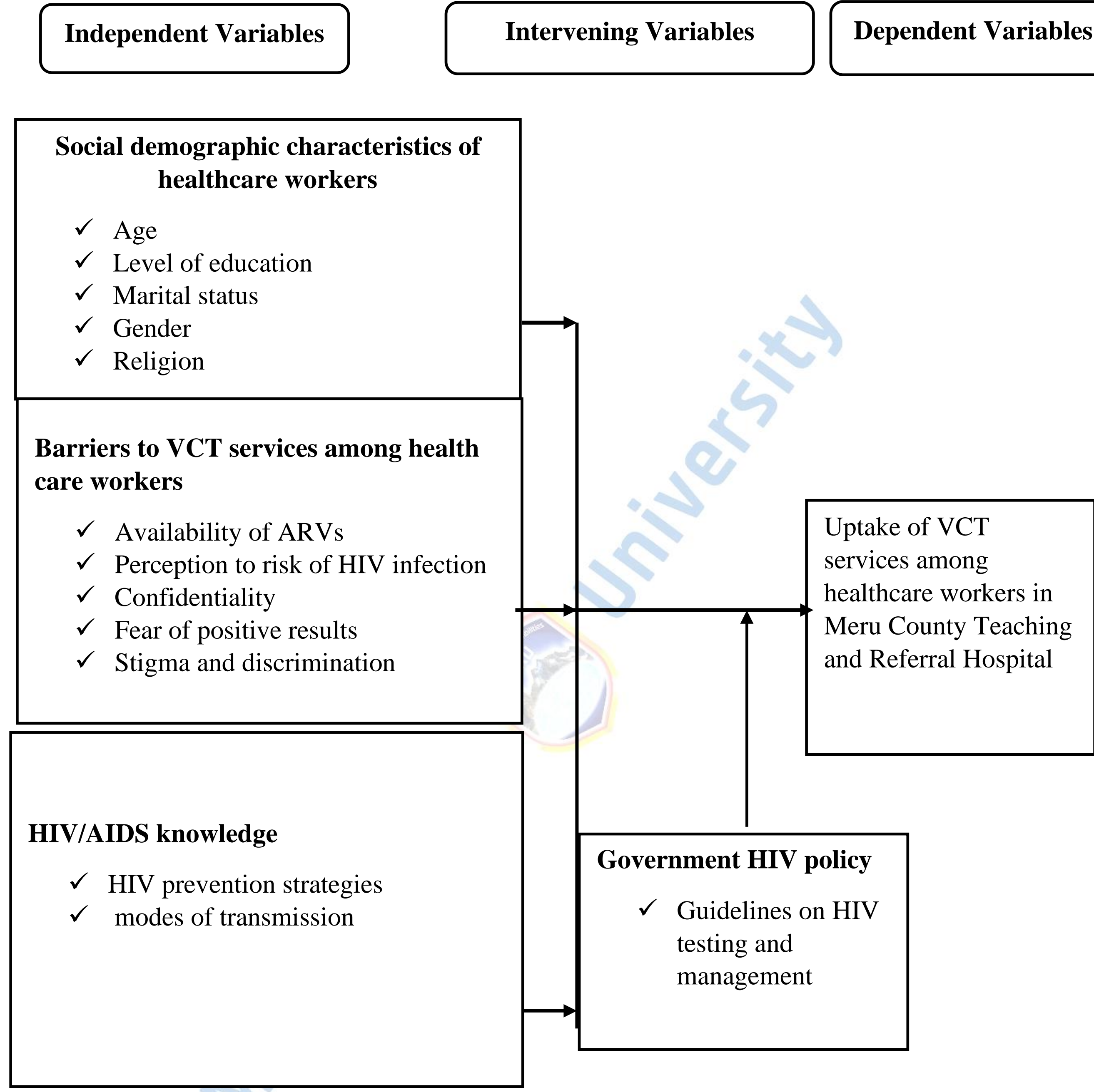

Figure 2 Conceptual framework

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The following section summarizes the study in detail giving the resources and methods used. Information like the study's location, methodology, intended participants, sample size, variables tested, exclusion and inclusion criteria, tests of reliability and validity, data collection instruments, results of said analyses and presentations, and ethical considerations.

3.2 Study Area

Meru County's Teaching and Referral Hospital served as the study's site. It is Located towards the Northeastern slopes of Mount Kenya, in Eastern Province, precisely 37.649803 degrees east and 0.047035 degrees north. Meru County's teaching and referral hospital is 2 km from the commercial centre in North Imenti. It is 500 metres from the Meru-Nanyuki Road in the Imenti North Sub-county, 225 kilometres north-east of Nairobi. As the referral centre for seven sub-county hospitals, several health centres, and private institutions. Isiolo, Tharaka-Nithi, Nyeri, and Laikipia counties are all part of the vast territory that the hospital serves. Crop farming, pastoralism, and other commercial pursuits are the backbone of the local economy.

3.3 Research study design

Healthcare workers at Meru Teaching and Referral Hospital were surveyed by collecting information in a cross-sectional, descriptive manner on their socio-demographic characteristics, perceived barriers to VCT services, VCT service uptake, and how understanding HIV/AIDS affects VCT service uptake. The research design was considered effective since it tested and quantified the connection between independent factors and the

consumption of VCT services and also established the degree of uptake of VCT services among HCW.

3.4 Study variables

The research analyzed how several factors affect the uptake of VCT services; the rate at which VCT services are adopted rises when the independent variables are favorable and falls when not.

3.4.1 Dependent variables

VCT service uptake or no uptake served as the dependent variables.

3.4.2 Independent variables

Factors independent of the study, such as barriers to broad VCT adoption, such as prejudice and discrimination, fears of infection and antiretroviral medication privacy issues, fear of positive test results, HIV/AIDS literacy, VCT service participation, and the researcher calculated socio-demographic variables including gender, age, marital status, level of education, and religious affiliation.

3.5 Study target population

This research targeted 327 healthcare professionals, Nurses, clinical officers, medical physicians, laboratory officials, pharmacist, and HTS providers (male and female) at Meru Teaching and Referral Hospital made up the 193 sample size. According to the World AIDS Day report 2023, Meru county record had 30,912 people living with HIV infections with a prevalence of 2.4% compared to that of 5.6% nationally while that of 2024 was 26,727 people living with HIV a prevalence of 1.73% . The prevalence rate indicates a

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high risk in of contracting HIV among healthcare personnel providing care to this group due to occupational exposure and therefore suitable target population.

3.6 Inclusion criteria

1. The study included healthcare workers who had worked at Meru County Teaching and Referral Hospital for at least six months.
2. Those who consented and met other research selection criteria were included in the study.

3.7 Exclusion criteria

1. The study excluded participants who had not signed the consent.
2. Any participants who met the inclusion criteria but fell unwell or extremely sick were excluded because they were not in a capacity to express themselves well.

3.8 Sample size determination

Sample sizes was determined using the method developed by Fisher et al. (1998).

$$n = \frac{Z^2 PQ}{D^2}$$

n =sample size target

Z= The standard normal deviation was 1.96 to match the tables' 95% confidence level.

p= 50% of the population was utilized since there was no hand data on how many Kenyan healthcare professionals use VCT services. (0.5%)

q=1-p (0.5)

d= a 5% (0.05) threshold for accuracy

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$n = (1.96^2 \times 0.5 \times 0.5)/0.05^2$

$n = 384$

Meru Teaching and Referral Hospital has over 327 medical professionals, not including administrative or clerical help. This was the target population during data collection.

The sample size was chosen using Fisher et al. (1998) since the population was under 10,000.

Where nf was the final estimate obtained from the sample:

$nf = n/\{1 + (n/N)\}$

For the nf-sample-size, the population must be under 10,000.

n- Sample size requirements (for populations larger than 10,000)

N- Population projections

Thus, n=384 (recommended sample size for populations above 10,000).

N=318 $nf = 384/\ \{1 + (384/327)\} = 176$

So, the sample size was 176 respondents.

To account for non-responses, an additional 10% of the 17 participants. = 10% of 176= 17 was included. There was a total of 193 respondents recruited (176 + 17 = 193).

The study's population consisted of the 327 full-time and part-time HCW at Meru Teaching and Referral Hospital.

The sample size was obtained using Fisher et al. (1998) for populations under 10,000.

Here is the formula:

$nf = n / (1 + (n/N))$

To get the optimal sample size, we use the formula: When the total population is higher than ten thousand, the optimal sample size is n. Total population hypothetically is N.

When the total population is above 10,000, a sample size of n = 384 is recommended. N = 327

Calculating nf: $nf = 384 / (1 + (384/327)) = 176$

Thus, 193 healthcare professionals served as the study's sample size.

3.9 Sampling procedures and techniques

Meru County, in general, and Meru Teaching and Referral Hospital, in particular, was purposively selected because of the high rise in HIV prevalence and because it is the central hospital in the region with a high number of health care workers respectively, where most of HIV infected population seeks comprehensive care center services. Participants were recruited using a stratified sample strategy that accounted for differences in the healthcare worker cadre. Each cluster's sample was drawn proportionately from the various categories of healthcare professionals. Respondents were chosen at random from each stratum.

The sample size for each stratum or cadre was calculated using this formula.

$ni = Ni \times n / N$

Where; Strata Sample Size = ni

n = representative fraction of the total study population

Ni=segmental population

N = total number of people in the study

Each responder fell into one of seven groups, as stated in the table below.

Table 1 .Proportional sample distribution of selected health care worker cadre in strata.

Names of the selected cadre	Health care worker population(hospital registry)	Sampling formula ni= (ni= (Ni/N) ×n).	Sample size of each cadre stratum (ni)
Laboratory officers	27	(27/327)x193	16
Nurses	203	(203/327)x193	120
Clinical officers	41	(41/327)x193	24
Doctors	32	(32/327)x193	18
HTS officers	06	(6/327)x193	4
Pharmacists/techs	13	(13/327)x193	8
Dentist/Coho	05	(5/327)x193	3
Total	327		193

3.10 Data collection method and instruments.

Using a basic structured questionnaire with open-ended and closed-ended questions to elicit all aims, study participants provided quantitative data.

3.11 Construction of research instruments

The major data-collection tool from eligible participants was a simple, structured, self-administered questionnaire. For ease of understanding, Questionnaire parts were as follows.

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Section A healthcare employees' social demographic factors, Section B collected information on healthcare workers' knowledge of HIV/AIDs, Section C gathered data on how often respondents use VCT services. Section D collected information on barriers to VCT services, Section E collected information on government policies, organizational support, and guidelines for VCT services.

3.12 Data collection procedure

A standardized questionnaire was given to research participants to collect and maintain quantitative reliable data. These structured administered questionnaires were subdivided into subsections to obtain data on various objectives; Social demographic factors including ages, sexes, religions, marital statuses, and educational backgrounds was collected. Level of VCT uptake data was gathered on how often respondents got tested before the study was done. Information collected on healthcare workers knowledge on HIV/AIDs comprised HIV education on prevention strategies, mode of transmission among the respondents and other study variables. Information gathered on barriers to VCT services focused on availability of ARVs, danger of HIV infection, secrecy, stigma and discrimination, and dread of positive findings among responders.

Careful selection and training on questionnaire administration, confidentiality, and medical/research ethics were provided to all research assistants. All questionnaires were double-verified, tallied, and stored securely until the end of the research.

Eligible participants were asked for consent, and after obtaining consent, participants were given a structured questionnaire to complete. Each participant received a unique identification number to maintain research confidentiality.

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3.13 Pilot study

A pilot study was done on 10% of the sample at Nanyuki Teaching and Referral Hospital Laikipia County to crisscross for ambiguities and ascertain the validity of the data collection tools. The pre-test found that the data collection tool collected the required data and enhanced the expertise of the research assistants.

3.14 Validity of research instruments

The supervisor checked the face and value content of the questionnaire via evaluations, and any required adjustments were made. The use of peer review also enhanced validity.

3.15 Reliability of the research instruments

To ensure consistency, the semi-structured questionnaire was double-checked of the data-gathering methods. The instrument's dependability was tested using 17 facility residents (representing 10% of the study population) who needed to be included in the proper analysis. The same responders were tested again after a week to see whether the instrument produced reliable results. The data was validated using SPSS version 21, and internal consistency was assessed using the Coefficient Alpha. According to the literature, an instrument is dependable if its alpha coefficient is at least 0.70. If there are discrepancies in the answers provided, adjustments are made.

According to George & Mallery (2003), Cronbach's Alpha values are often interpreted: $\alpha \geq 0.9$ -- Excellent; $0.9 > \alpha \geq 0.8$ – Good; $0.8\ \sigma\ \alpha \geq 0.7$ – Acceptable; $0.7 > \alpha \geq 0.6$ – Questionable; $0.6 > \alpha \geq 0.5$ – Poor; and 0.5 – Unacceptable. Thus, a scale's Cronbach Alpha coefficient should be over 0.7 to be acceptable. With a Cronbach alpha rating of 0.81, Meru Teaching and Referral Hospital's VCT uptake data is reliable and internally consistent. The results may represent the perspectives of all target population respondents.

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3.16 Data analysis and presentation

Data collected from surveys was verified for accuracy before any analysis was performed to account for outliers, inconsistencies, and missing data. Then, data was run via SPSS version 21 for analysis. Quantifiable category data was described using frequencies, percentages, and numbers. Numbers were summarized using means and standard deviations. At a 95% significance level (p-value 0.05), the chi-square test examined the explanatory-response association. All significant values identified by bivariate analysis with a 95% confidence interval underwent Binary logistic regression to find further correlations and to control confounders across variables. Determinants on uptake of VCT service was presented using tables and its follow-up questions were presented using frequency tables. Both Socio-demographic data and barriers utilised frequency tables.

3.17 Ethical considerations

National Commission of Science, Technology, and Innovation granted research clearance (NACOSTI, Ref No.405117; See Appendix IV) after approval by the Mount Kenya University MKU Research Ethics and Review Committee (IREC, Ref No MKU/ISERC/2961; See Appendix V).The Meru County Department of Health Services, (Ref No MRU/MED/GEN/R.14; See Appendix VIII) and Ministry of Education science and Technology permit, (Ref No. MRU/C/EDU/11; See Appendix VII). In addition, study participants had to sign an informed consent form (See Appendix 1). And their privacy was protected by not using their names or other identifying information. Because participants were assigned numbers rather than having their names used, their privacy was protected to a great degree. Authors whose work is cited in the research were also given

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credit. Participants may were given autonomy to withdraw from study anytime without penalty.

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CHAPTER FOUR: RESULTS AND DISCUSSION

4.0 Introduction

Providing the findings is the goal of this chapter. They have been produced from the data that has been acquired while doing the study. Summarizing the facts obtained, the document from the study's surveys, showing the percentage of participants who responded, demographic information, and findings on the use of VCT services at the Meru Teaching and Referral Hospital among medical personnel.

4.1 Questionnaire Return Rate

The research activity was successful, judging from the questionnaire return rate. Out of the 193 copies of questionnaires administered, 189 were successfully filled and returned, while 4 were tampered with and not returned. This translates to 97.93%. The participant breakdown is shown in Table 4.1.

Table 4.1 Questionnaire Return Rate

Response	No. of respondents	Percentage
Returned	189	97.93%
Not returned	4	2.07%
Total	**193**	**100%**

This indicates that healthcare professionals as members of the research team from Meru Teaching and Referral Hospital were eager to provide their time and experiences.

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4.2 Level of Uptake of VCT Services

Utilization of VCT services may be gauged by looking at metrics like as having administered HIV tests, how many HIV tests are performed each year, factors leading to the decision to take the test, and recommendations to others. A whopping 97.9% of healthcare staff used VCT services.

Table 4.2 Frequency distribution of the level of uptake of VCT services.

Category	Frequency	Percentage
Tested for HIV		
Yes	185	97.9
No	4	2.1
Often test for HIV		
Once	70	37.0
Two times	40	21.2
Three times	41	21.7
Severally	26	13.8
I can't remember	12	6.3
Reason for HIV test		
Persuaded by friends/relative/partner	9	4.8
Initiated by healthcare provider	8	4.2
Fulfilling a requirement	18	9.5
To know my HIV status	149	78.8
Prepare my future	5	2.6
Recent screening		
less than or 3 months ago	92	48.7
less than or 6 months ago	42	22.2
less than or 1 year ago	33	17.5

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less than or 2 years ago	4	2.1
more than or 2 years ago	18	9.5
Suggest VCT testing to others		
Yes	160	84.7
No	29	15.3

The findings revealed that healthcare workers at Meru Teaching and Referral Hospital, majority attended VCT testing services being knowledgeable about their HIV status. Respondents who agreed to have tested for HIV at the VCT were represented by 97.9%, while those who had not been tested for HIV were represented by 2.1% and were the minority.

In terms of frequency of testing, the majority of the healthcare workers recorded having tested for HIV once in a year, represented by 37%, and those who tested for HIV twice and thrice in a year were represented by 21.2% and 21.7%, respectively. Some healthcare workers even recorded having tested for HIV severally within one year and were represented by 13.8%. In contrast, some who could not remember how many times they went for HIV tests within a year were represented by 6.3% and were the minority.

Hospital healthcare personnel are required should get HIV tested for several important reasons. Most HIV-tested healthcare workers knew their status, according to the data 78.8% aside from knowing status, there were, however, other reasons why some healthcare workers went for the testing, such as persuasion by friends or relatives or marriage partner, represented by 4.8%, initiation by a healthcare provider, 4.2%; fulfilling a requirement, 9.5%, and minority were preparing for their future by testing for HIV, 2.6%.

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In terms of screening, the most recent screenings were done less than three months before the data collection date, and most healthcare workers were screened during that period, 48.7%. Those who went for the screening less than or six months before the study date were represented by 22.2%; others who went for the screening less than or one year before the study date were represented by 17.5%. However, healthcare providers screened less than or two years before the study date, 2.1%, and those screened more than two years before the study date, 9.5%.

As a result of the uptake of the VCT testing services, 84.7% of the healthcare workers at the hospital agreed to suggest someone else to undergo the testing services. In comparison, 15.3% of the healthcare workers did not agree to suggest VCT services to others. These findings reveal a high uptake of VCT services by the healthcare workers at Meru Teaching and Referral Hospital.

4.2.1 Discussion and Comparison with other literature

Participation in VCT (Voluntary Counselling and Testing) programmes as reported by healthcare workers can vary depending on a range of factors. Whether or not VCT services are easily accessible within healthcare facilities can impact healthcare workers' uptake. If VCT services are readily available on-site, healthcare workers may be more likely to utilize them. The significance of HIV testing and counselling to workers, as well as their knowledge of the availability of VCT services, can influence their likelihood to seek testing. The CDC recommends HIV testing should be conducted annually (CDC, 2022).

A large percentage of individuals was tested for HIV every year, therefore the research follows CDC guidelines. Because of their deep understanding of VCT services, healthcare

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staff exhibited a significant preference for VCT. Considerations such as age, education, sexual activity, stigma, and fear of HIV test results were the most important in determining whether or not to undergo VCT. If we want more healthcare personnel to choose VCT and less stigma, we must stress the significance of providing support and post-test care. Curiously, the research found that healthcare workers had a very high rate of VCT uptake, disproves the results of the research of Mahande et al. (2009), demonstrating that healthcare professional students in Tanzania's Kilimanjaro area have poor VCT service acceptance despite strong knowledge and readiness to test.

4.3 Socio-Demographic Characteristics of Respondents

The second objective was determining socio-demographic factors influencing VCT service uptake among healthcare workers (nurses, doctors, pharmacists/technicians, lab technicians, and clinicians) in Meru Teaching and Referral Hospital. The demographic factors were comprised of the gender of respondents, age, profession, marital status, and level of education.

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4.3.1 Descriptive statistics for demographic characteristics

Table 4.3 Demographic characteristics of healthcare workers, n=189

Category	Frequency (N)	Percentage
Gender		
Male	102	54.0
Female	87	46.0
Profession		
Nurse	92	48.67
4Doctor	8	4.2
Pharmacist/tech	20	10.6
Lab tech	30	15.9
Clinician	39	20.63
Education		
Diploma	118	62.4
Higher diploma	5	2.6
Degree	66	34.9
Age		
21-30 years	90	47.6
31-40 years	57	30.2
41-50 years	12	6.3
51-60 years	30	15.9
Marital Status		
Single	96	50.8
Married	75	39.7
Engaged	4	2.1
In a relationship	14	7.4

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In terms of gender, the sample was dominated by male healthcare workers. Males were represented by 56%, while females were represented by 44%. This indicates that male healthcare workers primarily utilize VCT services in Meru Teaching and Referral Hospital.

In terms of profession, it was evident that nurses were the most healthcare workers in Meru Teaching and Referral Hospital. The nurses represented 48.67%, lab technicians represented 15.9%, clinicians were represented by 20.63%, pharmacists were represented by 10.6%, and finally, the minority who were the doctors were accounted for by 4.2%.

At the education level, a diploma was the most attained level among the healthcare workers. A diploma was represented by 62.4%, a degree was represented by 34.9%, and a higher diploma was represented by 2.6%. This implies that the majority of the healthcare workers have attended college and have Knowledge regarding their profession and VCT concerning HIV/AIDS disease.

Regarding age distribution, the modal class was between 21 and 30 years. Respondents aged between 21 and 30 years were represented by 47.6%, and healthcare workers aged between 31 and 40 were represented by 30.2%. Senior healthcare workers aged between 41 and 50 years were represented by 6.3%, and those aged between 51 and 60 were represented by 15.9%. This means that the healthcare workers in the study are mature and understand VCT services and their dockets.

In terms of marital status, the results indicated that single healthcare workers were the majority at 50.8%, married healthcare workers were represented by 39.7%, those who were in a relationship were represented by 7.4%, and those who were engaged and were the minority were represented by 2.1%.

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4.3.2 Inferential Statistics for demographic characteristics

Table 4.4 Relationship between demographic factors and uptake of VCT services

Parameters	Value	
-2 Log likelihood	19.557	
R-square (Nagelkerke)	0.521	
Overall significance	57.556 (0.000)**	
Variables	**Wald**	**Sig.**
Gender	-18.745	0.062
Profession	8.781	0.158
Age	-15.394	0.042**
Education	1.065	0.122
Marital Status	-15.954	0.113

*** represent significance at 0.05 level*

The findings indicate that the model statistically significant in predicting how demographic variables impact VCT service use among healthcare providers at Meru Teaching and Referral Hospital [Wald=57.556, p=0.000<0.05]. The proportion of the model explained by the variables is 52.1%, R-square = 0.521.

From the individual significance, gender (P-value = 0.062>0.05), profession (P-value = 0.158>0.05), education (P-value = 0.122>0.05), and marital status (P-value = 0.113>0.05) do not have an influence on the health care providers at Meru Teaching and Referral Hospital utilize VCT services. However, the age of the healthcare workers was however found to have an influence on uptake of VCT services. This finding corresponds with

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previous literature on the relationship between age and VCT uptake. As people grow older their sexual drive tends to weaken and hence they have an extremely low chance of getting HIV compared to older adults, younger individuals have a higher chance of catching the HIV virus. (Chiao, A, 2011).

4.3.3 Discussion and Comparison with other literature

In this study, the healthcare workers were mostly single (not in a relationship) despite having encountered a sexual life and understanding of the spread of HIV and the importance of VCT testing. For discordant couples regular screening is important to ensure necessary measures are taken to prevent the transmission of the virus. However, married couples have a higher chance of contracting HIV than single/non-married or divorced or widowed individuals due to sexual activeness. But due to fear of positive results single individuals tend to go for screening to know their status as revealed in this study.

In terms of gender, HIV infection is more likely to affect women than males therefore they undergo series of HIV screening to keep them safe from the virus. Women of the child bearing age are subjected to PMTCT. Despite having more male healthcare professionals than women in the facility from the findings, there was still reluctance on the male healthcare professionals to undergo VCT compared to their female counterparts. Some argued that they relied on the test results of their spouses which gave them enough confidence about their status. Similarly, Zerbe *et al*. (2014) found that women in Lesotho had easier access to testing, but males had irrational fears about it.

In regards to age, this study found that most of the medical staff ranged in age from twenty-one to forty-five. The senior healthcare staff were few in Meru Teaching and

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Referral Hospital having attained a retirement age and some being on leave during the onset of the study. It was clear that the junior healthcare workers highly participated in the VCT services utilization than the older healthcare workers due to the proportionality of age, for instance, and having high risk of contracting HIV virus. There was a favourable correlation between age and VCT uptake, according to the research corresponding to a study 192 undergraduates from Khartoum University's science department participated in the study (Abdalla & Abusalih, (2021).

In terms of education, the study revealed that the healthcare workers attended a tertiary institution to attain a diploma, a higher diploma, and a degree. Having specialized in the medical arena, the healthcare workers received special training on their respective fields in the medical arena.

4.4 HIV/AIDS knowledge of the healthcare workers

The Knowledge of the healthcare workers at Meru Teaching and Referral Hospital was determined by their belief of what HIV/AIDS is, the transmission of the disease, how to get protected from contracting the disease, and participation in HIV education programs.

4.4.1 Descriptive statistics for Knowledge of HIV/AIDS

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Table 4.5 Frequency distribution of the Knowledge of HIV/AIDS.

Category	Frequency	Percentage (%)
HIV is hereditary		
True	6	3.2
False	183	96.8
Cure		
False	189	100.0
Sexual contact with infected person the only cause of HIV		
True	26	13.8
False	163	86.2
ARVs increase lifespan		
True	188	99.5
False	1	0.5
Treatment of HIV is provided at no cost		
True	178	94.18
False	11	5.82
Protective gear should be won when dealing with bodily fluids of contaminated person		
True	108	57.14
False	81	42.86
Women reduce risk by using female condom		
True	180	95.2
False	9	4.8
Sex with several partners increases risk for HIV		
True	111	58.73
False	78	41.27

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Infected needles		
True	188	99.5
False	1	0.5
VCT is crucial to stop transmission		
True	161	85.2
False	28	14.8
HIV Education program		
Yes	126	66.7
No	63	33.3
Policy regarding HIV/AIDS		
Yes	171	90.5
No	18	9.5
HIV education		
Yes	189	100.0
Worried about contracting HIV/AIDS		
Very concerned	139	73.54
Not concerned	50	26.46
Infection route for HIV		
Sexual intercourse	184	97.4
Blood transfusion	5	2.6
Protection from HIV		
Use condom	174	92.1
avoid sex with prostitutes	5	2.6
stick to one sexual partner	5	2.6
Abstain	5	2.6

The level of knowledge among the healthcare workers at the facility was measured by their participation on HIV education program, and how much informed they are with HIV protective and prevention measures. All the healthcare professionals, 100%, at the

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hospitals responded to have participated in the HIV education program where they were equipped with basic and general knowledge about transmission, treatment, care, and prevention of HIV/AIDS.

According to the results, most healthcare professionals don't believe that HIV/AIDS is hereditary, 96.8%, while only a few agree that HIV/AIDS is hereditary. This is more of a myth than a fact according to the respondents' answers. This means that healthcare providers have factual Knowledge of HIV/AIDS disease. It is a reality that there is currently no treatment for HIV/AIDS, as all research participants acknowledged. Antiretroviral therapy can only manage to boost the infected person's immunity. Sex with several partners' increases potential for acquiring the HIV virus and therefore it was observed that use of female condoms during Sexual contact with an infected individual inhibits HIV transmission in women by 99.5%. It was also found that sharing infected needles and scissors may spread HIV and other AIDS viruses at 99.5%. Further, most of the participants agreed that VCT is essential for HIV prevention. Knowing one's status helps them to abstain from having sex with infected people to stop viral spread. Based on the responses given by the respondents in the survey questionnaire asking about transmission, prevention, treatment, and stigma, their level of knowledge and understanding were thus measured. Also, modes of transmission, ways to prevent infection, signs and symptoms of HIV/AIDS, and knowledge of available treatments and support services. Additionally, questions about attitudes and beliefs related to HIV/AIDS also provided insight into the respondent's knowledge and understanding of the disease.

In terms of the HIV education program, the majority of the healthcare workers at the hospital agreed to take part in the HIV education program, representing 66.7%. In

comparison, 33.3% did not take part in an HIV education program before this study. It was very evident that Meru Teaching and Referral Hospital has a policy regarding HIV/AIDS as per the response of the majority of the healthcare workers, 90.5%. Personal HIV/AIDS education was believed, 100%, to impact people's decisions to get tested. Moreover, it was clear that most of the healthcare workers were very concerned about contracting HIV/AIDS, 99.5%. The most prevalent route for transmission of HIV was through sexual intercourse, as reported by the doctors, 97.4%. At the same time, most of the participants preferred using condoms, 92.1%, more effective than any other preventative intervention against HIV infection.

4.4.2 Inferential Statistics for Knowledge of HIV/AIDS and uptake of VCT service.

Table 4.6 Relationship between knowledge of HIV/AIDS transmission, prevention and uptake of VCT Binary Logistic Regression.

Parameter estimates		
-2 Log likelihood	18.555	
R-square (Nagelkerke)	0.547	
Overall Significance	**57.556 (0.000) ****	
Variables	**Wald**	**Sig.**
Hereditary	0.136	0.714
Sexual Contact	-5.133	0.000**
ARVs	0.172	0.883
Treatment provided	-0.062	0.883

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Protective gear	-0.144	0.883
Reduce risk	-1.662	0.883
Risk of many sex partners	0.015	0.883
Infected needles	-0.098	0.883
VCT importance	0.403	0.399
Education program	-0.291	0.153
Policy	-0.062	0.512
Worried	-0.144	0.883
Infection	-1.662	0.739
Protection	0.015	0.611

*** represent significance at 0.05 level*

The results reveal that the variables explained 54.7% of the model, the Knowledge of HIV/AIDS, R-square = 0.547. In general, the model sufficiently explains the significant impact of healthcare providers' HIV/AIDS knowledge on the use of VCT services at Meru Teaching and Referral Hospital symbolized by Wald statistic value,57.556, p= 0.000 < 0.05.

The individual significance of the variables indicating the Knowledge of sexual contact and sexual behavior was found to have reduced interest in using VCT services. Moreover, the knowledge of sexual contact in the transmission and spread of HIV virus was shown to have a statistically significant effect on health personnel' use of VCT services. The knowledge on sexual contact guides the healthcare professional in exercising caution with their sexual life and practicing loyalty with their spouse or abstaining from sex.

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4.4.3 Discussion and Comparison with other literature

Healthcare workers are very eager to test and are aware of VCT services at Meru Teaching and Referral Hospital, and its uptake is high. The respondents in this research displayed their knowledge on HIV/AIDS modes of transmission and prevention strategies against contracting the virus in the line of duty.

All participants were medical experts, and most of those doctors and nurses had prior knowledge and experience with VCT. Mahande and colleagues (2009) studied the acceptability and viewpoint towards VCT among young healthcare professionals in the Kilimanjaro region, Tanzania, and their findings are in line with ours. The benefits of VCT include modifying behavior, getting help and treatment for individuals who are infected quickly, preparing for the future while minimizing risks, and many more were emphasized by healthcare providers to have motivated them to undergo VCT testing. Due to the lack of a clear association, this shows how complex the relationship is between awareness and knowledge and other behavioural components. Those who have undergone VCT testing before had a better grasp of its advantages, according to our research. Every single person who took part in this study had a solid grasp of HIV/AIDS and the benefits of VCT testing since they worked in the healthcare industry. However, previous research has shown that having a lot of knowledge does not automatically result in more people using VCT services (Kuehne and colleagues, 2018). These results counter to what this research found.

4.5 Barriers to accessibility of VCT services

Objective 4 was to determine the barriers that hinder accessibility to VCT services. These barriers included having been screened for the past three months for HIV before this time

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of the study, whether the participants would recommend other colleagues/professionals to go for VCT, the reasons why most health professionals avoid VCT, availability of safety equipment in the institution, religious beliefs and influence from a marital partner.

4.5.1 Descriptive statistics of barriers to accessibility of VCT services

Table 4.7 Frequency distribution of barriers

Category	Frequency	Percentage
Test in last 3 months		
Yes	105	55.6
No	84	44.4
Why Health professionals not attending VCT		
Service personnel lack confidentiality	42	22.2
Fear of stigma and discrimination	104	55.0
Fear of positive results	24	12.7
No risk to HIV infection	14	7.4
Fear to be seen at VCT centers	5	2.6
Safety Equipment stock		
Adequate	169	89.4
Inadequate	20	10.6
Religious beliefs		
Yes	42	22.2
No	147	77.8

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Marital Partner		
Encourage	152	80.4
Discourage	37	19.6

Most healthcare personnel had tested for HIV in the three months before to this survey, according to the results in the table above. This means they had access to test kits and could quickly screen for the disease. More healthcare professionals don't attend VCT services due to concerns about prejudice and stigma at 55.0%, which was reported by the majority in this study. Other reasons included: Lack of confidentiality of information by service personnel, represented by 22.2%, fear of positive results, represented by 12.7%, having no risk of HIV infection, represented by 7.4%, fear of being seen near VCT centers, represented by 2.6%.

Further, most healthcare providers assert that there is adequate stock of safety equipment at the hospital, 89.4%. This means that healthcare providers are well protected from contracting HIV when handling infected persons with sharp needles and scissors.

Religious beliefs from the findings don't hinder the participants from testing for HIV, 77.8%, while those who believed that religious beliefs hindered them from HIV testing were represented by 22.2%. Finally, marital partners were found to play a crucial role in encouraging or discouraging their partners to be tested for HIV. Partners pushed their healthcare professionals to be tested for HIV, according to most of the providers. This is represented by 80.4%, while those who recorded that their partners discouraged them from HIV testing were represented by 19.6%.

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Eventually, this study shows that factors highlighted as barriers have less or no impact in hindering the participation in VCT services, but rather impact participation in VCT services among healthcare providers at Meru Teaching and Referral Hospital.

The barriers were assessed from the survey questionnaire structured for this study. Some other barriers that were highlighted by the respondents during the data collection phase included lack of awareness, some of the healthcare professionals neglected to inquire about the facility's VCT services, and stigmatization that compelled some of the respondents to seek VCT services in other facilities far from their own facility to protect their image and reputation.

4.5.2 Discussion and Comparison with other literature

A common barrier that always hinders VCT testing is the distance from the VCT centers, which is not applicable in this setup since the study was done in the hospital, which had a VCT testing section. Some of the people we surveyed said they would never be tested for HIV again, according to our findings. They may have this view because they do not see a need for VCT since there is currently no treatment for HIV/AIDS. They may not have tested because of a number of things. With some of the same elements maybe acting as roadblocks to prior testing encounters. One major obstacle is the high rate of uncertainty and despair among those who have never had their blood tested. Perhaps leading to unwillingness to use VCT services even after being advised of their benefits.

Several obstacles exist throughout the health system, according to this study's findings. Fear of discrimination, stigma, and a lack of secrecy were mentioned by many individuals as concerns. For example, when medical professionals doing testing and counseling did not

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have the necessary expertise or did not follow ethical guidelines. Consistent with these results, Biratu *et al.* (2016) found that participants in rural Ethiopia were less prepared to undergo VCT testing due to stigmatization, fear of positive results, and difficulty accessing VCT centres, among other factors.

4.6 Government/institutional policy and guidelines on HIV

The policies and guidelines were used in this study as the intervening variables to determine how many of the healthcare personnel at Meru Teaching and Referral Hospital had used VCT services.

This included protocols for exposed healthcare workers, access to post-exposure prevention, and the role of administration in encouraging HIV testing for medical staff.

4.6.1 Descriptive statistics on government/institutional policies

Table 4.8 Frequency distribution of responses on government/institutional guidelines and policies.

Category	Frequency	Percentage
Protocols for exposed health workers		
Yes	176	93.1
No	5	2.6
I don't know	8	4.2
Access to post exposure prophylaxis		
Yes available	179	94.7
I don't know/not sure	10	5.3

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Role of administration		
Encouraging	91	48.1
Neutral	98	51.9
VCT center & HTS provider		
Yes	189	100

4.6.2 Inferential Statistics on government/institutional guidelines and policies.

The moderation effect was assessed using the Andrew F. Hayes process macro model in SPSS. This test usually entails regression analysis to study how the interaction between an independent variable (demographic factors, HIV/AIDS knowledge, uptake level) and a moderator variable (government/institutional policies and guidelines on HIV/AIDS) influences link between independent and dependent factors.

Table 4.9 Moderation effect of government/institutional guidelines.

Category	**Interaction effect (p-value)**
Demographic characteristics	0.049
Demographic*protocols for healthcare providers	0.074
Demographic*access to post-exposure prophylaxis	0.074
Demographic*administration role	0.039
Demographic*VCT&HTS provider	---
HIV knowledge and prevention	0.002

Knowledge *protocols for healthcare providers	0.001
Knowledge *access to post-exposure prophylaxis	0.001
Knowledge *administration role	0.001
Knowledge *VCT&HTS provider	---
Level of uptake	0.000
Uptake *protocols for healthcare providers	0.001
Uptake *access to post-exposure prophylaxis	0.001
Uptake *administration role	0.000
Uptake *VCT&HTS provider	----

The table shows the moderation findings between the demographic factors, HIV knowledge and transmission, the uptake of VCT services, and their interaction with the government/institutional guidelines and policies. It was evident that the availability of protocols for exposed healthcare workers and post-exposure prevention at the hospital did not moderate the demographic factors. However, the administration's role in encouraging the staff to HIV testing has increased the significance of demographic factors ($p=0.039 < 0.049 < 0.05$). This implies that hospital administration plays a vital contribute to the expansion of VCT service utilization by the healthcare providers at the facility. Availability of VCT/HTS provider did not have any moderation effect on the model and hence remained constant (---).

In terms of preventing the transfer of HIV and Understanding and use of VCT, it was evident that the availability of protocols, post-exposure prophylaxis, and facility administration had a significant moderation effect. This means there was a significant more

people using VCT services because of the moderating impact of protocols, post-exposure, and facility administration.

4.6.3 Discussion and Comparison with other literature

Government policies that prioritize the availability of VCT services in multiple locations, including in remote or underserved areas, can increase accessibility and encourage more healthcare professionals to seek testing. Policies that make HIV testing services free or low-cost can remove financial barriers and make testing more accessible to a wider range of individuals.

Institutional policies that ensure the confidentiality of HIV test results can help alleviate fears of stigma and discrimination, making healthcare professionals more likely to seek testing. Some government policies may require certain populations, such as pregnant women or individuals seeking certain healthcare services, to undergo HIV testing. While controversial, mandatory testing policies can increase overall testing rates and help identify individuals who may not otherwise seek testing.

Healthcare administrators actively assist healthcare professionals and provide an environment that prioritizes their safety. Administrators can encourage regular HIV testing among medical staff by providing education about the importance of testing, ensuring access to confidential testing services, and promoting a non-judgmental and supportive environment for healthcare workers who seek testing. Administrators can also lead by example by promoting regular testing among staff and demonstrating a commitment to the health and well-being of all employees.

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Healthcare facilities should provide easy access to PEP for healthcare workers who have experienced a potential exposure to HIV. This may involve ensuring that PEP medications are readily available, that healthcare workers know how to access them, and that there are clear procedures in place for initiating PEP treatment. Access to PEP can help reduce anxiety and uncertainty among healthcare workers and encourage them to seek testing and treatment after a potential exposure.

Healthcare facilities should have clear protocols in place for managing occupational exposures an infection that may be transmitted by blood, such as HIV. These protocols should include guidelines for immediate post-exposure evaluation and treatment, particularly having access to PEP, which helps lower the risk of HIV transmission after a possible encounter.

Having well-defined protocols can help ensure that healthcare workers feel supported and know how to access necessary care in the event of an exposure.

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CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of study findings

Based on VCT uptake most healthcare workers took use of the VCT programmes at the facility as indicated by the respondents in the study (97.9%). There was also high willingness for future VCT screening by the respondents to constantly check their status.

Another key finding concerning social demographic factors was that majority of the healthcare professionals at the facility were aged between 21 to 30 years (47.6%) thus were young and sexually active individuals. However, despite being at the sexually active age, most of the respondents were not married (50.9%). The age of the respondent and their marital status were determining factors on their willingness to test for HIV thus age influenced uptake of VCT services among the healthcare professionals as revealed by Chi-square test $P<0.042$

Another crucial finding in this study was that the spread and prevention of HIV/AIDS were well-understood (100%). The caregivers were well knowledgeable of the modes through which HIV is transmitted and well equipped with prevention strategies to protect themselves while handling HIV patients from contracting the virus. Therefore, familiarity with the HIV transmission mechanisms especially through sexual contact as revealed by Chi-square test $P<0.000$ and methods for preventing the virus influenced the Use of VCT by healthcare providers.

In regards to VCT barriers, implementation of VCT services at the institution faced some challenges. The study identified some common barriers that hindered the uptake of VCT services such as fear of stigmatization, lack of confidentiality among the healthcare professionals, worry about testing positive and not being at danger of contracting HIV. These barriers justified for some of the healthcare providers who were hesitant to undergo HIV testing at the VCT clinics. Therefore, the barriers identified influenced the uptake of VCT services among the healthcare providers at the facility.

Another key finding was the facility's administration's role in encouraging its staff to take VCT services. This helped boost the confidence and self-esteem of healthcare providers at the facility and helped in the proper handling of HIV patients and people waiting to test for HIV. Also, the administration eventually came up with guidelines on safeguarding the interests of HIV-positive healthcare providers to curb stigmatization and discrimination from their colleagues.

5.2 Conclusions

After the study analyzed all the significant results, it settled on its conclusions based on binary logistic regression findings. This study concluded that uptake of VCT services among healthcare workers was high at (97.9%) but this was more among the female caregivers than males. This designates the need for targeted intervention through sensitization of the same among the males. Regarding Socio-demographic factors, the study concluded that age augmented the uptake of VCT services. However, uptake of VCT services was concluded to be independent of gender. About the Knowledge of HIV transmission and prevention was impressive among the healthcare providers. This implies

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that they had undergone or are undergoing training programs on HIV/AIDS awareness that harnessed their skills and knowledge especially on sexual contact Vis a vi HIV/AIDS transmission which statistically shown influence in the uptake of VCT services. Some of the most common barriers highlighted in the findings such as stigma still prevents many from, including healthcare providers, avoid VCT services. Stigma also arises from lack of confidentiality of information from the service personnel. Barriers, however, still exist that prevent people from taking up VCT services. Stigma and health care limitations concerning staff competency and confidentiality were the most prominent structural obstacles identified in this research. This study resolved that knowledge on HIV transmission and prevention mode, stigma/discrimination as a barrier and age as a social demographic factor influenced the uptake of VCT.

5.3 Recommendations based on study

On the level of uptake of VCT services, there should be promotion of the adoption of VCT services. Focusing health promotion initiatives and delving further into healthcare providers' openness to provide services would be beneficial. There is important need to motivate married healthcare workers to attend VCT services together when screening for the virus.

On the socio-demographic factors, the older population who have not been visiting the VCT services center need to be encouraged through awareness programs to utilize the VCT services to avoid being at risk of infection and avoid having negligence while the sexually active adults need to exercise safety precautions in their sexual behavior.

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In terms of the knowledge of VCT services, regular training programs and workshops need to be set in place to emphasize the need to have proper and adequate knowledge on HIV/AIDS transmission add prevention to mitigate the effects of the disease in the society. Future studies should look at people's views on danger and how they may evolve with time.

Regarding the barriers in VCT uptake, for HIV prevention programs to work better, recognizing and eradicating the root causes of stigma requires significant efforts. While also tackling other obstacles, such as the resulting prejudice against those living with HIV.

5.4 Recommendations on further research

This study suggests that further study be done by healthcare providers across the entire Meru County hospitals to compare the levels of uptake of VCT across the centers.

Besides, there is a need for a future intervention study to ascertain the effectiveness of awareness and health education on the uptake of VCT services among male health care providers and sexually inactive senior adults.

Future studies should focus on the integration of policies governing the uptake of VCT services among healthcare workers in hospital setup in other counties.

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APPENDICES

APPENDIX I: CONSENT FORM.

Name of the Researcher; Wilfred Muriki Muriungi

Mount Kenya University, P.O BOX 342-01000, Thika Kenya.

Research Topic; Determinants influencing uptake of HIV/VCT services at the Meru Teaching and Referral Hospital among medical staff.

Introduction and purpose of the study

Hi, I'm WILFRED MURIKI. At the moment, I am doing research on the uptake of VCT services among healthcare professionals as part of my Disease control and public health epidemiology master's degree programme at Mount Kenya University.

The Questionnaire discusses several concerns and factors affecting VCT adoption. You are one of the people that was take part in this investigation. Please give me a hand in correctly answering these questions. This research is entirely for academic purposes and is a mandatory element of my master's program. Confidentiality of information given is guaranteed.

Description of the research

One hundred and ninety three hospital staff members with a minimum of six months' service at Meru Teaching and Referral Hospital was participate in the study.

Subject participation

Voluntarily participating participants was asked to answer all questions posed to them.

Potential discomforts and risks

No awkward or perplexing questions was asked. However, your participation won't be broadcast publicly. You could feel awkward or embarrassed by some of the questions that are posed. If that happens, you may always just ignore the questioner.

Potential benefits

Participating in this study was not provide any tangible benefits, but the data collected was provide light on the variables that affect health care professionals' use of VCT services and how those uses might be enhanced.

Confidentiality and anonymity

Any data collected was put to its intended use. Identifying information was not be collected. For the audio-recorded data, after transcription, was destroyed. The study is purely academic.

Authorization

By signing the consent form, you agree to the collection, storage, and display of the data.

Compensation and Cost

There was no compensation.

There are no costs to take part in the study.

Voluntary participation

All involvement was entirely optional.

Withdrawal from the study

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At any time throughout the study, participants may opt out by notifying the researcher verbally or in writing.

Contact information

Feel free to ask me whatever you want to know about this study whenever you want. Feel free to feel free to inquire about this research whenever you have any queries. You may also call my supervisor at 0720868297 or get in touch with me directly at 0712233129 or by email at wilmuriki@@gmail.com. If you are a participant in this study and have questions or concerns about your rights, you may research@mku.ac.ke to reach the Mount Kenya University Institutional Ethical Review Committee (IERC).

Partaker statement

It has been explained to me well the aim, merits, and threat of this research. Getting involved in this research is autonomous, I have got the power to pull out of the research at any time. My data was anonymous and a reply has been made to all the concerns I had about this research. I choose to take part in this investigation. I consented to this study and understood that my data was protected.

Deliberately I consent to take part in this research.

☐ **Yes** ☐ **No**

Partaker Sign ……………… Date …………

Investigator statement

I have explained the research's goals to the respondent in terms the respondent can understand.

Investigator Sign …… Date…………

APPENDIX II: SEMI-STRUCTURED QUESTIONNAIRE

Questionnaire Number …………………

Date…………………………

INSTRUCTIONS

Read the questions and tick where necessary.

SECTION A: PERSONAL AND SOCIAL DIMENSIONS (Select All That Apply)

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1. Gender Male [ ] Female [ ]

2. Profession / cadre

Nurse [ ] Lab tech [ ]

Doctor [ ] Clinician [ ]

Pharmacist/tech [ ] HTS provider [ ]

Others (specify)

3. Please tick your Age group

21 – 30 years. [ ]

31 – 40 years. [ ]

41 – 50 years. [ ]

51 – 60years. [ ]

4. In terms of education, what did you earn?

Certificate. [ ] Diploma. [ ]

Higher diploma. [ ] Degree. [ ]

Master. [ ]

5. What is your religious belief?

Christian [ ]

Muslim [ ]

5. Marital Status: Single [ ] Married [ ] engaged [ ] in a relationship [ ]

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SECTION B: HIV/AIDS PREVENTION AND TRANSMISSION KNOWLEDGE

1. Please choose TRUE or FALSE to reflect your opinion on the following statements concerning HIV/AIDS.

Questions	**True**	**False**
HIV/AIDS is a hereditary disease.		
HIV/AIDS may be cured.		
Sexual contact with an HIV-positive individual is the only known route		

of transmission.

Using ARVs, a person living with HIV may increase his lifespan.

Treatment for HIV is provided at no cost.

Gloves and other protective gear should be used whenever possible while dealing with a potentially contaminated person's bodily fluids.

Female condoms lower HIV risk.

HIV risk increases when they have sex with several partners.

Infected needles or scissors may spread HIV and other AIDS viruses.

To stop the transmission of HIV, VCT is crucial.

2. Have you ever taken part in an HIV/AIDS education program? **YES [ ] NO [**]
3. Does your company have a policy in place regarding HIV/AIDS? **YES [ ] NO [ ]**
4. How much of an impact do you believe personal HIV/AIDS education has on people getting tested?

   YES [ ] NO [ ]
5. How worried are you about contracting HIV/AIDS while working?
   a) Very Concerned [ ]
   b) Not Concerned [ ]
6. How can one get infected with HIV/AIDS? (TICK more than one)

   Sexual Intercourse [ ]   Blood Transfusion [ ]

   Sharp Instruments [ ]   Kissing [ ]

   Insect Bites [ ]   Mother to Child [ ]

   Breastfeeding [ ]   Sharing Clothes [ ]

   Contact with Body Fluids [ ]

7. How can one protect themselves from contracting HIV/AIDS? (Tick more than one)

   Use a Condom [ ]   Avoid Sex with Prostitutes [

   Avoid Blood Transfusion [ ]   Avoid Insect Bites [ ]

   Avoid sharing Clothes [ ]   Stick to One Sexual Partner [ ]

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Avoid sharing Sharp Instruments [ ]   Male circumcision [ ]

Abstain [ ]

SECTION C: LEVEL OF UPTAKE OF VCT TESTING SERVICES.

1. Was an HIV/AIDS test ever administered to you? **YES [ ] NO [ ]**
2. If so, how often have you taken a test in the last 12 months?
   a) Once [ ]
   b) Two times [ ]
   c) Three times [ ]
   d) Severally [ ]
   e) I can't remember **[ ]**
3. Why did you decide to take the test?
   a) Persuaded by friends/relatives/partner [ ]
   b) Initiated by health care provider [ ]
   c) Fulfilling a requirement [ ]
   d) To know my HIV status [ ]
   e) To have early access to medical care[ ]
   f) To protect my partner from infection [ ]
   g) To plan my reproductive intentions [ ]
   h) To prepare my future [ ]
4. If you answered "yes" to question 1 above, when was your most recent screening**?**
   a) Less than or three months ago [ ]
   b) Less than or Six Months ago [ ]
   c) Less than or One year ago [ ]
   d) Less than or Two years ago [ ]
   e) More than or two years ago [ ]
   f) If no why? ………
5. Is that anything you'd suggest someone else do? **YES [ ] NO [ ]**

   If yes why? ....

SECTION D: BARRIERS TO VCT SERVICES

1. Have you had an HIV test in the last three months? **YES [ ] NO [ ]**
2. If **NO** to question 1 above, why? (**Tick more than one)**

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a) Fear instilled by religion [ ]
b) Trust partner [ ]
c) Service personnel lack confidentiality [ ]
d) Fear of stigmatization [ ]
e) Lack of time to attend VCT [ ]
f) Fear op positive results [ ]
g) No risk to HIV infection [ ]

3. Would you recommend that all medical professionals go to VCT? **YES [ ] NO [ ]**
4. If NO to Question 3 above, **Why**...
5. Why don't more health care professionals use VCT services? **(Tick more than one).**
   a) Service personnel lack confidentiality [ ]
   b) Fear of stigmatization and discrimination [ ]
   c) Fear op positive results [ ]
   d) Poor pre and post counselling services [ ]
   e) No risk to HIV infection [ ]
   f) Fear instilled by religion [ ]
   g) Lack of ARVS and PEP at VCT centers [ ]
   h) Fear to be seen at VCT center's [ ]
   i) Lack of information about VCT[ ]
6. How well stocked do you think this institution is with safety equipment and supplies? (tick where applicable)
   a) Adequate [ ]
   b) Inadequate [ ]
   c) Unavailable [ ]
7. Does your religious belief hinder you from testing for HIV/AIDS? **Yes [ ] No [ ]**
8. In reference to SECTION A question 5, does your marital status/partner encourage or discourage you from HIV testing? a) Encourage [ ]
   b) Discourage [ ]

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SECTION E: HIV GOVERNMENT/ INSTITUTIONAL POLICY AND GUIDELINES

1. If a healthcare professional gets exposed to HIV on the job, are there protocols in place for what they should do?
    a. Yes [ ]
    b. No [ ]
    c. I don't know [ ]
2. Do medical staff have access to post-exposure prophylaxis here or nearby?
    a) Yes available [ ]
    b) No not available [ ]
    c) Don't know/ not Sure [ ]
3. Do you think the administration here encourages, discourages, or is neutral on HIV testing for medical staff?
    a) Encouraging [ ]
    b) Discouraging [ ]
    c) Neutral [ ]
4. Is THIS location home to a VCT hub and HTS provider? **YES [ ] NO [ ]**

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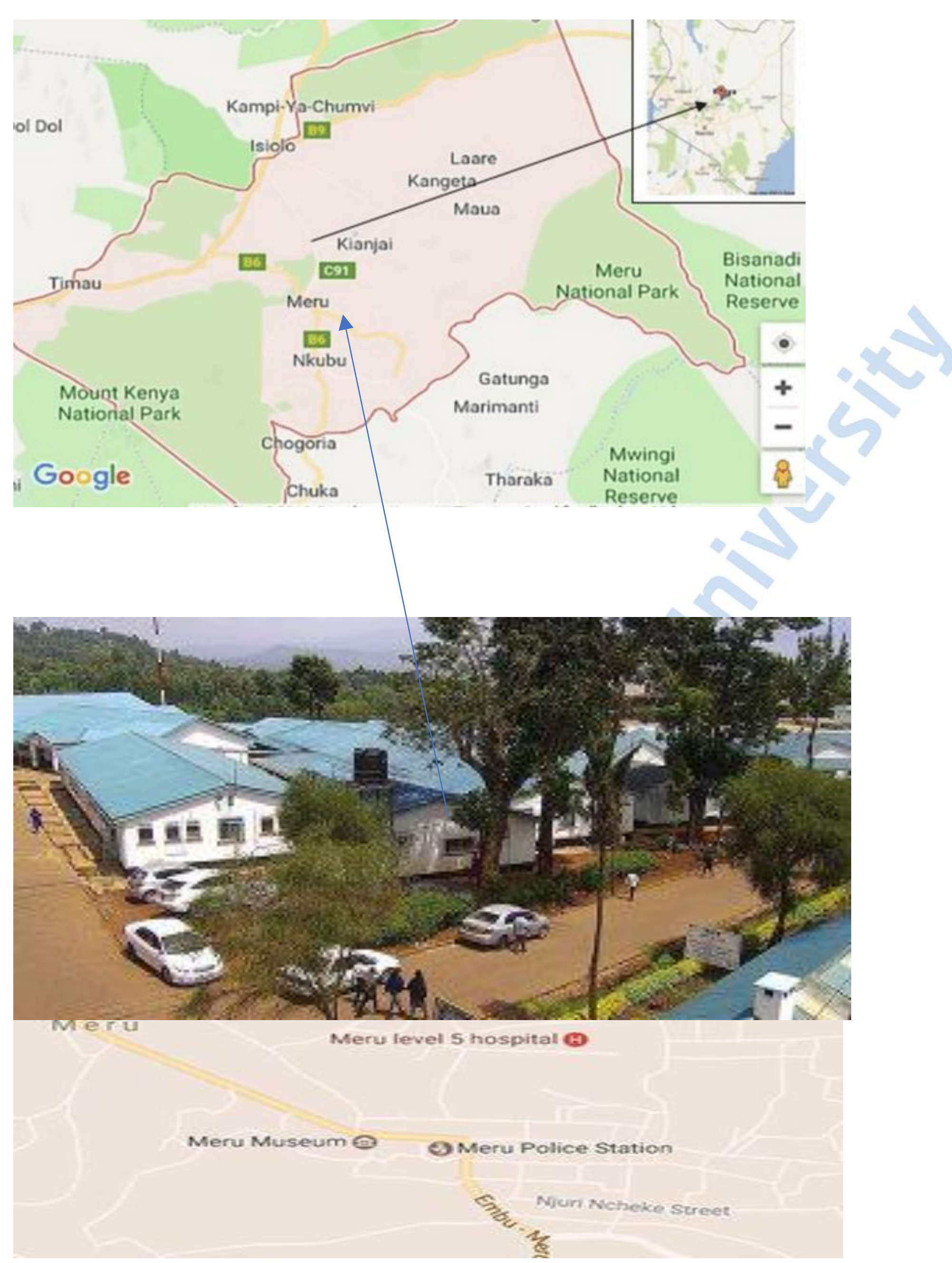
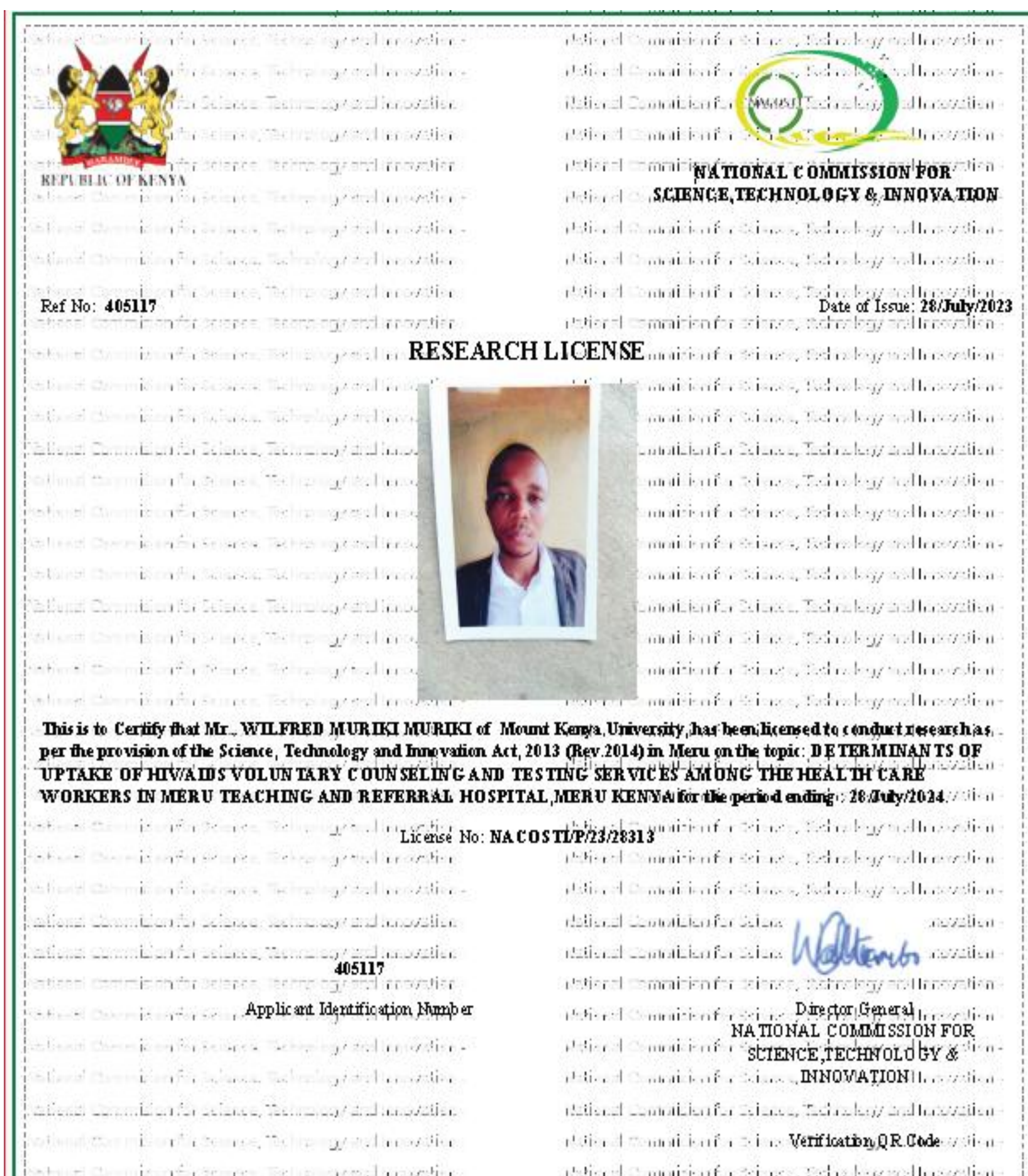
APPENDIX III: MAP OF THE STUDY AREA



Aerial view of Meru Teaching and Referral Hospital

APPENDIX IV: NACOSTI PERMIT



REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Ref No: 405117

Date of Issue: 28/July/2023

RESEARCH LICENSE

This is to Certify that Mr.. WILFRED MURIKI MURIKI of Mount Kenya University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Meru on the topic: DETERMINANTS OF UPTAKE OF HIV/AIDS VOLUNTARY COUNSELING AND TESTING SERVICES AMONG THE HEALTH CARE WORKERS IN MERU TEACHING AND REFERRAL HOSPITAL, MERU KENYA for the period ending : 28/July/2024.

License No: NACOSTI/P/23/28313

405117

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Verification QR Code

APPENDIX V: CERTIFICATE FROM IERC

REF: **MKU/ISERC/2961**

TO: **WILFRED MURIKI MURIUNGI**

Date: 27 July 2023

REG: **MPH/2022/49742**

Dear Sir/Madam,

RE: DETERMINANTS OF UPTAKE OF HIV/AIDS VOLUNTARY COUNSELLING AND TESTING SERVICES AMONG THE HEALTH CARE WORKERS IN MERU TEACHING AND REFERRAL HOSPITAL, MERU COUNTY KENYA

This is to inform you that **Mount Kenya University** has reviewed and approved your above research proposal. Your application approval number is **2005.** The approval period is **27/07/2023 - 26/07/2024.**

This approval is subject to compliance with the following requirements;

i. Only approved documents including informed consents, study instruments, MTA will be used

ii. All changes including amendments, deviations and violations are submitted for review and approval by **Mount Kenya University**

iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to **Mount Kenya University** within 72 hours of notification

iv. Any changes, anticipated or otherwise that may increase the risks or affect the safety or welfare of study participants and others or affect the integrity of the research must be reported to **Mount Kenya University** within 72 hours

v. Clearance for export of biological specimens must be obtained from relevant institutions

vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal

vii. Submission of an executive summary report within 90 days upon completion of the study to **Mount Kenya University**

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://research-portal.nacosti.go.ke and also obtain other clearances needed.

Yours sincerely,

The Chairman
Mount Kenya University
Ethics Review Committee
P. O. Box 342 - 0100, Thika

Dr. Alfred Owino, PhD
Chairman, Mount Kenya University ISERC

Main Campus, General Kago Road, P.O. Box 342-01000 Thika.
Tel: 020-2878 000, Cell: +254 709 153 000
Email: info@mku.ac.ke. Web: www.mku.ac.ke

APPENDIX VI: POSTGRADUATE SCHOOL INTRODUCTION LETTER

DIRECTORATE OF GRADUATE STUDIES

MPH/2022/49742

27th July, 2023

National Commission for Science Technology & Innovation (NACOSTI)
Off Waiyaki Way, Upper Kabete,
P.O Box 30623- 00100
NAIROBI, KENYA

Dear Sir/Madam,

RE: WILFRED MURIKI MURIUNGI – REGISTRATION NO. MPH/2022/49742

The purpose of this letter is to introduce the above named student who is pursuing **Master of Public Health** in the department of **Epidemiology and Biostatistics** in the school of **Public Health.**

The title of the research is **"Determinants of Uptake of HIV/AIDS Voluntary Counselling and Testing Services among the Health Care Workers in Meru Teaching and Referral Hospital, Meru County, Kenya."** It has been cleared by the University's Ethics Review Committee (Certificate attached) and now has to proceed to the field to collect data between **August, 2023 and October, 2023.**

Any assistance accorded to the student will be highly appreciated.

Thank you.

Mount Kenya University
P. O. Box 342 - 01000, THIKA
Office of the Director
Graduate Studies

Dr. Samuel M. Karenga, Ph.D
Director, Graduate Studies
Enc.

APPENDIX VII: MINISTRY OF EDUCATION PERMIT

REPUBLIC OF KENYA
MINISTRY OF EDUCATION
State Department for Basic Education

Telegrams: "ELIMU" Meru
Email: cdemerucounty@gmail.com
When Replying please quote

County Director of Education
Meru County
P O Box 61
MERU

Ref: MRU/C/EDU/11/

31st July, 2023

TO WHOM IT MAY CONCERN

RE: RESEARCH AUTHORIZATION – WILFRED MURIKI MURIUNGI

Authority is hereby granted to ***Mr. Muriki Muriungi***, to conduct research on ***"Determinants of Uptake of HIV/AIDS voluntary Counseling and Testing Services Among the Health Care Workers"*** in Meru Teaching and Referal Hospital, in Meru County, for the period ending 28th July, 2024.

The person undertaking this study is bound by all the ethical rules and regulations governing surveys of this nature.

The program should not in any way interfere with the daily school routine or other curricular activities.

FOR: COUNTY DIRECTOR OF EDUCATION
MERU COUNTY
P. O. BOX 61- 60200
Tel: 064-32372 MERU

P.J. Muinde
For: County Director of Education
Meru.

APPENDIX VIII: MINISTRY OF HEALTH MERU COUNTY PERMIT

COUNTY GOVERNMENT OF MERU
DEPARTMENT OF HEALTH

Telephone: 0772207572
Website: www.metrh.or.ke
Email: *ceo@metrh.or.ke*
info@metrh.or.ke
When replying should be to:
Chief Executive Officer
Ref: MRU/MED/GEN/R.14

Meru Teaching and Referral Hospital
P.O. Box 8 - 60200
Meru

Date: 18TH August, 2023

To,

Wilfred Muriki Muriungi
MPH/2022/49742

RE: RESEARCH AUTHORIZATION

Your request for permission to conduct a study within Meru Teaching & Referral Hospital on your topic **"Determination of uptake of HIV/AIDS voluntary counselling and testing services among the Health care workers at Meru Teaching and Referral Hospital"** is hereby granted. Having gone through the Research and Ethics Committee successfully.

Kindly ensure adherence to the ethical guidelines of your research and of the hospital.

You are required to share with my office the results of your research. Please note that this is a preliminary approval; the final approval will be issued upon sharing a copy of your study results.

Also note that the h[illegible] a research fee of Ksh.5.000/= which you are required to pay pri[illegible] your study.

for Dr. Joseph Macharia
Chairperson Research [illegible] Committee
For: Chief Executive Officer
MERU TEACHING & REFERRAL HOSPITAL

APPENDIX IX: SIMILARITY INDEX REPORT

DETERMINANTS OF UPTAKE OF HIV/AIDS VOLUNTARY COUNSELLING AND TESTING SERVICES AMONG THE HEALTH CARE WORKERS IN MERU TEACHING AND REFERRAL HOSPITAL, MERU COUNTY KENYA

by Wilfred Muriungi

Submission date: 24-May-2024 11:25PM (UTC+0300)
Submission ID: 2387487003
File name: CAPT_WILFRED_MURIKI_THESIS_MAY_FINAL.docx (5.94M)
Word count: 20447
Character count: 114997

DETERMINANTS OF UPTAKE OF HIV/AIDS VOLUNTARY COUNSELLING AND TESTING SERVICES AMONG THE HEALTH CARE WORKERS IN MERU TEACHING AND REFERRAL HOSPITAL, MERU COUNTY KENYA

CAPT WILFRED MURIKI MURIUNGI

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF A MASTER OF PUBLIC HEALTH DEGREE IN EPIDEMIOLOGY AND DISEASE CONTROL OF

MOUNT KENYA UNIVERSITY

DETERMINANTS OF UPTAKE OF HIV/AIDS VOLUNTARY COUNSELLING AND TESTING SERVICES AMONG THE HEALTH CARE WORKERS IN MERU TEACHING AND REFERRAL HOSPITAL, MERU COUNTY KENYA

ORIGINALITY REPORT

17%	16%	11%	13%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

#	Source	Type	%
1	ir.jkuat.ac.ke	Internet Source	1 %
2	erepository.uonbi.ac.ke	Internet Source	1 %
3	Submitted to Coventry University	Student Paper	<1 %
4	erepository.mku.ac.ke	Internet Source	<1 %
5	Submitted to Kenyatta University	Student Paper	<1 %
6	erepository.uonbi.ac.ke:8080	Internet Source	<1 %
7	www.medrxiv.org	Internet Source	<1 %
8	irep.ntu.ac.uk	Internet Source	<1 %

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