UTILIZATION OF VOLUNTARY COUNSELING AND TESTING SERVICES BY HEALTH CARE PROVIDERS IN EASTERN PROVINCE, KENYA

NELSON PAUL MBITHI MUEWA
I57/CM/307/2004

A Research Thesis submitted in partial fulfillment of the requirement for the award of the Degree of Master of Public Health in the School of Public Health, Kenyatta University

November, 2014

DECLARATION

"This thesis is my original work and has not been presented for a degree in any other University or any other award."

Signature…… Date…….

Nelson Paul Mbithi Muewa
Department of Community Health

SUPERVISORS' APPROVAL

We confirm that, the work presented in this thesis was carried out by the candidate under our supervision.

Prof. Michael F. Otieno
School of Public Health
Department of Community Health
Kenyatta University.

Signature…….. Date……

Dr. George Orinda
School of Pure and Applied Sciences
Department of Biochemistry and Biotechnology
Kenyatta University.

Signature……... Date……

DEDICATION

This thesis document is dedicated to my wife Anne and my children Caroline, Maureen, Maurice, Juliet and my Granddaughter Esther as a tool for their encouragement to greater achievements in their life.

ACKNOWLEDGEMENT

Let me start by expressing my heartfelt gratitude to my supervisors from Kenyatta University Prof. Michael F. Otieno and Dr. George Orinda for their unwavering technical, academic, and moral support during the whole process of my research work.

I owe unlimited amount of thanks to the Family Health International for the financial and technical support extended to me for my research work. The completion of this document could not have been successful without supervision and technical support of Dr. Pierre Ngom, Mr. Zablon Omugo, Dr. Rick Homan, Mr. Willis Odek, Mr. Julius Munyao and others all of Family Health International and Dr.Ann Khasakhala of Nairobi University.

I also acknowledge the support of my employer, the Ministry of Health for allowing me a study leave to undertake my study. Specifically I wish to thank all officers working at the National AIDS/STD Control Program (NASCOP), unforgettably Dr. I. Mohamed the director, Mr. Baltazar, Mr. Mwikya, Ms. Carol Ngare and others for the support they gave me during my attachment period. My very sincere thanks also go to the Belgium Technical Cooperation (BTC) Reproductive Health Project Makueni who financed my first year of study. Special regards go to Dr. Beatrice Ndarugirire the then Project Adviser and Dr. Musyoki the Medical Officer of Health Makueni.

Finally, I wish to thank all the Medical Officers of Health and Medical Superintendents and Officer-In charges in the different Hospitals and Health Centers who authorized my data collection from their staff members. These hospitals include Makueni, Makindu, Mbooni, Machakos, Kitui, Embu and Meru. The Health Centers are Tawa, Kisau, Kalawa, Mavindini, Matiliku, Nunguni, Sultan Hamud and Kibwezi all of Makueni County.

TABLE OF CONTENTS **Page**

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS AND ACRONYMS

AIDS	-	Acquired Immune Deficiency Syndrome
DASCO	-	District Aids and STI Coordinator
FGD	-	Focus Group Discussion
FHI	-	Family Health International
GOK	-	Government of Kenya
HBV	-	Hepatitis B. Virus
HCW	-	Health Care Workers
HIV	-	Human Immuno Deficiency Virus
KAP	-	Knowledge Attitude and Practices
KDHS	-	Kenya Demographic Health Survey
MoH	-	Ministry of Health
MOH	-	Medical Officer of Health
NASCOP	-	National Aids & STD Control Programme
NGO	-	Non – Governmental Organization
PEP	-	Post Exposure Prophylaxis
PLWHA	-	People Living with HIV/ AIDS
PMTCT	-	Prevention of Mother to Child Transmission
SPSS	-	Scientific Package for Social Sciences
STD	-	Sexual Transmitted Disease
TB	-	Tuberculosis
UNAIDS	-	Joint United Nations Programme on HIV / AIDS
USAID	-	United States Agency for International Development
VCT	-	Voluntary Counseling and Testing
WHO	-	World Health Organization

DEFINITION OF TERMS

1. **Health Provider** - any medically trained person either male or female working permanently or temporarily in a Health Facility.
2. **Health Facility**- a Hospital, a Health Centre, or a Dispensary where people go to seek Health Care Services.
3. **Hospital**- a Health Facility offering full range of medical services; Out-Patient, In-Patient, and Surgical operative services.
4. **Health centre**- a Facility offering Out- Patient and limited In-Patient services.
5. **Dispensary**- a Health Facility offering Out-Patient services only.
6. **Doctor**- a Medical Officer, Dental Officer or Pharmacist.
7. **Nurse**- a trained Registered or Enrolled Nurse.
8. **Clinical officer**- a person trained basically as a Clinical Officer.
9. **Paramedica**l staff- includes all other medically trained staff members e.g. Laboratory Technician/ Technologist, Physiotherapist, Radiographer, Nutritionist, Pharmaceutical Technologist, Dental Technician, Occupational Therapist, Public Health Officer or Technician etc.
10. **Administrative or Management staff**- includes Hospital Administrators, Clerks, Store men, Supplies Officers etc.
11. **Student**- any Student undergoing medical training.
12. **Support staff**- Office Massagers, Subordinate Staff, and Casual Laborers.

13. **Utilize VCT services**- to visit a VCT center, be counseled, and tested for HIV and get test results.

14. **VCT Counselors**- Officers trained in VCT counseling.

ABSTRACT

Despite the many advancements made in health in the world, many countries continue to exhibit negative trends concerning the health of their people largely due to the AIDS pandemic. Voluntary counseling and HIV Testing (VCT) is an essential component of an effective response to the AIDS pandemic world wide. VCT services can serve as an entry point to HIV care and support. However, it has become increasingly apparent that workplace programmes on HIV have overlooked hospital workers even though they are too at risk of HIV infection both from occupational and non occupational factors. Although they are at risk of HIV infection very few health personnel are aware of their HIV status and quite a limited number of them have been able to seek Voluntary Counseling and Testing services. This study was therefore seeking to determine the factors that affect utilization of VCT services by health providers in Kenya. To achieve this, a cross – sectional study was carried out in Eastern Province of Kenya. The study was specifically carried out in three (3) hospitals and Eight (8) Rural Health Centers in Makueni County and other four (4) major Hospitals (Machakos, Kitui, Embu and Meru) in different Counties in Eastern province . The study subjects were different cadres of medically trained health providers including Doctors, Nurses, Clinical Officers, VCT counselors and other technical paramedical staff. Data was collected by use of a semi – structured self administered questionnaire schedule. The questionnaire was administered to 403 study subjects. The data was analyzed using SPSS programme, correlation and chi- square were used to determine association between variables. The results indicated that only half (52.6%) of health providers had utilized VCT services, but 60 % of them had been tested for HIV, some of them out side VCT centers. VCT Counselors had utilized VCT services more than any other cadre with 94% of them having been tested at VCT centers, followed by doctors (65%). Paramedics had utilized VCT services least (41%). The factors that influence the utilization of VCT by health providers were found to be level of knowledge on VCT, attitudes and perceptions towards VCT, accessibility of VCT services, level of education, gender and cadre. Of those tested 66.1% were females and 54.5% males showing a significant difference between the two genders p. value <0.05 in VCT uptake. When analyzed statistically utilization of VCT services was also found to be significantly associated with the cadre of health providers with p. value <0.05. However, the level of education among the cadres did not show any significant effect to their VCT utilization, p.value >0.05). The study also found that those with high level of positive attitudes towards VCT utilization had a higher VCT uptake compared to those with lower level of positive attitudes. Those with higher knowledge on VCT also exhibited a higher rate VCT uptake than those with relatively low level of knowledge. The major barriers for VCT utilization among health workers found in the study were fear of stigma and discrimination, lack of confidentiality with services personnel and partner trust. In conclusion this study found gaps in knowledge on VCT and attitudes / perception towards VCT which needs to be addressed.

In view of the above findings, it is recommended that, the Kenya Government develop a workplace program for Health care Providers to promote VCT uptake. Issues of HIV/AIDS fear, stigma and discrimination among Health Providers should be addressed by the Government and Health Partners. HCW need further training on HIV and VCT to bridge the gaps identified on knowledge in this study.

CHAPTER ONE

1 INTRODUCTION

1.1 Background Information

Over the last two decades, HIV/AIDS has become the world's most devastating epidemic particularly in developing countries where many governments have declared it an emergency. Since the beginning of the HIV epidemic in the early 1980s, it is estimated that 34 million people were living with HIV by the end of 2010 (UNAIDS, 2010). HIV/AIDS is the fourth biggest killer in the world and about one third of people living with HIV/AIDS (PLWHA) are between 15-24 years. As a consequence of HIV and AIDs, the health facilities and hospitals in Sub Sahara Africa are dominated by wasted patients (UNAIDS, 2007).

In Kenya, over 50% of public hospital beds are occupied by patients with AIDS and AIDS related ailments (NASCOP, 2006). This has subsequently increased the burden of care by the health providers and the possibility of occupational risk for HIV infection. Most of the people who are infected do not know their HIV status. According to the 2003 KDHS, only 13% of Women and 14% of men said they had been tested for HIV, although approximately 67% of respondents said they were willing to learn their status. Current data shows that only 36% of Kenyan adults know their HIV status (NACC, 2010). This means that majority of Kenyans are unaware of their own HIV status and that of their spouses or sexual partners and many may therefore be unknowingly exposed to HIV. VCT has emerged as a major strategy for the prevention of HIV infection and AIDS in Africa. Apart from raising awareness about HIV/AIDS, many studies show that knowing ones HIV status is instrumental in

effecting behaviour change and adoption of safer sex practices (Alta, 2008). More than the general public, health providers need to know their HIV status so that they are able to change their risky social behaviour, access care support and lead by example in the noble role to care for the sick and spearhead the prevention and control of HIV/AIDS.

In a recent report in South Africa, it was found that, 16% of health workers had been infected by the HIV virus (Shisan, 2007). Therefore health workers are classified as a high-risk group for HIV infection (NASCOP, 2009) as many health providers continue to die from AIDS and AIDS related illnesses; there is need for some special HIV/AIDS programmes to be developed to address the gaps. Health workers need psychosocial support especially in the era of HIV / AIDS. Because they are seen as care givers, medical workers are rarely the targeted beneficiaries of the health interventions; rather they are normally seen largely as delivery agents for their patients and the communities. They are expected to benefit from the programs indirectly as they learn about AIDS patient management. It is also assumed that health providers "Know these things" and efforts should be directed to patients instead (Kiragu *et al.,* 2008). Health workers have been identified in this study because they are at a higher risk of HIV infection and that they are responsible for running VCT centres and giving health education on VCT to the general population. The general assumption is that they have been tested before they go out there to preach the VCT gospel to the communities.

The global strategy for the control and prevention of the Acquired Immunodeficiency Syndrome (AIDS), initially drawn out in 1985 – 1986 and endorsed in 1987 by all

Nations of the world, has served as the main framework for the global response to the epidemic which is directed and coordinated by World Health Organization in accordance with it's mandate from the United Nations General Assembly (WHO, 2000). One such intervention is the Voluntary counseling and Testing.

VCT is an essential component of an effective response to the AIDS epidemic. It is an HIV-Prevention intervention that the client initiates. Voluntary Counseling and Testing targets behaviour change and research in many countries including Kenya has demonstrated that people who know their sero-status whether positive or negative drastically change their behaviour and thus, VCT is important in any HIV prevention effort. It also serves as a point of entry into care and support for those testing positive. VCT gives clients an opportunity to explore their HIV risks and to learn their HIV test results in complete confidence. It is client-centered in that it is focused on each client's unique issues and circumstances related to HIV risk. It is based on a risk reduction model and the intervention is designed to reduce risk, not necessarily to eliminate it (NASCOP, 2005).

The Government of Kenya declared AIDS a National Disaster in 1999, and included Voluntary Counseling and Testing in the National Strategic framework for prevention of AIDS in the country. In Kenya, joint efforts by the Government, international donors and partners, non-governmental Organizations and Faith-based Organizations have resulted in a rapid increase of VCT sites from 3 in the year 2000 to 555 by May 2005 and to 1016 by the end 2008. Health facilities testing for HIV increased to 4438 by the end of 2010. Over the same period, annual VCT uptake increased from about 1000 to 986,714 (NASCOP, 2010). VCT services are offered through sites registered

by the Ministry of Health after meeting prescribed standards contained in the VCT guidelines published in 2001. VCT has been a major success story in Kenya and the eagerness of Kenyans to take advantage of this service is an indication of this success (NASCOP, 2009). Alongside VCT, Provider Initiated HIV Testing and Counseling (PITC) is now available in 73% of the health facilities (NASCOP, 2010).

The National VCT Programme uses four models of service delivery; integrated, stand-alone, community based and mobile VCT services. In integrated sites, a VCT is usually located within the grounds of a health facility such as hospitals, health centres or dispensaries. About 83% of registered VCT sites in Kenya are integrated sites in health facilities and are operated by health workers. Stand-alone sites are usually not associated with any existing medical institution and are found in Market centres and also within other institutions. Most community-based organizations operate community based VCT sites within the communities. Mobile VCT services are offered by stand-alone or community based VCT Programs (NASCOP, 2005).

An analysis of the age and gender of VCT clients served between 2005 and 2007 shows that over 60% of clients are below 30 years of age. This suggests that the services are reaching the most sexually active segment of the population (NASCOP, 2008). The HIV prevalence rate among female VCT clients (22.9%) is twice that of their male counter parts (11.4%) (NASCOP, 2006). This ratio is similar to that found in general adult population according to the KDHS 2007 report. Therefore women are twice as vulnerable to HIV infection as their male counterparts. One of the major government strategies is to make Voluntary Counseling and Testing services available to the majority of the population not yet infected by HIV, for proper care activities (FHI, 2005).

Health care workers are the key players in the prevention and management of the HIV infection. The personnel working in the hospitals and health centres can be classified into several categories including Doctors, Clinical Officers, Nurses, Laboratory technologists/ Technicians, Nutritionists, Physiotherapists etc, Administration / Management staff; students and supportive staff. This study specifically focuses on the medically trained health providers working in government health institutions.

1.2 Problem Statement and Justification

VCT is an essential component and a link between prevention, care and support. Voluntary Counseling and Testing can empower people to make informed decisions about their sexual lifestyle that would otherwise predispose individuals to HIV infections.

The HIV virus is transmitted from one person to another through sexual intercourse, perinatally and also through coming into contact with infected blood or other body fluids. People infected with HIV and AIDS at one time or other end up in hospital for treatment, counseling or testing. Because of attending to HIV and AIDS clients, people who work in hospitals and other health facilities are at a higher risk of contracting the HIV virus than the normal population.

In high prevalent countries many hospital workers have the double jeopardy of facing HIV and AIDS both at work and at home. At home they are exposed to the same risks as the other members of the community, largely through sexual transmission. In addition to their own risks, health workers too have family members who are infected and affected by the HIV and because of their professional background, they attract an inordinate proportion of ailing family members and friends for care and thus a nurse's job does not end when she returns home (Kiragu *et al.*, 2008). Some Health Providers

work in health centres and dispensaries which are far from the few available VCT Centres and they may be unable to access VCT services.

Although VCT has benefits towards prevention and control of HIV and AIDS, these benefits are not realized by certain high-risk groups due to various reasons. Health workers account for the majority of workers in the Health Ministry and a significant number of HIV related deaths have been reported by the Ministry. Eastern Province is one of the eight provinces in Kenya with a moderate HIV prevalence ranging from 3% in Marsabit to a high of 9% in Meru. This study was based in Makueni County, which is one of the 8 Counties in the Province with HIV prevalence of 4.2% (NASCOP, 2009). The Nairobi- Mombasa highway traverses the County. Due to the prevailing social behaviour in the towns along the highway, HIV transmission is quite high with a prevalence of 8.6% in these Market Centres (MOH, 2009). The current National HIV prevalence in Kenya is 6.9 % for females and 4.4 % for males (KAIS, 2012).

There is a blanket assumption that health workers are aware of VCT services and that they can easily access the services, which are assumed to be within their easy reach. Very limited research has been done to identify the factors that influence utilization of the VCT services by health workers in Kenya. There is a high possibility that utilization and acceptance of VCT services by health personnel is quite low. It is with this in mind that this study was initiated. This study therefore generated socio demographic information about health workers in Kenya in relation to VCT uptake and came up with baseline data on factors that affect utilization of VCT services by health workers. This can be useful for planning health programs on VCT for health workers. The study also identified the HIV /AIDS needs of health workers which are

useful in development of a work place programme for staff and employees in the health facilities. It can act as reference material for further research in this area of VCT.

1.3 Objectives

1.3.1 Broad objective

To determine the factors affecting utilization of VCT services by health providers in Eastern Province of Kenya.

1.3.2 Specific Objectives

i. To identify the socio –demographic characteristics of health providers in Kenya.
ii. To establish the level of the utilization of VCT services by health providers.
iii. To establish the factors influencing utilization of VCT services by health personnel.
iv. To determine the attitudes/perception of health providers towards VCT services.
v. To establish the barriers to accessibility of VCT services by health providers.

1.4 Research Questions

i. What are the socio-demographic characteristics of health providers in Eastern Province?
ii. What is the level of VCT utilization among Health Providers in Eastern Province?
iii. What factors influence the utilization of VCT services by health personnel?
iv. What are the attitudes /perceptions of health providers towards VCT services utilization?

v. What are the barriers to accessibility of VCT services by Health Care Providers?

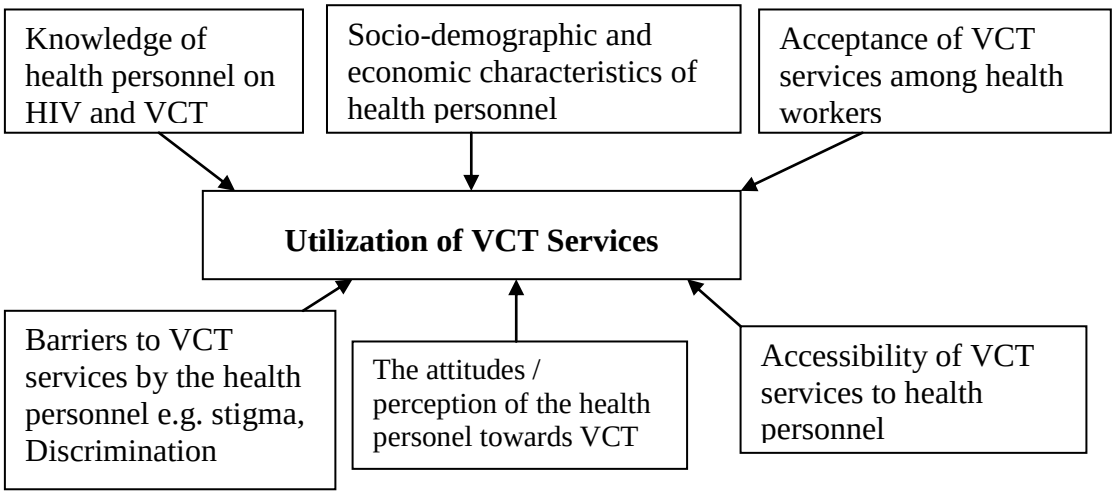
1.5 Hypothesis

Health Care providers in Kenya are knowledgeable about Voluntary Counseling and Testing, the services are accessible to them and they utilize them effectively.

1.6 Significance and Anticipated Out Put

The study established the level of knowledge, accessibility, and perception of health personnel on VCT and this can assist in organizing the necessary programs to increase VCT uptake among health personnel.

1.7 Conceptual Framework of the Study



Source: WHO, 2006

Figure 1.1 Conceptual Framework

The conceptual framework above shows that the variables e.g. Knowledge, acceptance, accessibility attitudes and barriers associated with VCT will affect utilization of the same services either positively or negatively.

CHAPTER TWO

2 LITERATURE REVIEW

2.1 Introduction

The spread of HIV/AIDS is still far from being tamed especially in sub-Saharan Africa where more that 75% of the cases are found and 96% of deaths related to HIV/AIDS occur (UNAIDS, 2009). It has also become increasingly apparent that, hospital workers have been overlooked by workplace programmes even though they too are at risk of HIV infection both from occupational and non-occupational factors (Kiragu *et al.,* 2008). Very few studies have been carried out in Africa to look at the effects of HIV/AIDS pandemic on health workers.

2.2 Overview of the Global HIV Situation

The AIDS epidemic is one of the most serious public health challenges facing the world today. Surveillance and statistical recordings about the disease are therefore being intensified with a well-organized reporting system. AIDS is now the fourth leading cause of death worldwide and the current global estimates show that, 34 million people are living with AIDS worldwide while 2.7 million new infections occurred in 2010, 390,000 of whom were children (UNAIDS, 2010). There are 28 million deaths so far with 3.1 million accruing in 2002 reducing to 1.8 million in 2010. Most people with HIV and AIDS (96%) reside in developing world, where most AIDS related deaths occur.

The number of infected persons in Sub- Sahara Africa is estimated at 23.1 million based largely on anonymous tests carried out on pregnant women at antenatal clinics (UNAIDS, 2010). Carefully selected and well-administered interventions are being

carried out in a bid to reduce the related effects of the disease. In spite of these, global projections indicate an increasing trend of the disease such that, 45 million new infections are expected by the year 2015 (2/3 could be prevented), and cumulative death toll could reach 100 million by the year 2020. Also expected is falling of life expectancy, reversing of steady health achievements gained over the last century. By 2015, life expectancy could drop below 30 years in some countries. More than 25 million children under the age of 5 years are likely to loose one or both parents due to AIDS by 2015 and the number of young people aged 15-24 years living with HIV/AIDS could rise from a current estimate of 12.4 million to 21.5 million in 2015 (UNAIDS, 2008).

Young women are most vulnerable and most people are still unaware that they are infected (UNAIDS, 2009). Developing nations have the highest number of HIV infections in the world, with Sub Sahara Africa carrying 69% of the global HIV burden, a region with 12% of the world population (UNAIDS, 2012). According to World Health Organization (WHO) developing countries have the highest AIDS prevalence in the world. The UNAIDS estimates that 150,000 new infectious occur among the youth aged (15-24) years and 7 out of 10 of these new infectious occur in sub-Saharan Africa. The Southern and Eastern Africa is more affected compared to the western and central part of the continent (UNAIDS, 2006). Africa is the region of the world where HIV and AIDS has had the greatest impact (UNAIDS, 2007).

Whereas African countries like Kenya and Uganda have reported some marked decline in the prevalence of HIV and AIDS in their countries, the overall prevalence of HIV in the Sub Sahara Africa still remains high and the effects of the epidemic are

still devastating. It is reported that in Africa alone, an estimated 1.7 million of youth are infected annually with HIV/AIDS (UNAIDS, 2010).

Despite the success and development in diagnostic procedures, HIV testing for individuals is still a complex issue and associated with a number of barriers especially in developing countries where stigma and discrimination of the infected persons is still a major hurdle. In Africa heterosexual unsafe sex has been noted as the major source of spread of HIV infection. The efforts to avert the spread of HIV in Africa have therefore been directed at the prevention of unsafe sexual intercourse (UNAIDS, 2006). The most highly cost effective preventive strategies that are in practice today include; male and female condom promotion, sexually transmitted diseases (STD) control; screening blood for transfusion, administration of anti-retroviral (ARV) drugs; prevention of mother to child transmission and VCT services (Asiimwe *et al*., 2008). HIV Virus can be transmitted from one person to another in a number of ways however, three transmission mechanisms are most important. Heterosexual contact accounts for about 75%, while perinatal transmission accounts for about 15% and coming into contact with contaminated blood through blood transfusion and other blood products accounts for 10% (NASCOP, 2010).

2.3 Overview of the Kenyan HIV/AIDS Situation

Kenya is among those African nations hardest hit by the HIV/AIDS epidemic with an estimated 1.5 million people, 1.4 million adults and 100,000 children currently living with the disease (NASCOP, 2010). According to demographic indicators, HIV prevalence in Kenya declined from a pick of 13.4% in 2000 to 6.9% in 2006 and to 6.3% in 2007 (KDHS, 2008/9). Over two decades since the first AIDS case was

diagnosed in Kenya, HIV/AIDS still remains a huge problem for the country in its efforts for social and economic development. Urban population has a higher adult HIV prevalence (10%) than do rural populations (6 %). Currently the National adult HIV prevalence is 6.3% (NASCOP, 2009). Women are more likely to be HIV positive than men (6.9% versus 4.4 %) (KAIS, 2012). New infections in adults have declined dramatically from over 200,000 per year in 1990, to approximately 86,000 in 2003. Already life expectancy in Kenya has dropped from 60 years in 1993 to about 47 years in 2004 and increased to 58 years in 2010 due to HIV/AIDS (NACC, 2010). In Kenya, the HIV epidemic is better understood now. New information on the level of HIV infection came from the first National HIV prevalence survey, the Kenya Demographic and Health Survey.

Annual reports from selected sentinel Surveillance sites have demonstrated significant declines of the prevalence in pregnant women. Therefore the available data shows that the prevalence of HIV in adults appears to have peaked at 10% in the late 1990s and has been declining in many parts of the country since then (NASCOP, 2005). At this stage in the epidemic, however, the decline in HIV prevalence in adults comes at a high cost. Death rates from HIV have reached an unprecedented high level in Kenya, at about 150,000 deaths per year. Even with scale up of treatment, death rates in Kenya are likely to continue to rise because of the large number of people infected in the 1990s when over 200,000 new infections occurred per year but have now dropped to well below 100,000 infections per year. Urban populations have higher adult HIV prevalence. Regional variation is significant with prevalence in Nyanza Province being 15% in adults and 10% in Nairobi. Adult prevalence in other

Provinces range between 5% and 7% except North Eastern with less than 1% (KAIS, 2007)

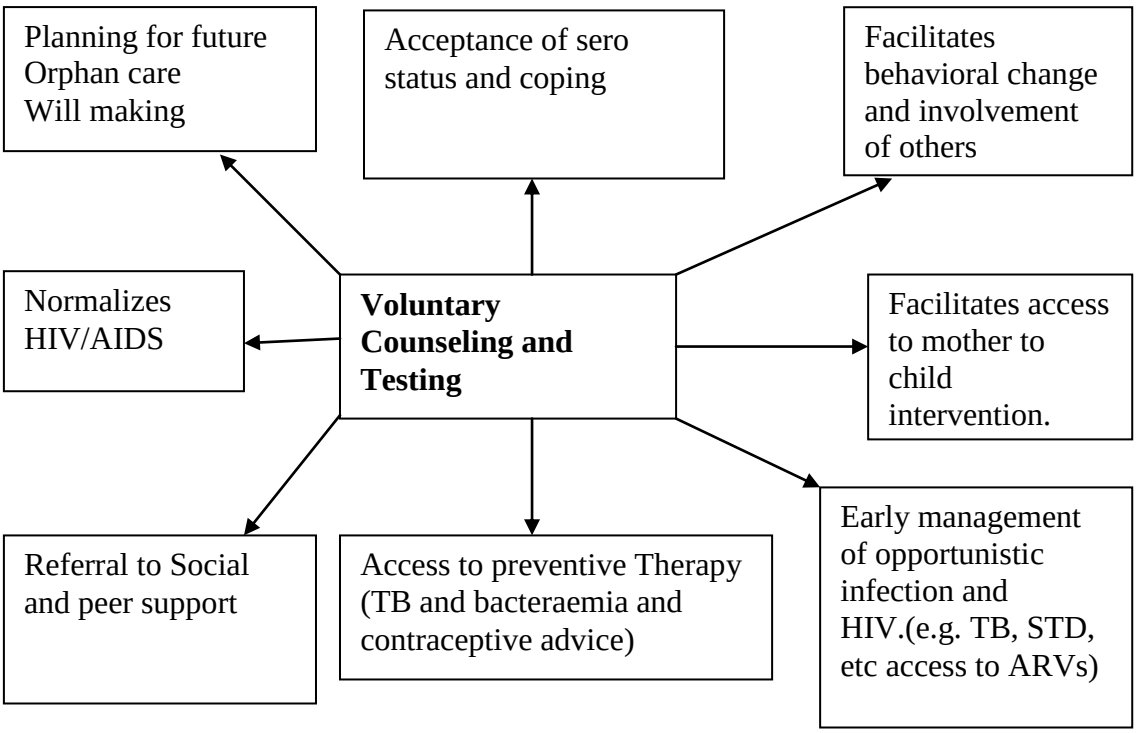
2.4 Voluntary Counseling and Testing as a Strategy

Voluntary Counseling and Testing (VCT) for HIV is now acknowledged within the international arena as an efficacious and pivotal strategy for both HIV/AIDS prevention and care. It is also an important entry point for care and support. In Africa approximately 95% of the people are unaware of their HIV status. Data obtained from different VCT programmes globally suggest that knowledge of sero status is the most effective ways to catalyze behaviour change. VCT is the process by which an individual undergoes counseling enabling him or her to make an informed choice about being tested for HIV. This decision must be entirely the choice of the individual and he or she must be assured that the process will be confidential. Experiences have shown that introducing HIV testing without counseling, education, care and follow up support for those who test HIV positive creates many problems. Lack of choice of being tested can often lead to stigma, discrimination and personal distress which in turn can lead to lack of acceptance of HIV test results and lack of behaviour change (Japheth, 2009). Although VCT has now become a priority in many countries in the world, access to and knowledge about the services is still limited and there are significant unmet needs for VCT services, particularly in the rural areas.

The Kenya governments' ambitious program to expand VCT services throughout the country has resulted in a rapid increase in availability and use of HIV testing and counseling. VCT is a key point for needed medical, psychological, social and legal interventions for HIV-Positive clients and their families. It is a catalyst for behaviour change for clients who test HIV negative as well as those who test positive. VCT was

adopted as a priority, by the Kenyan parliament for implementation in 1997. The National guideline for voluntary counseling and testing document was published in 2001 to ensure standardized, good quality VCT services were available and accessible. The Guidelines will also ensure informed consent and confidentiality in clinical care and research settings. It encourages community involvement in sentinel surveillance and epidemiological survey. They strengthen quality assurance and safeguards on potential abuse before licensing Commercial HIV home collection and home self tests and discourages mandatory testing (UNAIDS, 2007).

The world Health Organization has given a strategic framework for the effective implementation of VCT services as shown in Figure 2.1 below.

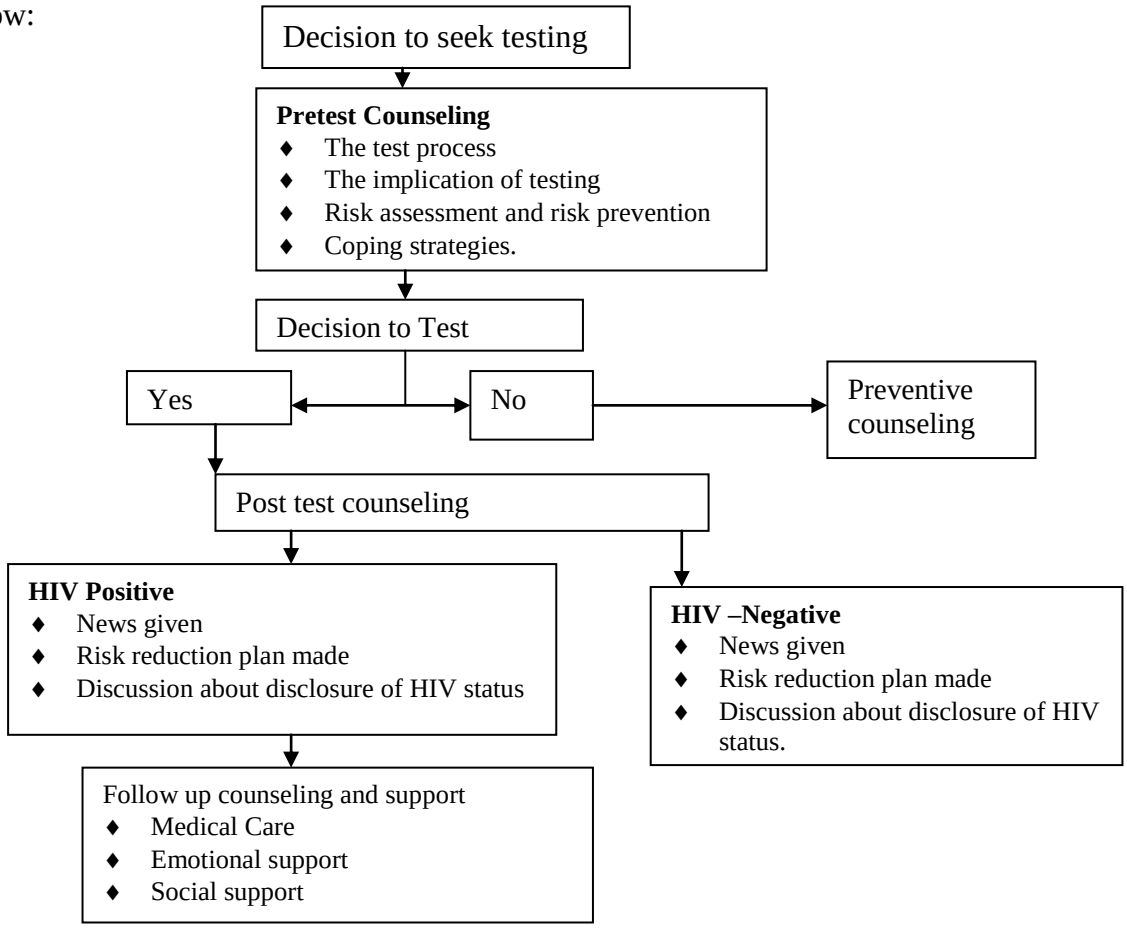


Source: WHO, 2006

Figure 2.1: VCT Services Strategic Framework as an entry point to HIV prevention and care

UNAIDS and WHO have taken the lead in describing best practice guidelines and developing case studies for VCT service delivery programs. Lessons learned have included that, VCT can be a catalyst for development of a comprehensive HIV prevention Program. Secondly, protecting confidentiality is critical to ensure both trust and demand for VCT services. Service for STI management, family planning and referral for TB diagnosis and treatment are feasible and well received by VCT clients. Effective Counseling requires a client centered approach including risk reduction, planning and skill building and a well trained and supported staff.

Clients seeking VCT services have varying characteristics that need to be carefully approached. Requesting VCT might be internally or externally driven and therefore require a high intelligent and systematic model of approach as illustrated in Figure 2.2 below:



Source: NASCOP, 2007

Figure 2.2: A VCT Process Model

2.5 Elements of VCT

According to NASCOP, VCT has three main elements:

2.5.1 HIV Counseling

HIV Counseling has been defined as; "A confidential dialogue between a person and care provider aimed at enabling the person to cope with stress and make personal decisions related to HIV/AIDS''. The counseling process includes an evaluation of personal risk of HIV Transmission and facilitation of preventive behavior. The objectives of counseling are the prevention of HIV transmission and the emotional support of those who wish to consider HIV testing both to help them make a decision about whether or not to be tested and to provide support and facilitate decision making following testing. Counseling must be flexible and focused on the individual client's specific needs and situation. In some cases, counseling is available without testing. This may help also promote changes in sexual risk behavior (NASCOP, 2005)

2.5.2 Voluntary testing

HIV testing may have far –reaching implications and consequences for the person being tested. Although there are important benefits to know one HIV status, HIV is in many communities a stigmatizing condition and this can lead to negative outcomes for some people following testing. These include ostracism, loss of livelihood, and of family and community respect. This is why UNAIDS stipulates that "testing should be voluntary and VCT should take place in collaboration with stigma reducing activities" (CDC, 2007).

2.5.3 Confidentiality

VCT Services should always preserve individuals' needs for confidentiality. Trust between the counselor and client enhances adherence to care, and discussion of HIV prevention (FHI, 2005). HIV antibody testing can also be ordered through a private physician, some clinics and hospitals. Persons may simply choose not to go to the anonymous testing site and that is certainly a client's option (WHO, 2006). The lack of confidentiality is one of the factors responsible for the stigma, which is acknowledged as being a major barrier to HIV prevention and care (Ladner *et al*., 2005). Some reasons for confidential testing are for example a written result is required for immigration purpose or for some international travel visas. Also a pregnant woman who is clearly at risk might choose to be tested through her doctor, rather than anonymously, since the result is of key importance to the course of her medical care, and potentially faster linkage to medical care.

2.6 Challenges of Behavior Change as a VCT Strategy

Several studies have shown that VCT leads to change in the behavior of individuals whether infected with HIV or not infected. The 2004 report from AIDS information Center (AIC) Kampala showed that clients who had received VCT adopted risk reduction strategies depending on their test results. Whereas clients who tested HIV positive had a significant increase in condom use, those that were not infected increased sexual activity with their regular partner (FHI, 2006). In a study conducted to determine the behavioral intensions of the tested youth in Kampala and Masaka in Uganda and in Nairobi city in Kenya, most of the youth indicated adopting safer sexual behaviour after the HIV test and these include, abstaining from sexual intercourse, practicing monogamy, reducing the number of partners with whom they

have sex and using condoms both males and females indicated the same intentions (Nabwisof *et al*., 2008). Studies conducted in Kenya, Tanzania and Trinidad by Family Health International in collaboration with UNAIDS/WHO and the center for AIDS prevention research at the University of California, Sanfrancisco has strongly provided evidence that VCT is both appropriate and cost effective as a strategy for facilitating behaviour change (FHI, 2006).

2.7 Factors Influencing Utilization of VCT Services

There is no ideal approach for delivering VCT in all settings. The following factors are likely to influence individual and community decisions in using VCT:

2.7.1 Socio-economic factors

Human behaviour is being dependent not only on individual, and immediate context, but as being influenced by the community, organization, political and economic environment. The background and social environment from which the clients are drawn may also influence the choice of VCT model. If large numbers of clients are in stable sexual relationships and married, couple VCT should be considered (Gampbel *et al*., 2007). A study conducted in Bushenyi District of Uganda, revealed that the factors influencing VCT for HIV were consequences of a test result, influences from a sexual partner, cost of VCT, physical accessibility of VCT , awareness, risk of HIV infection, need for linking VCT with care, especially availability of anti-retroviral drugs and perceived quality of care of VCT services (Kalichman, 2006).

2.7.2 Knowledge on VCT

In high prevalence settings, many individuals tend to develop feelings of hopelessness and helplessness and a sense that is too late for behaviour change. In these the power

of positive messages can be reinforced by effective HIV VCT services. In all settings, learning one's sero status with prevention counseling can be a powerful prevention and care strategy (Alwano and Marum, 2005).

In the context of HIV, everybody is expected to have adequate knowledge about HIV counseling and testing as a preventive strategy. The knowledge should not only be that one can receive HIV counseling and testing, but should also be that there are benefits after the test. This goes a long way in increasing demand for the services. Studies indicate that community awareness was associated with significant uptake of HIV testing among women who received pre-test counseling (Impact, 2005). Similarly, Israel (2004) in his report indicated that, "an increase in demand for HIV counseling and testing could only arise if women know that appropriate strategies exist, and can be effective in reducing transmission of HIV to infant. A national survey carried out in Kenya, in 2006 showed high levels of knowledge of AIDS among respondents of reproductive age. The survey showed 14 percent of women and 17 percent of men reporting to have been tested for HIV; however, two-thirds of those who had not been tested so far reported a willingness to do so. Cultural norms and belief systems, associated with the illness will be challenged through an emotive and heavy knowledge based messaging campaign that addresses ignorance and misinformation. People require being aware that VCT plays an essential role at many levels, thus;

2.7.2.1 In the community

In areas with high prevalence of HIV, stigma and discrimination remains the big reason for denial. If VCT were more available and more people were counseled and tested, more would know their status and whatever the result, more would have

confronted the possibility of being sero-positive. Integrating VCT in antenatal and other health care settings may help "normalize" HIV infection (or at least testing) within the community.

Specifically, VCT changes the image of HIV/AIDS from illness, suffering and death to living positively with HIV. It generates optimism as large numbers of persons test HIV negative and reduces stigma and enhances the development of care and support services. It also reduces transmission and enables access to preventive prophylaxis, and antiretroviral therapy where available, and access to needed clinical services in antenatal clinics, STI and TB clinics, primary care clinics etc (UNAIDS, 2007).

2.7.2.2 For Couples and Families

If VCT is offered to women attending antenatal care, the opportunity should be explored to offer it to partners. It has been shown that up to 25% of couples in which one partner is sero-positive, are sero-discordant (NASCOP, 2006). Transmission of HIV infection could be reduced if both partners are counseled (separately or together). This applies to sero-negative women with sero-positive partners and vice versa. It also enhances faithfulness, and encourages family planning.

2.7.2.3 For the Individual

Helping those who are uninfected to remain uninfected is a key strategy in the fight against AIDS, and VCT has a major role to play here. It is important to remember that even in high prevalence areas the majority of people are not infected. However, many men and women assume they are infected when in fact they are not. Studies have shown that when they learn they are not infected, not only is it a great relief for them, but it seems to help them to make changes in their sexual behaviour to remain uninfected. If those who have VCT services can also persuade their partner/s to be

tested, this may be a highly effective intervention in preventing HIV transmission. Infected persons are also assisted to protect others and live positively (WHO, 2006).

2.7.3 Attitude towards Testing

In low prevalence settings where people do not perceive themselves to be at high risk of HIV infection, uptake of VCT services may be low, unless they are fully aware of the benefits of VCT, have the opportunity for individual counseling and can be assured of emotional and medical support after VCT. Strategically, the point of departure will be to define the essence of the existing attitude; identify the desired attitude; establish the proposition, which will lead to modify attitude and behavior towards HIV and AIDS, and PLWHA (Japheth *et al*., 2009). A study carried out in India indicates, "HIV/AIDS is accelerated by people's attitude". The study also revealed that 80% of the respondents had elementary knowledge about the disease but had wrong attitudes towards it. Some of the attitude questions posed to the respondents indicated the level of positive attitude of the respondents towards people living with HIV/AIDS is not widespread as that of the level of awareness about the disease (WPC, 2005).

Christian and Muslim leaders attending the 13th International Conference on AIDS and Sexually Transmitted Infections in Africa (ICASA), held on 21-26 September, 2003 in Nairobi, Kenya, spoke of doing away with negative attitudes towards PLWHA that were spread by their churches and mosques (UNAIDS, 2005). In Tanzania surveys have shown that 75% of respondents would have liked to have taken a HIV test. However, fear of positive results was a great deterrent. There was a notion that knowledge of a positive HIV status was equal to loss of hope in life. The

low respondents towards PLWHA could be a good indication of the fact that an apparently high level of awareness about the disease is not sufficient enough to bring the desired level of change in perception and attitude about the disease (Kisesa *et al*., 2007).

2.7.4 Service Accessibility

It is important to identify factors that affect accessibility and create potential barriers to service use. Parameters to be evaluated include how far the intended populations travel to reach the service and whether public transportation to the VCT center is available. It also depends on the cost of VCT services. Since clients have to pay for medical services in many developing countries, it is essential that cost does not become a barrier to individuals using the service, especially those who might need it the most. When assessing accessibility, it is also important for those who are planning an evaluation to keep in mind that being near to a VCT center does not always guarantee easy access to the service. Infact, in areas where there is strong stigma attached to HIV and AIDS, proximity can be a barrier to service use because potential clients may prefer to go to a VCT center far away from the sight of their neighbors, who may suspect them of being infected just because they visited a VCT center. In this context, it is also important to assess who is being reached by the VCT center (WPC, 2005).

2.7.5 Demand for VCT Services

New studies in Africa show dramatic increases in demand for VCT, when the services are made accessible, affordable and secure to those people who want to know their own HIV status. National House-hold level health and family planning surveys in

Kenya, Tanzania and Zimbabwe have shown that around 60% of adults want to know their HIV status, while 15% or less have had access to VCT (UNAIDS, 2007). Over 500,000 Ugandans have sought anonymous VCT services at the AIDS Information Center (AIC), a pioneering non-governmental organization that has provided client-centered pre-and post-test counseling, HIV testing, and referral to post-test support services since the early 1990s. Rapid testing increases demand for services in VCT centres. USAID supported services in Malawi have found that a change to 'same day results' produced a four –fold increase in the number of VCT clients. Rapid testing increases the proportion of clients who follow through to receive results. Introduction of rapid HIV testing has increased the proportion of clients who received their HIV results from 69% to 99% in Malawi.

When service providers and promotion focus on realistic benefits of knowing one's status, the demand for VCT expands. While not for everyone, the evidence indicates that anonymous VCT services are essential components to investment in developing countries as a tool for empowerment, and for overcoming the stigma and denial that undermines HIV prevention, care and support (Japheth *et al*., 2006).

2.8 Circumstances for Utilization of VCT Services

The Kara Counseling Center in Zambia and the AIDS information Center in Uganda found that people wanted to know their HIV status for reasons which include, planning for marriage, planning for the future of their families, mistrust of their partner and having a partner with HIV symptoms or at high risk of HIV infection (Fylkesnes *et al*., 2005).

Health Action AIDS, 2005 also considers the following as circumstances for seeking VCT services, for example women at risk or People engaged in commercial sex work, men who have sex with men, injecting drug users and victims of domestic violence

and coerced sex. The Kenyan MOH, through NASCOP has however included the following as circumstances for which people should seek VCT services:

2.8.1 Premarital

Premarital VCT is voluntary, requiring confidentiality of results to be maintained. It occurs with the couples receiving their results together. Clients should not be coerced to reveal result to prospective marital partner. Because of reluctance for clients to reveal results to each other, it encourages individual VCT as a first step. This gives the hope that the couple will later request couple VCT, or that the couple will reveal results to each other before they marry. It requires a thorough discussion to take place in the pretest counseling session about the potential implications of test results on marriage decisions. The role of the religious leaders is emphasized in this situation, as to encourage couple to know their sero-status, not to regulate who is allowed to marry (MoH, 2006). Couples who want to enter into marital relations are now required by marriage counselors in their churches to have HIV test. These churches have selected hospitals, clinics and HIV test centers, which conduct the test on the couples. Should any of the couple test positive, the counselor handles the situation expertly with the couple for them to decide on whether they want to marry or not (MOEST, 2005-2010).

2.8.2 Married Couples

According to NASCOP, couple counseling should be encouraged also for those already in a relationship and wish to make informed decisions about having children. Other circumstances for VCT utilization include selection of family planning methods generally for those who want to work on their relationships and plan their future.

These should not be coerced into being counseled together, but shall be given opportunity to make informed decision about it. Confidentiality is important, and couples should be informed about what it covers and its limits. The couples will require equal opportunities to talk and ask questions and the counselor should be non-judgmental and respectful in responding to the couple. They should be helped to explore the implications their test results may have on their relationship, marriage, sex life, family planning and plans for child bearing. They should be given the opportunity for individual sessions as some may find it threatening to explore their current or past sexual risky behavior in the presence of their partner and as they wish (separately or as a couple). Counseling should ensure that both members of the couple have come voluntarily (NASCOP, 2009).

2.8.3 During Pregnancy

VCT services are important during pregnancy to prevent mothers-to child transmission of HIV. VCT services sites, especially those in health facilities, may serve as the entry point for antenatal mothers to be screened for HIV, and then enrolled in PMTCT programs. Strict procedures for maintaining confidentiality of the test results must be observed in this setting, as otherwise mothers may decline HIV testing and thus forgo the opportunity for preventing mother-to-child transmission. Counselor ensures that the mother thoroughly understands the benefits and risks of HIV testing and understands the additional services she will receive if HIV positive. Providing HIV counseling and testing for women and their partners during pregnancy offers an opportunity to prevent HIV infection in HIV –negative women and to offer antiretroviral drugs, and other advice for HIV –infected women to reduce mother-to-child transmission (Odhiambo *et al*., 2007).

2.8.4 HIV Patients

All HIV positive clients should be counseled about "living positively with HIV:" Living positively includes maintaining a positive attitude, avoiding additional exposure to the virus and other STIs, taking good care of oneself medically, eating a good diet, and joining PLWHA organization and other social support groups. For such clients, it is of utmost importance to be counseled in preventing further spread to risky sexual partners. They are mostly advised on abstinence or strict adherence to condom use (Gampbel and Marum *et al*., 2006).

2.8.5 People with STDs

VCT services have an active role in detecting and treating other sexually transmitted infections and diseases. It has been highly recommended that STI screening be offered to all VCT clients, and when possible, syphilis testing be performed on the same blood sample as that used for HIV testing. Young people often request attendance for suspected STI; during which time it is necessary to explain to them the reasons for and solicit their consent for HIV testing also. During registration, VCT clients are informed about STI services available on site, and should be informed that both HIV and the requested test will be performed. Clients should have the opportunity to refuse testing if they object to it (Boswell and Baggaely, 2007).

2.8.6 HIV Affected Family

Family counseling may involve several issues including the counseling of a minor or youth to deal with a loved one who is infected. This includes precautions to take at home while caring for a PLWHA. The counselor should reassure the family member that HIV could not be transmitted through everyday normal social context, and therefore not at risk of being infected. In some cases counselor will be involved with

counseling situations involving teenagers. These teens may either be sexually active or not and they may come alone to the counseling center or be brought by their parents. Young people should not be coerced to take the test. The young person should freely agree to come to the HIV counseling center, to conduct appropriate risk assessment, and obtain informed consent for the HIV test (Balmer *et al*., 2008*).*

2.8.7 The 'Worried Well'

Persons known as the "worried well" are people who present with multiple physical complaints, which they interpret as sure evidence of their HIV infection. Others as well will reflect on their past exposure to risk behaviors. Such persons will present the following characters (Balmer *et a*l., 2008): for example, repeated negative HIV tests, low risk sexual history, including covert guilt and low sexual activity, poor post-adolescent sexual adjustment and social isolation. Dependence in close relationship (if any) and multiple misinterpreted somatic features usually associated with undiagnosed viral status (not HIV) or anxiety or depression.

2.9 Barriers to VCT

According to UNAIDS (2005), HIV voluntary counseling and testing can be seen as a human right issue 'people have the right to know their sero-status'. Although VCT is becoming increasingly available in developing and middle-income countries, many people are still very reluctant to be tested. The reluctance is the result of barriers to VCT which include; scarce economic resources and competing priorities, low awareness of the psychosocial benefits of counseling and testing and low access to trusted services (cost, distance, quality, and confidentiality). Fear of stigma, social rejection and discrimination is also a major barrier. Lack of access to drug therapies

and psychological care, especially in the developing world; lack of medical services has been shown to be a barrier to uptake of VCT in many settings. Widespread fear of taking an HIV test; many people are afraid to be tested in case they test sero-positive. Some people are concerned that confidentiality will be breached and are afraid of the stigma surrounding HIV/AIDS in the community. Fear of being seen at a VCT center. The opportunity cost, the cost associated with utilizing VCT services instead of, for example, working during the same time period (Sangiwa, 2008). Another difficulty in the provision of quality VCT is deciding which service providers should be included in an assessment. While an increasing number of countries have special centers dedicated exclusively to counseling and testing for HIV, a high proportion of tests take place in private clinics or doctors' surgeries. The fact that tests are proposed for diagnostic purposes does not diminish the need for pre and post-test counseling, confidentiality and other elements of quality service provision (UNAIDS, 2007).

2.10 Some Studies focusing on Health Workers

It is unfortunate to note that very few studies in Kenya and elsewhere in the world have been carried out in this area. However, the few that are available still confirm the vulnerability of health providers to HIV infection and therefore the need for them to attend VCT services. In Zambia, a research was done on HIV/AIDS needs of hospital workers in 2004 and reported in 2005. In this study it was found that health personnel need psychosocial support as they are burdened by caring for patients both at work and at home. Health workers need support for risk reduction, for not only are they at risk of HIV due to occupational factors, but many are at risk because of personal sexual behaviour as well (Kiragu *et al*., 2008)

A study carried out in Nigeria on occupational risk of infection by HIV as well as hepatitis B virus, shows that the risk of acquiring HIV and HBV infection by health workers in the course of performing their duties was apparently high (Ansa *et al*., 2006). The knowledge, attitudes and practices (KAP) of health care workers in Tamatave (Madagascar) in 2004 July, revealed that, scientific knowledge about transmissibility of HIV infection was poor among the health care workers. According to the report, 61% of them reported never having advised patients to test and less that 10% mentioned correct counseling precaution. Also 79% believed they were at risk of acquiring AIDS mainly through occupational exposure, while 20% of the Health workers mentioned that AIDS patients should be isolated in quarantine. In conclusion, this study revealed gaps in knowledge of HCW about HIV infection (Hentgen *et al*., 2007).

Another study in Nigeria in 2003 was done to characterize the epidemiology of percutaneous injuries, of health care workers. It highlighted the details of needle stick and sharp instrument injuries on HCWs at University hospital and clinics in Ile-ife, Nigeria. The results revealed that needle stick accidents during the previous year were reported by 27% of the 474 HCWs, including 100% of dentists, 81% of surgeons, 32% of non-surgical physicians and 31% of nursing Staff. All HCWs were aware of the potential risk of HIV transmission through percutaneous injuries and 91% considered themselves very concerned about their occupational risks of HIV acquisition (Adegboye *et al*., 2005).

In 2004, a study was carried out to look at the challenges facing the Kenyan Health workforce during the era of HIV/AIDS. The descriptive cross-sectional study was done to assess the health workforce and investigate the impact of HIV/AIDs on service delivery of key health care sector providers in Kenya. The study results showed that, the health work force has declined in size from 50,504 workers in 1996, to 45,694 in 1999 (189 deaths) and 2000 (198 deaths). Between 1996 and 2001, more that 200 nurses and 56 clinicians were reported deceased although the causes of death were not reported. More that half was between the ages of 30 and 44 years. During this five-year period, Nyanza Province lost the largest number of health workers (141) due to death. The assessment looked at 327 deaths of health workers recorded between 1997 and 2003. Of the 170 that listed the cause of death, 45 percent were due to AIDS and AIDS –related illnesses including pneumonia, tuberculosis, chronic diarrhoea and immunosuppression (MoH, ECSA, 2006).

CHAPTER THREE

3 MATERIALS AND METHODS

3.1 Study Design

A descriptive cross –sectional study design was used to determine the utilization of voluntary counseling and testing services by health providers.

3.2 Study Variables

Table 3.1 below shows the study variables used.

The dependent variable in this study is **use** or **non use** of VCT services while independent variables are shown in the table below.

Table 3.1 Study Variables

Main independent Variables	**Other Variables**
Socio-demographic characteristics	Sex, age, marital status, profession e.g. Doctor, Clinical officer, nurse, paramedical staff. etc. Years worked; level of education, religion; department deployed.
Knowledge ▪ Occupational risk ▪ HIV/AIDS ▪ VCT	Protective equipment, P.E.P, Written guidelines; Source of HIV information; mode of transmission, ways of prevention. Availability, activity in a VCT centre; training on VCT; National guidelines on HIV ; accessibility to VCT services; Test results;
Attitudes	Beliefs and feelings
Special circumstances for seeking VCT services	Premarital, married couples, pregnancy,; people with STDs; after needle stick or cut with contaminated instrument; after caring for AIDs patients for long.
Barriers	Fear, stigmatization, discrimination, lack of confidentiality, unreliable results, ignorance, delayed results.

3.3 Study Target Population

The target population in this study comprised health care providers both male and female, who were working in selected hospitals and health centres in Makueni County and four other main hospitals in different Counties in Eastern Province of Kenya. The total number of Health Providers in the former Eastern Province was 6,500 according to the Provincial Medical Officer's report of 2007. This number was used as the target population in this study.

3.4 Study Area

3.4.1 Eastern Province

The Province is the second largest in the republic of Kenya, which has a total of 8 provinces. It borders Ethiopia to the north, Rift Valley Province, Central and Nairobi Provinces to the south. It is made up of 8 administrative counties. The Province covers a surface area of 160,668 sq. kilometers with a projected population about 5,668,123 people. About 204,053 of the population are children under one year representing 3.6% of the total population. It has a population growth of 2.1 % (Kenya Census report, 2009).

3.4.2 Makueni County

Makueni County is one of the 8 counties of the former Eastern Province and lies to the southern end of the Province. It borders Coast Province to the South, and Rift Valley Province to the west. It also borders Taita Taveta County to the south and Kajiando County to the east. The Nairobi-Mombasa railway passes along the border with Kajiando County. The Nairobi-Mombasa highway traverses the County at the western side adjacent to the railway line covering approximately 220 kilometers. The

County was curved from the former greater Machakos District in 1992. It has 22 administrative divisions and 6 parliamentary constituencies. It has a projected population of 909,293 persons (2009 pop. Census) and has a density population of 114 persons per square kilometer. The study was carried out in some selected facilities in the Eastern Province. The main focus of rural facilities was in Makueni County where three (3) hospitals and eight (8) health centers were selected for the study. Makueni has 617 health workers, working in four hospitals, 12 health centers and 42 dispensaries (MoH report, 2009). The study mainly captured the government health facilities. The study was also widened to include four main hospitals from different Counties of the Eastern Province of Kenya to give the general view of the Province and by extension the situation in country (Kenya).

3.5 Sampling Technique

Eastern province in general and Makueni County in particular was purposively selected because of its moderate rate of HIV infection with HIV prevalence of 3.9% (KAIS, 2012) and familiarity to the researcher to reduce the research cost. The selection of the level 4 and 5 Government Hospitals outside Makueni County was done by simple random sampling method. The total number of Hospitals in the former Eastern Province was nine and four were selected for this study to reflect four major hospitals in the province. In Makueni County, three level 4 hospitals were selected from a total of four hospitals by simple random. By the same method, eight Health Centres were selected from a total of twelve in Makueni County. Each selected health facility was allocated a sample frame proportionate to the study sample size of 363 subjects. In this regard, each hospital was allocated about 50 subjects. Heath Centres which are level 3 facilities were allocated at least 5 subjects each. To select health

care providers from each health facility, both simple random sampling and stratified random sampling methods were employed. With the sample frame available for each hospital, stratified random sampling was done using variable Cadre, to ensure inclusion of the identified sub groups e.g. Nurse, Doctors, Clinical Officers, paramedical staff and VCT Counselors. After allocating each stratum the required number of subjects, a list of subjects from each cadre was made. From each list, simple random sampling was done and the required sample size achieved. Then the identified subjects were provided with the questionnaires to fill.

3.6 Sample Size Determination

The sample size of the study was determined using Fisher *et al* formula (1998)

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

The total number of health personnel working in Eastern Province is approximately 6500. This is the target population for the study. Therefore, the sample size was calculated using the formula as used by Fisher *et al*., (1998) for the target population less than 10,000; where final sample estimate nf is calculated using the formula:

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

Where,

nf –desired sample size (where population is less than 10,000)

n-desired sample size (when population is more than 10,000)

N-The estimate population

Therefore

n=384 (desired sample size when population is more than 10,000)

N=6500

nf=384/1+(384/6500)=363

363 health personnel therefore comprised the sample size. To come up with the number of subjects required from each facility, both simple random and stratifies random sampling methods were employed.

3.7 Data Collection Tools

The tool for data collection was a semi- structured self –administered questionnaire schedule (Annex 3).

3.7.1 Questionnaire schedules

To be able to collect the required data, questionnaire schedules were developed and administered to the respondents whereby, quantifiable demographic data and other study variables were collected.

3.7.2 Quality control

To obtain and maintain quality data, the research assistants were carefully selected. These comprised newly qualified clinical officers who had previous experience in data collection during their course. They were trained on how to administer the questionnaires, maintain confidentiality and observe medical ethics during data collection. The questionnaire was pre-tested before administration on health providers with similar characteristics in different health facilities to identify the validity of the self- administered questionnaire schedule. The research assistants were closely supervised throughout the data collection processes. The questionnaires were checked, counted and kept in safe custody for each day.

3.8 Data Analysis

Data was summarized using descriptive statistics for example, mean, median, mode, standard deviation and presented in bar charts, pie charts and frequency tables. Scientific Package for Social Science (SPSS) computer program was used. The data was further analyzed by use of Chi –square to establish relationship between variables.

3.9 Inclusion Criteria

This study included trained health workers of both genders. They were Medical Officers, Dentists, Clinical Officers, Nurses and other Paramedical staff. The officers had worked for at least six months after qualifying in their fields.

3.10 Exclusion Criteria

The study excluded any other hospital worker e.g. Support Staff, Clerical Officers, Cooks, Drivers and Procurement Officers.

3.11 Ethical Considerations

Feedback to the respondents was confidential and was given individually. Identity was anonymous by ensuring names were not written on questionnaire schedules. Informed written consent was obtained from the respondents to ensure participation was voluntary. Clearance was sought from the Ministry of Education, Science and Technology and the National Ethical Review Committee at the Kenya Medical Research Institute (KEMRI).

CHAPTER FOUR

4 RESULTS AND DISCUSSIONS

This chapter describes the results and discussion of the information gathered from 403 respondents in this study. From the sampled facilities, a total of 420 questionnaires were administered to respondents and 403 (95%) were returned. The results are displayed in diagram and table forms.

4.1 Results

4.1.1 Socio-Demographic Characteristics of the Study Population

The distribution and characteristics of the 403 study population in 5 studied Counties are given in Figure 4.1 and Table 4.1 Majority of the respondents 198 (49.1%) were from Makueni County while 205 (50.9%) came from the other 4 Counties namely Machakos, Kitui, Embu and Meru as shown in Figure 4.1. Of the 403 respondents 214 (53.1%) were males while 189 (46.9%) were females as shown in Table 4.1. Of those who participated, 150 (37.2%) were nurses, 128 (32%) were paramedical staff and 85 (21%) were clinical officers. Doctors and VCT counselors were only 23 (5.7%) and 17 (4%) respectively. This conforms to the normal 40% proportion of nurses against other health providers in any particular health facility set up. The dominant age group was between 20- 39 years with 259 (64.3%) respondents.

Majority of the respondents were either married or living with a partner 276 (68.5%) while only 2 (0.5%) were widows or widowers and had an average of 3.2 children. Single respondents accounted for 119 (29.5%) of the respondents. Over 98% of the people participating in the study were Christians. Of the 403 respondents, 139 (34.5%) were Catholics, 253 (63%) were Protestants and 8 (2%) were Muslims. On

the level of education, slightly above half of the participants 236 (58.6%) had attained a college diploma while 27 (6.9%) had a university degree and the other 139(34%) had college certificates. The duration of employment of the respondents ranged from 1 – 35 years with 185 (45.9%) having worked for between 1 – 9 years and 210 (52%) with working experience of between 10-29 years. The remaining 8 (2%) had worked for over 30 years as Table 4.1 shows. The small difference in the respondents' gender 6% more males than females was not quite significant but reflects on the male gender dominance found in any working situations. The dominant age group 20- 39 yrs reflects the youthful nature of the workers as found in majority of working environments. Health providers being people who are employed and in their reproductive age, majority are married as seen in this study. Over 98% of the respondents were Christians of either catholic or protestant religion; the two are the dominant religious groups in Eastern Province.

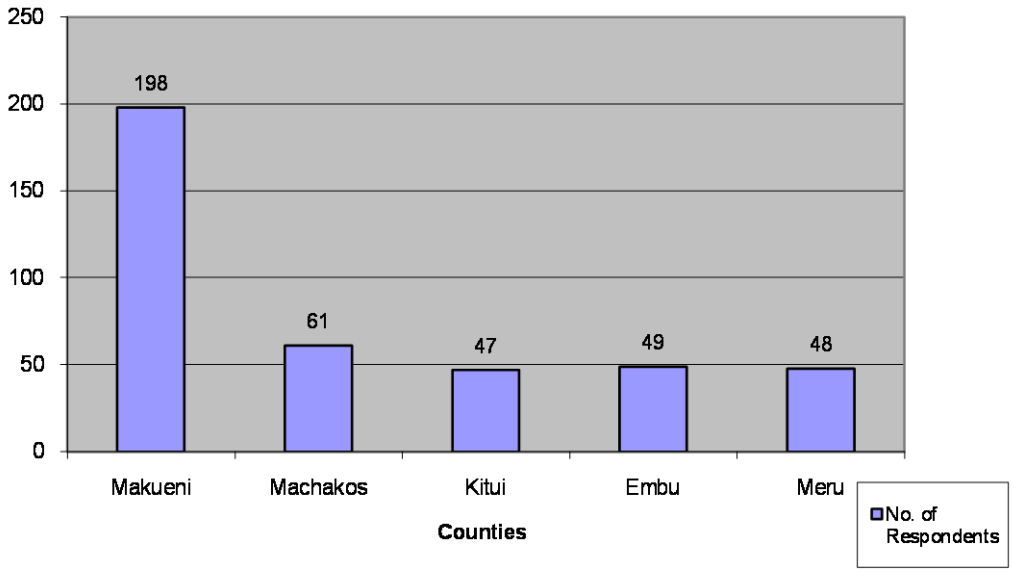


Figure 4.1: Distribution of the Respondents by County

Table 4.1: Characteristics of the Study Respondents

BACKGROUND CHARACTERISTICS	Male n=214 (53%)	Female n=189 (47%)	Total n=403 (100%)
Occupational classification %			
• Doctors	16 (4%)	7 (2%)	23 (6%)
• Clinical officers	54(13%)	31 (8%)	85 (21%)
• Nurses	36 (9%)	114 (28%)	150(37%)
• Paramedic	99 (25%)	29 (7%)	128 (32%)
• VCT Counselor	9 (2%)	8 (2%)	17 (4%)
Duration of employment (years) %			
• 1-9 yeas	97 (24%)	88 (22%)	185(46%)
• 10-19 years	73 (18%)	59 (15%)	132(33%)
• 20-29 years	43 (11%)	35 (9%)	78(20%)
• 30 years and above	1 (0.2%)	7 (2%)	8(2%)
Age distribution %			
• 20-29 years	64 (16%)	66 (16%)	130(32%)
• 30 - 39 years	76 (19%)	53 (13%)	129(32%)
• 40 - 49 years	57 (14%)	53 (13%)	110(32%)
• 50 and above years	17 (4%)	17 (4%)	34(8%)
Highest level of Education %			
• College certificate	50 (12%)	89 (22%)	139(34%)
• College diploma/higher Diploma	147 (37 %)	89 (22%)	236(59%)
• University Degree	17 (4%)	11 (3%)	27(7%)

Table 4.1: Characteristics of Study Respondents Cont'd

Background characteristics	Male n=214	Female n=189	Total n=403
Religion %			
● Catholic	75 (19%)	64 (16%)	139(35%)
● Protestant	130 (32%)	123(31%)	253(63%)
● Muslim	7 (2%)	1(0.2%)	8(2%)
● None	2 (0.5%)	1(0.2%)	3(0.7%)
Marital status %			
● Single	61(15%)	58(14%)	119(29%)
● Married/living with partner	150(37%)	126(31%)	276(68%)
● Separated/divorced	3(1%)	3(1%)	6(2%)
● Widow/Widower	0(O %)	2(0.5%)	2(0.5%)
Study sites (Counties)			
● Makueni	112(28%)	86(21%)	198(49%)
● Machakos	23(6%)	38(9%)	61(15%)
● Kitui	26(7%)	21(5%)	47(12%)
● Embu	24(6%)	25(6%)	49(12%)
● Meru	29(7%)	19(5%)	48(12%)

4.1.2 Level of VCT utilization by Health Providers

VCT utilization by Health workers was analyzed in this study and the following findings were noted.

4.1.2.1 The Uptake of VCT utilization among Health Providers in all the Study Sites

The specific areas of VCT services that this study covers include counseling and HIV testing. Figure 4.2 Overleaf shows the results of VCT services uptake by health

providers in all the study facilities. Of the 403 respondents in this study, 212 (52.6%) had utilized VCT services while 191 (47.4%) had not utilized the services.

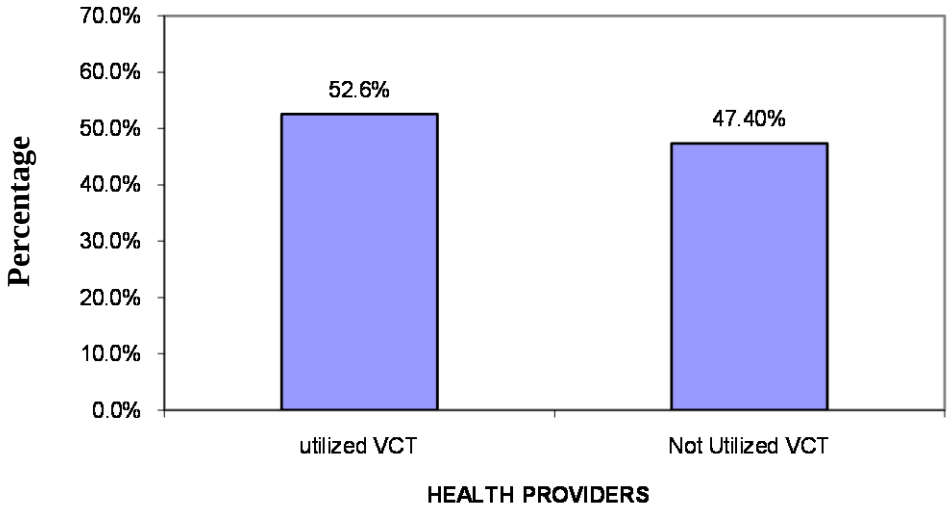


Figure 4.2: Overall VCT Utilization among Health Providers in the 5 Study Counties

4.1.2.2 HIV Testing Uptake among Respondents in all the Study Sites

Figures 4.3 and 4.4 present HIV testing percentage among the 403 respondents in all the study sites. Of the 403 participants, 3 did not respond to the question; if they had ever been tested for HIV. Overall HIV testing uptake percentage across the five (5) study sites was 60 % as shown in Figure 4.3. Figure 4.4 shows that, of those females who responded, 124 (66.1%) had been tested while only 115 (54 .5%) of men had taken the test. This indicates significant difference between the two genders in VCT uptake on Chi-square test (χ^2 *-5.113 df-1, p. value – 0.024*). These results are not inconformity with the 2003 KDHS findings where about 13% females and 14% men had tested for HIV in the general Kenyan population (KDHS, 2003) but reflect an increasing trend in uptake of HIV testing. Among the 240 respondents who had an

HIV test, 212 (88%) were tested from VCT Centers while 28 (12 %) obtained the test from healthcare facilities other than the centers. This suggests the popularity and considerable accessibility of VCT centers as compared to other places of HIV testing. Since these results do not conform to the KDHS findings at national level and reflect an increase in HIV testing rate among health providers, there must be strong localized factors at work to account for these findings. This may be explained by the relative higher level of education on the part of the health providers and general awareness about HIV as compared to the general public as well as ease of access to VCT services within health facilities. Figure 4.3 below shows the HIV testing uptake.

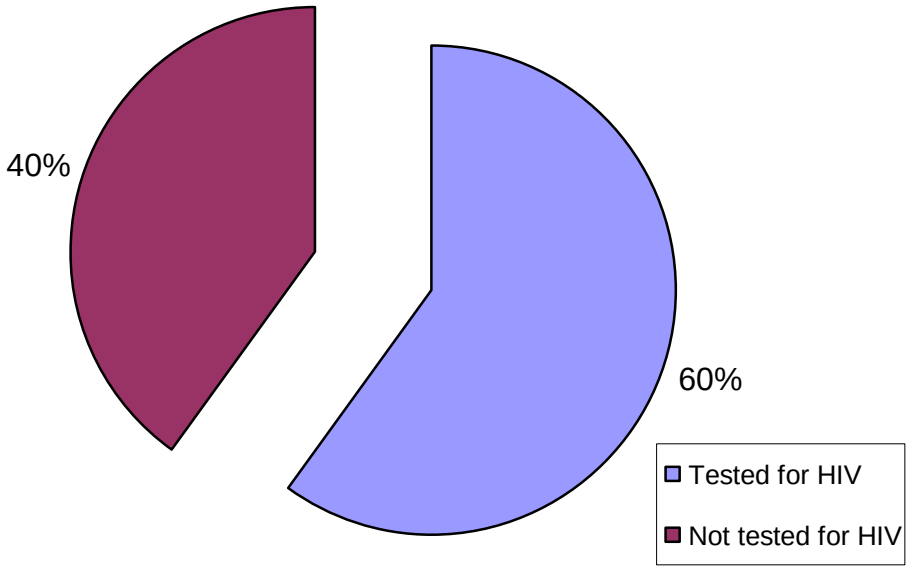


Figure 4.3: Overall HIV Testing Uptake

Figure 4.4 below shows HIV Testing by gender

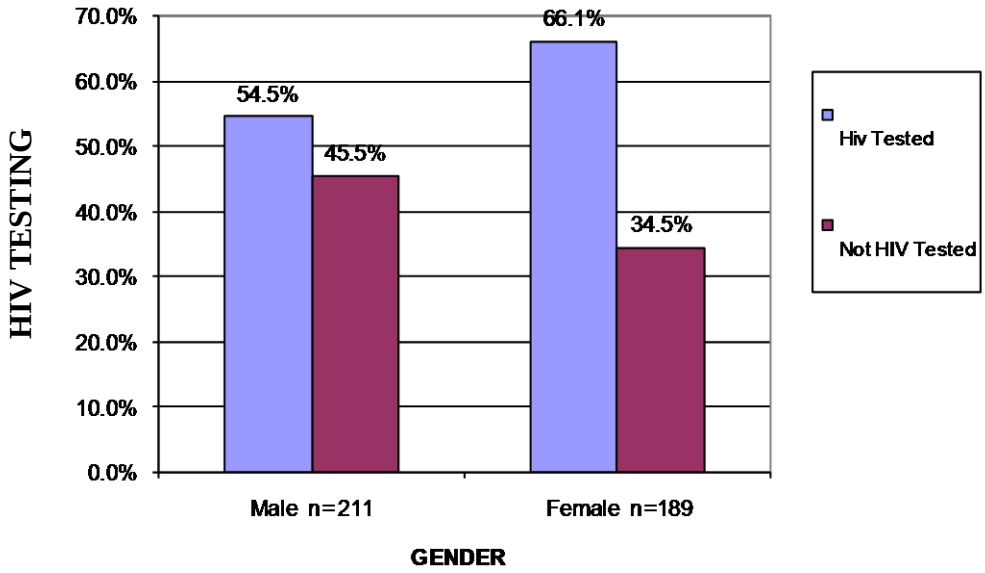


Figure 4.4: HIV testing uptake by Gender

4.1.3 Factors influencing VCT Utilization in the Study Sites

The following eleven factors were identified in this study as some of the key issues that affect utilization of VCT services by Health Providers in the study area.

4.1.3.1 Cadre of health providers

Study tools were designed to elicit responses to determine the level of VCT utilization among the various categories of health care providers. A further Chi square analysis of VCT utilization shows a significant difference in utilization among different health provider cadres at (χ^2 *–20.734 df-4 p.value – 0.000*). Overall, it was observed that percentage VCT uptake was higher among VCT counselors 16 (94%) followed by doctors 15 (65%). Figure 4.5 shows that, VCT uptake among nurses, clinical officers

and paramedical staff was 84 (56%), 44 (52%), and 53 (41%) respectively as shown in figure 4.5 below.

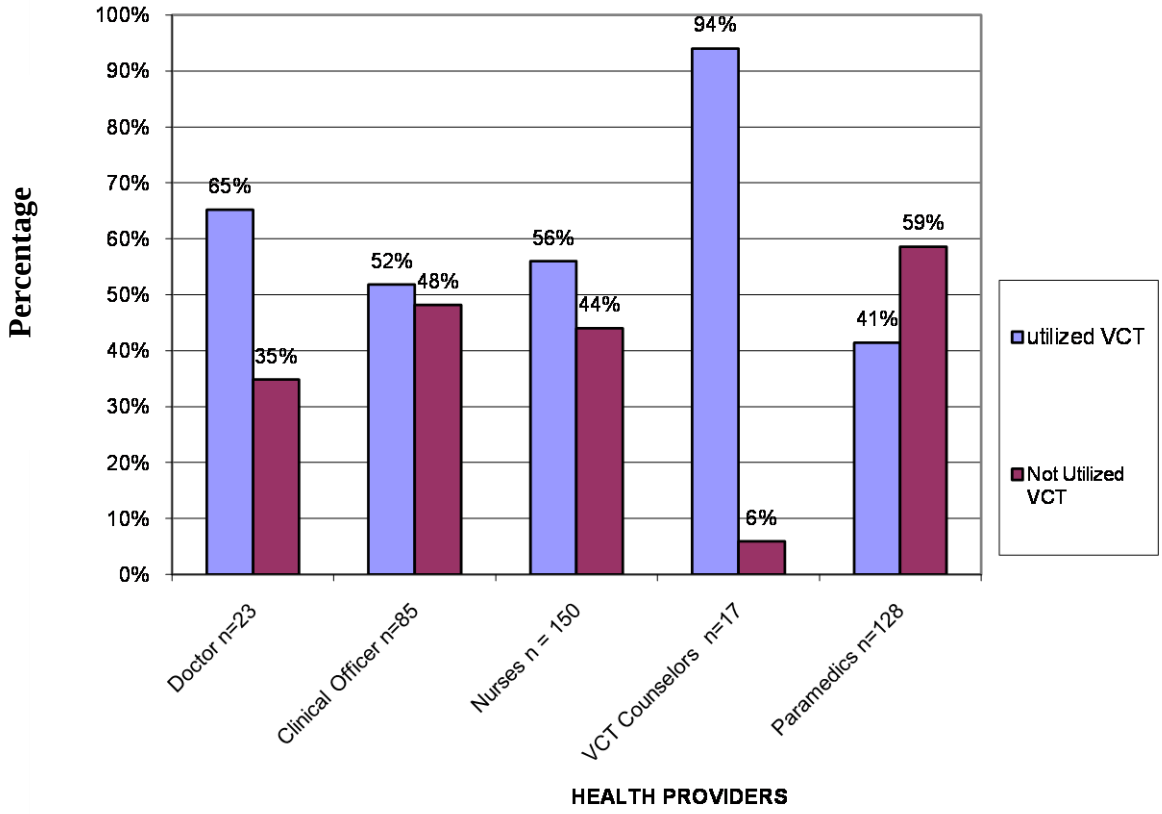


Figure 4.5: VCT Utilization by Cadre

The fact that VCT counselors had utilized VCT services more than any other cadre can be explained by the fact that they were the people in the forefront of the VCT uptake campaign and were the same people who were operating the VCT services and did the testing on clients. They had an opportunity to undergo various trainings on VCT and scaling up of the services. They therefore had an advantage of knowledge and accessibility as compared to the other health providers. Doctors on the other hand had a wider knowledge on issues of VCT and HIV prevention; they therefore exhibited a higher level of VCT utilization. The Paramedical Staff that had the lowest prevalence (41%) of VCT utilization was composed of health providers who had a

relatively limited knowledge on VCT. Most of them did not come directly into contact with HIV clients in their working departments and they therefore appreciated less the effects of HIV infection and consequently the benefits of HIV testing.

4.1.3.2 Level of Education

Health providers with University education were found to have utilized VCT more, 17 (60%) compared to the other categories while slightly above half of those with college diplomas 121 (51.3%) and those with college certificate 74 (53.2%) had utilized VCT services as illustrated in Figure 4.6. However the difference of VCT utilization among the different levels of education was not statistically significant, χ^2 *2.12 df – 3 p.value – 6.54866.by* Chi-square analysis.

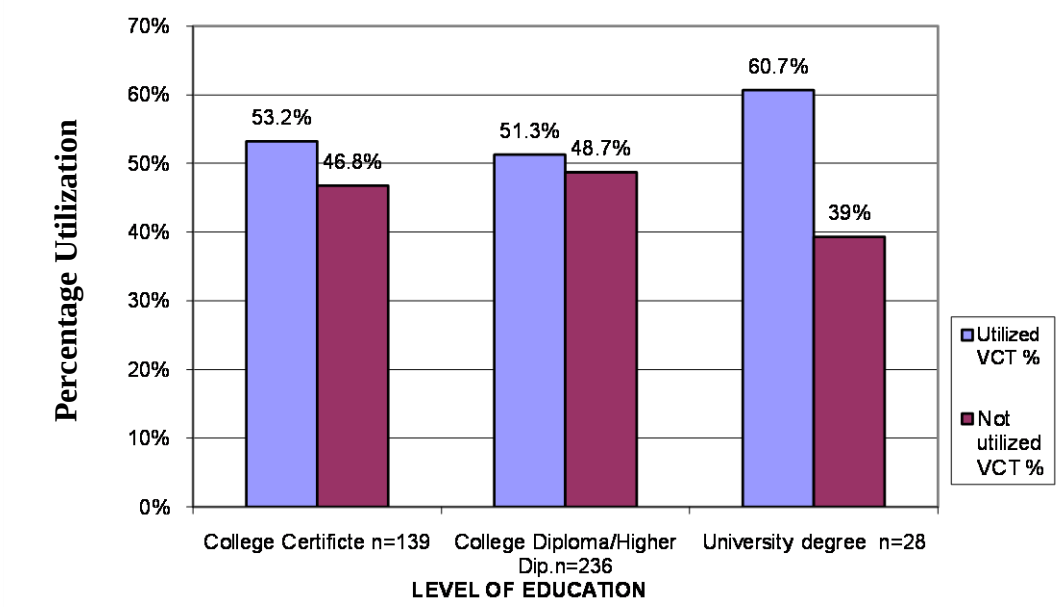


Figure 4.6: VCT Utilization by Level of Education

4.1.3.3 Respondents' religious affiliation

Among the health providers who utilized VCT services, 209 (98.6%) were Christians while only 3 (1.4%) were Muslims and none of them had no religion. Protestants were more likely to utilize VCT services 139 (54.9%) compared to the catholic respondents 70 (50.4%) who had utilized the services, and only 3 (38%) of Muslim respondents as shown in Figure 4.7 below. However the difference of utilization among the different religions was not statistically significant $\chi^2 - 6.09$ *df –3 p.value – 0.10745.*

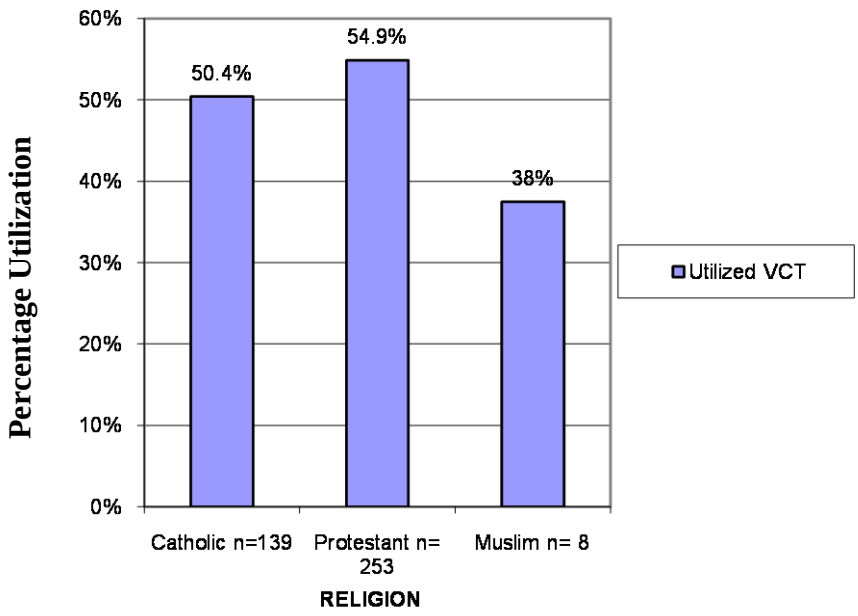


Figure 4.7: VCT Utilization by Religious Affiliation

4.1.3.4 Marital status

Half 148 (50%) of the married / living with partner respondents had utilized VCT services as compared of two thirds (67%) of those separated / divorced respondents. Of the single respondents 59% had utilized the services and also half (50%) of the widow / widowers as shown in Figure 4.8 below.

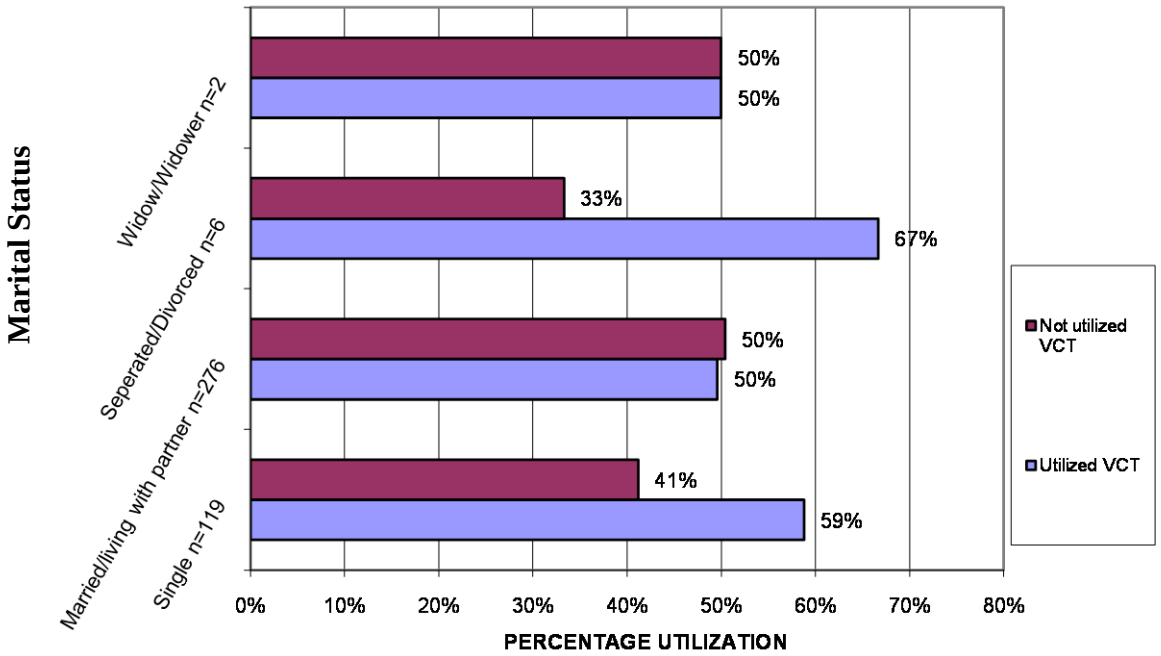


Figure 4.8: VCT Utilization by Marital Status

4.1.3.5 Gender

Apparently, Figure 4.9 overleaf shows that, a higher proportion of women 107 (56%) among the 191 women respondents had utilized VCT services compared to the male 105 (49.5%) out of 212 male respondents. On further analysis by Chi-square test, the findings were, χ^2 - *2.294 df –1 p.value –0.130,* showing no statistical difference of VCT utilization among the two genders.

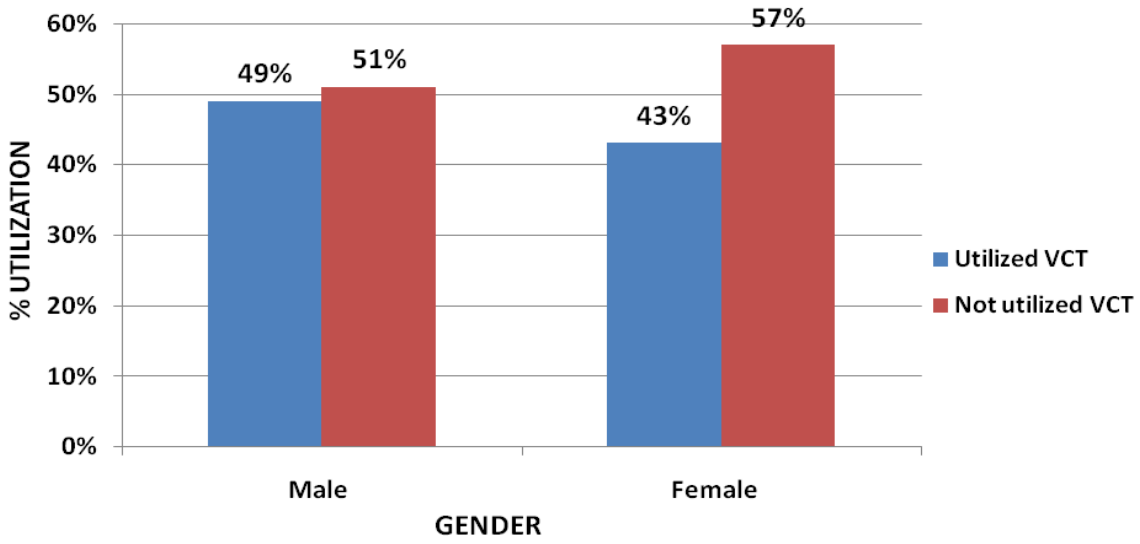


Figure 4.9: Respondents VCT Utilization by Gender

4.1.3.6 County of work

Among the respondents from Embu County, 30 (61.2%) had utilized VCT services compared to 95 (48%) of respondents from Makueni County. Slightly above half of the respondents from the other Counties, Machakos 35 (57.4%), Kitui 25 (53.2%) and Meru 27 (56.3%) had utilized VCT as shown in Figure 4.10 overleaf. However, on Chi-square analysis, it was shown that, χ^2 *– 3.978 df –4 P.value –0.409*, hence there was no significant statistical difference in VCT utilization between the Counties studied. Apparently VCT utilization by Health Care workers in Embu was slightly higher than in the other Counties. Makueni County Health Providers had utilized VCT services least and this may be explained by the fact that the district is vast and has few VCT centers.

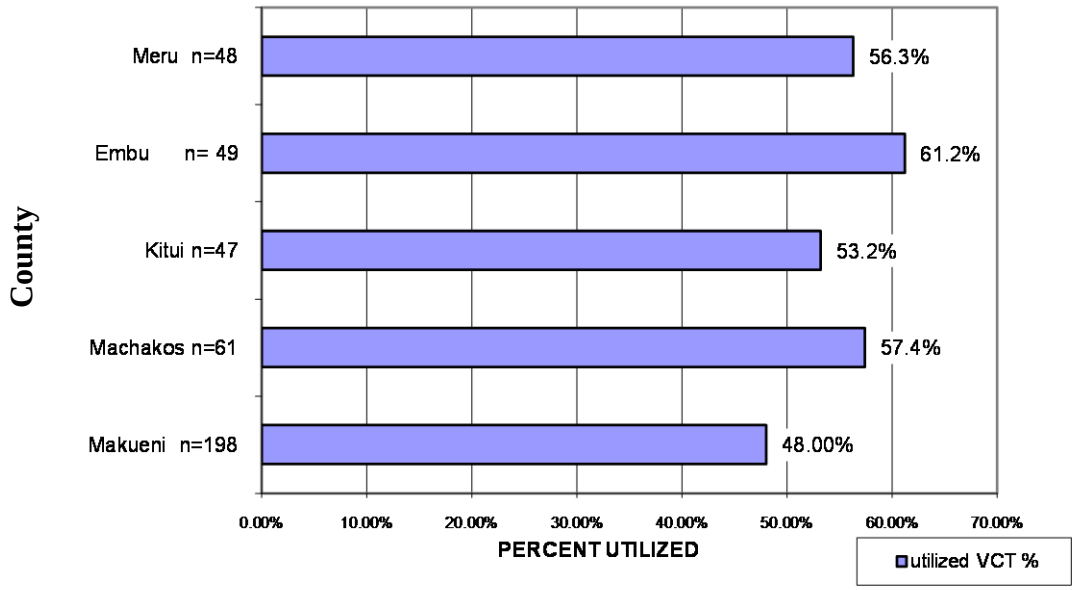


Figure 4.10: Respondents VCT Utilization by County.

4.1.3.7 Health facility

The utilization of VCT services in the fifteen (15) hospitals and health centers revealed that 100% of the respondents from Nunguni Health Centre had utilized the services as compared to 20% of respondents from Kalawa health centre as shown in Table 4.2. However, when the VCT utilization among the facility categories was compared, it was found that Health Centers had a higher VCT utilization rate than the hospitals as shown in Figure 4.11 overleaf. The difference in the rate of utilization in the hospitals and health centers may be attributed to the number of health providers sampled in each category.

Table 4.2: Respondents VCT Utilization by health facility

Health Facility	utilized VCT	Not Utilized VCT
Embu P.G.Hosp n=49	61.2%	38.8%
Machakos G. Hosp n=61	57.4%	42.6%
Meru D. Hosp n=48	56.3%	43.8%
Makueni D. Hospital n=86	37.2%	62.8%
Kitui D. Hospital n=47	53.2%	46.8%
Makindu S.D. Hospital n=49	42.9%	57.1%
Mbooni S.D. Hospital n=17	47.1%	52.9%
Kibwezi H. Centre n=12	83.3%	16.7%
Nunguni H. Centre n=5	100.0%	0.0%
Sultan Hamud H.C n=6	66.7%	33.3%
Tawa H. Centre n=5	80.0%	20.0%
Kalawa H.C n=5	20.0%	80.0%
Kisau H.C n=4	75.0%	25.0%
Matiliku H.C n=5	80.0%	20.0%
Mavindini H.C n=4	75.0%	25.0%
Total n=403	**n=212**	**n=191**

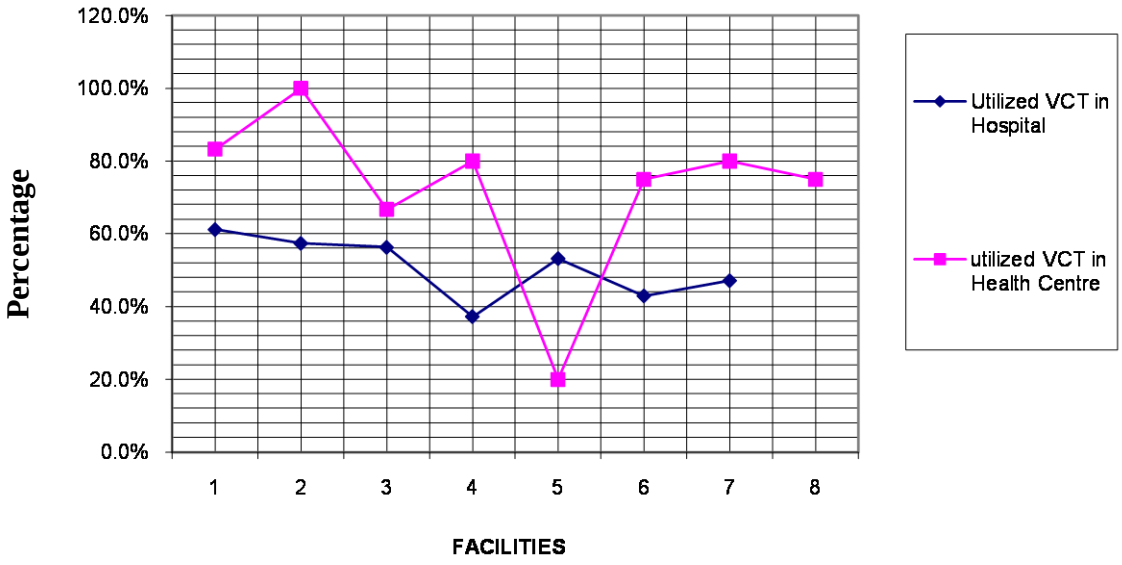


Figure 4.11: VCT Utilization in Hospitals and in Health Centers

4.1.3.8 Level of knowledge on VCT

To assess the level of knowledge the respondents were assessed on 7 indicators for knowledge and an average score taken along the gender and various occupational classifications. Table 4.3 shows that, VCT counselors emerged with the highest score (94.1%) on the level of knowledge followed by clinical officers with an average score of 68.7%. Those who scored least on knowledge were paramedics with an average score of 56.8%. The average score of level of knowledge on females was 64.5% against that of their male counterparts at 48.3%. This indicates that women demonstrated more knowledge on VCT than their male colleagues.

The general knowledge on VCT among health providers was quite high, all the respondents (100%) said they had heard of VCT and about 95.8% knew what VCT involved. However, respondents who had the capacity to do counseling and testing

were few among Doctors 34.8% and Paramedical staff 23.4%. This revealed a significant difference in knowledge among the occupational categories on Chi-square test with χ^2 *-45.533 df- 4 p.value- 0.006* . A significant difference also showed on those health providers trained on HIV counseling, the Doctors 34.8% and Paramedics 43.0% with a χ^2 *-67.877 df -4 p. value- 0.000*. This can be explained by the fact that HIV counseling and testing training focused mainly on nurses and clinical officers.

Table 4.3: Respondents Level of Knowledge on VCT

	SEX		Occupational Classification					
Knowledge Indicator	**Male n=214**	**Female n=189**	**Doctors n=23**	**Clinical officers n=85**	**Nurses n= 150**	**Paramedics n=128**	**VCT counselors n=17**	**Total n=403**
% of those who ever heard of VCT	100.0 %	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
% of those with knowledge of what VCT involves	95.3%	96.3%	100.0%	98.8%	94.7%	93.8%	100.0%	95.8%
% of health providers with knowledge of what is done in VCT	93.0%	89.9%	100.0%	98.8%	86.7%	89.8%	100.0%	91.6%
% of respondents who conduct HIV counseling and Testing	36.9%	49.7%	34.8%	55.3%	48.0%	23.4%	94.1%	42.9%
% of respondents who have received Training on VCT Counseling	9.3%	11.1%	8.7%	8.2%	6.7%	5.5%	88.2%	10.2%
% of respondents who have read the National guidelines on VCT	49.1%	49.7%	47.8%	56.5%	47.3%	42.2%	88.2%	49.4%
% of respondents who have been trained on HIV counseling and Testing.	49.5%	55.0%	34.8%	49.4%	60.0%	43.0%	88.2%	52.1%
Average %	**48.3%**	**64.5%**	**60.9%**	**68.7%**	**63.3%**	**56.8%**	**94.1%**	**63.1%**

Figure 4.12 below, shows that, the level of knowledge on VCT has a direct bearing on VCT utilization among health providers. The VCT counselors who demonstrated a high level of knowledge on VCT at 94.1% are also indicated to have the highest VCT utilization level 94.1%, while the paramedics with the lowest level of knowledge on VCT 56.8% are found to have utilized VCT less at 41%. This outcome can be

explained by the fact that VCT Counselors and Doctors are relatively highly knowledgeable about VCT and are directly involved in rolling out VCT services as compared to the other cadres.

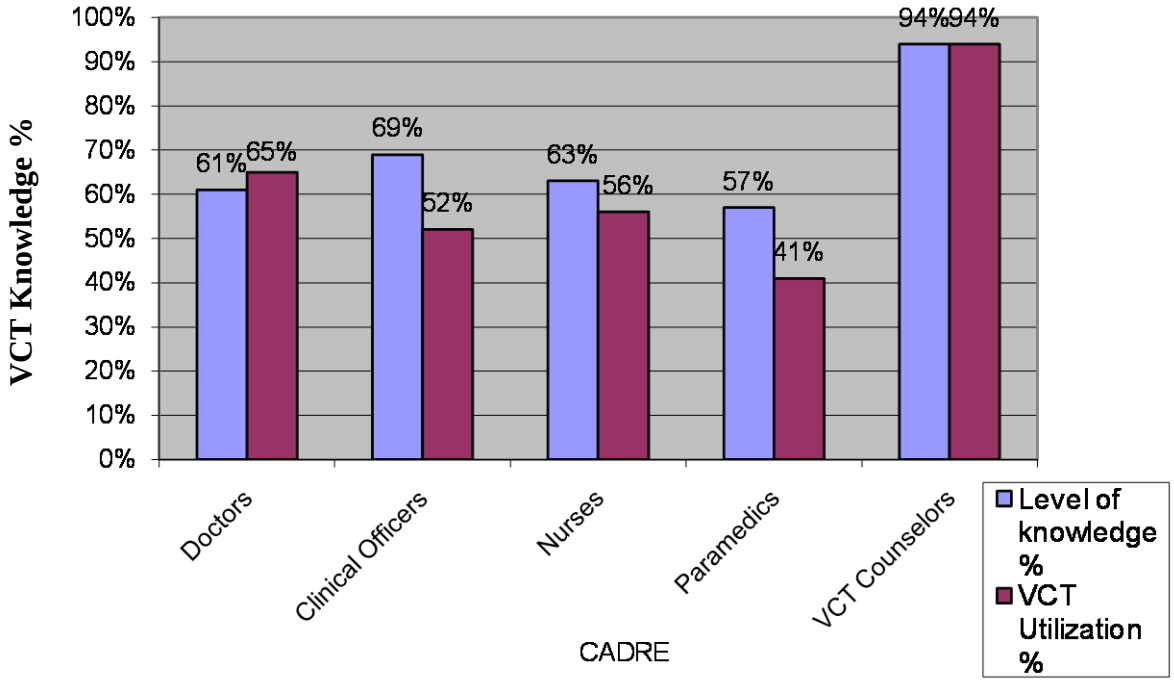


Figure 4.12: VCT Utilization by Level of Knowledge

4.1.4 Attitudes and perceptions of Health Care Workers towards VCT services

The attitudes and perceptions on VCT services by Health providers also have an impact on utilization of the services as found in this study.

4.1.4.1 Level of positive attitude / perceptions towards VCT utilization

To assess this variable, the respondents were evaluated on four indicators for attitudes and perception and an average score taken in respect of their gender and occupational classification. The indicators were to measure the level of positive attitudes / perception towards VCT utilization. The results showed that VCT counselors had the highest score (88.2%) on positive attitudes towards VCT utilization. The paramedics

emerged with the lowest score (67.4%).The females indicated a higher level of positive attitudes (77.0%) as compared to their male colleagues who scored 72.3% as shown in Table 4.4.

Table 4.4: Respondents Level of Positive Attitude / Perceptions towards VCT Utilization

	SEX		**Occupational Classification**					
Attitude/perception indicators	**Male n=214**	**Female n=189**	**Doctors n=23**	**Clinical officers n=85**	**Nurses n= 150**	**Paramedics n=128**	**VCT counselors n=17**	**Total n=403**
% of respondents with correct perception on who should visit a VCT Centre	97.7%	96.8%	100.0%	96.5%	97.3%	97.7%	94.1%	97.3%
% of respondents who have visited a VCT Center	49.1%	56.6%	65.2%	51.8%	56.0%	41.4%	94.1%	52.6%
% of respondents with positive attitude on if they wish to visit a VCT centre in future.	76.6%	81.5%	87.0%	77.6%	83.3%	71.9%	88.2%	78.9%
% distribution of respondents with correct perception on special circumstances for which health providers should go for VCT.	65.9%	73.0%	91.3%	75.3%	70.7%	58.6%	76.5%	69.2%
Average %	**72.3%**	**77.0%**	**85.9%**	**75.3%**	**76.8%**	**67.4%**	**88.2%**	**74.5%**

4.1.4.2 Level of positive attitudes among different cadres

The results show that the level of positive attitudes towards VCT utilization had a direct bearing on the utilization of VCT services. In Figure 4.13, VCT counselors who scored highest (88.2%) on positive attitudes towards VCT utilization also had the highest level of VCT utilization (94.1%). At the same times the paramedics who scored lowest (67.4%) had the lowest level of VCT utilization (41%). The Doctors had significantly high level of positive attitudes (85.9%) and their prevalence of VCT utilization was also high.

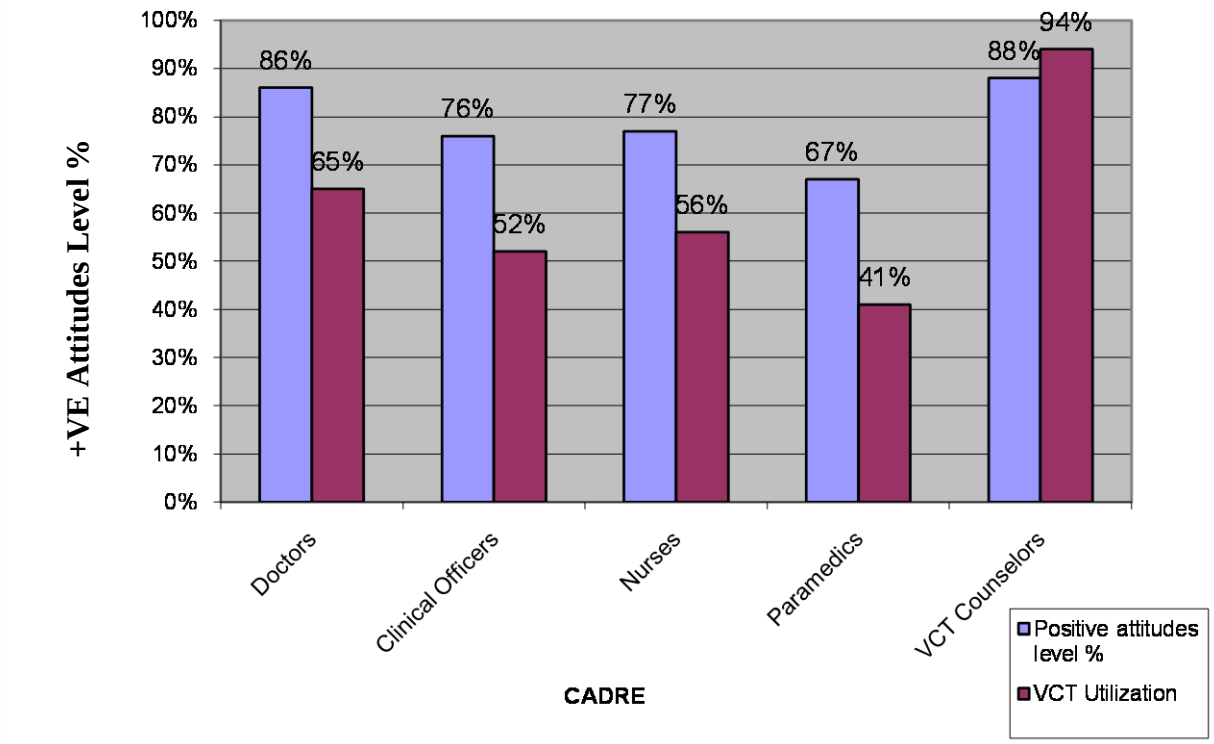


Figure 4.13: VCT Utilization by Level of Positive Attitude

4.1.5 Barriers to accessibility of VCT services by Health Care Providers

This study revealed a number of barriers which inhibit VCT utilization by Health providers.

4.1.5.1 Respondents' Reasons for not Utilizing VCT Services

Respondents described poor access to VCT services as a major problem in all Counties surveyed. Table 4.5 shows that, among the 161 respondents who never utilized VCT services and who responded to this question, half 86 (53%) gave fear of stigma as the main reasons for not utilizing VCT services while 42 (26%) said they did not utilize VCT because they trust their partners and 31 (19%) said the service personnel lacked confidentiality. This shows that stigma was the greatest reason for not utilizing services. Only 6 (4%) of the respondents gave the distance from VCT site as a reason for not utilizing the services and none said it was due to the cost of the services. These findings conform to other surveys done to find out the reasons why

HIV testing is low among the communities where fear of stigma and discrimination has been found to be the overriding factor (NASCOP, 2005). Therefore the most frequently cited explicit reason for low uptake of VCT services among health providers was fear of stigma and discrimination and confidentiality concern in the surveyed facilities. More than half of all 161 respondents gave this as a cause of low utilization of the service. The other explanations given by non-users of VCT services were; unreliable test results 11 (7%), fear of knowing his/ her status by 86 (53%), partner trust by 42 (26%) while the rest gave no reason. However, generally, this study revealed that, paramedical workers were the ones least concerned about their HIV status, and thus, requires VCT services more. There was little agreement, however, on the specific cadre of health providers at highest risk.

Table 4.5: Respondents Reasons for not Utilizing VCT services (n=161)

Reason	**SEX**		**Yes Responses**
	Male n=96	**Female n=65**	**Total %**
1. Fear instilled by religion	100%	40%	1%
2. Peer Resentment	18%	82%	7%
3. Trust partner	69%	31%	**26%**
4. Negative attitude of Health Personnel	82%	18%	11%
5. Distance of VCT centre	50%	50%	4%
6. Unreliable/ untrustworthy test results	82%	18%	7%
7. Service personnel, lack confidentiality	58%	42%	**19%**
8. Fear of stigma	63%	37%	**53%**
9. Delay in results	0%	0%	0%
10. Expensive Services	0%	0%	0%

*multiple responses

4.1.5.2 Key Barriers for VCT utilization

All the 403 respondents were supposed to respond to this question but only 399 responded. Figure 4.14 overleaf shows that, among the respondents, 241 (60.4%) said fear was the main barrier for VCT utilization while 221 (55.4%) indicated stigma and discrimination as the main barriers. The least cited barrier was unreliable test results with 33 (8.3 %) of the responses. This confirms fear, stigma and discrimination as the main reasons for failure of many health providers to attend VCT services or be tested for HIV.

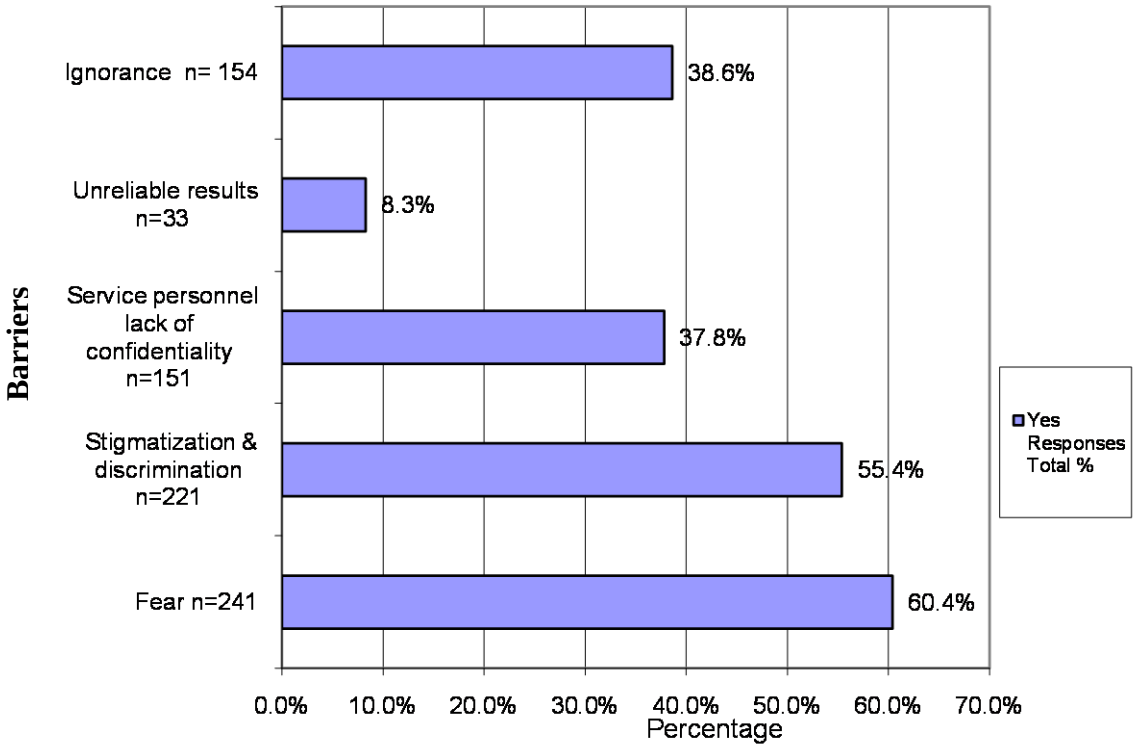


Figure 4.14: Major Barriers that hinder Health Workers from Utilizing VCT Services

4.1.5.3 Respondents Preferred Sites for VCT Services

All the 403 respondents were supposed to respond to this question but 3 failed to respond .The results in Figure 4.15 overleaf shows that, majority 326 (81.6%) preferred VCT centers which were in government health facilities. One third 132 (33%) preferred NGO sites while only 67 (16.8%) expressed preference for stand alone sites.

The fact that all health providers sampled work in government health facilities may explain their preference for government run VCT centers. One third who preferred NGO facilities are probably those who don't wish to be tested by their colleagues or to be seen in their facility VCT centers for fear of being associated with HIV infection.

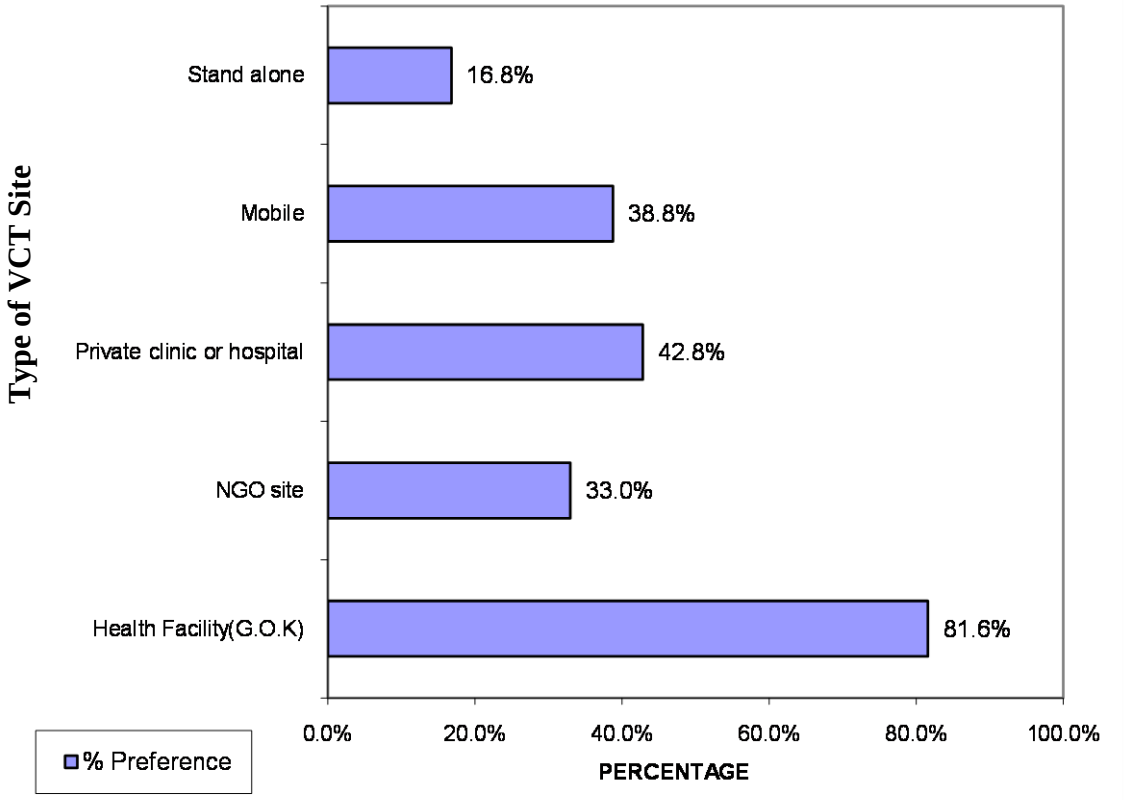


Figure 4.15 Respondents preferred sites for VCT services

4.2 Discussion

It is unfortunate to note that very few studies in Kenya and elsewhere in the world have been carried out in this area of the HIV pandemic. However, the few that are available still confirm the vulnerability of health providers to HIV infection and therefore the need for them to attend VCT for HIV testing. The main purpose of this study was to determine the level of utilization of VCT services by health providers. One of the key findings in the study was that only half (52.6%) of health providers had utilized the services while the other half (47.4%) who had not attended VCT gave an array of reasons for their inability to be tested for HIV at VCT centers. Population data provided by Kenya Demographic Health Survey (KDHS, 2007) shows that only 36% of Kenyans know their HIV status (KNASP, 2009/10-2012/13). This study shows that HIV testing among Health care providers is slightly higher (52.6%) than that in the general public (36%).

This study also found that, the main factors that affected utilization of VCT by health providers included among others, level of knowledge on VCT, the respondents' level of education, attitudes and perceptions towards VCT and their accessibility to VCT services. The level of knowledge on VCT and the risk of HIV infection among health workers varied along their specific occupational categories as demonstrated in this study. VCT Counselors had the highest level of knowledge (94%) with the paramedical category emerging with least level of knowledge (56.8%) on VCT. This clearly shows that there are gaps in knowledge on VCT among the health providers which need to be addressed. It is a known fact from studies that, knowledge in the context of HIV and VCT and the inherent benefits is a driving force towards increasing demand for VCT uptake (Impact, 2005).The higher knowledge on VCT

demonstrated by Health providers in this study can be attributed to the health personnel's higher level of knowledge and exposure to VCT as compared to the general public. In a study on Knowledge, Attitudes and Practices (KAP) of Health Care Workers in Madagascar in July 2004, it was shown that scientific knowledge on HIV was poor among Healthcare Workers (Hentgen *et al*., 2007), these findings conform with the findings in this study which has revealed gaps in knowledge on HIV and VCT especially on the paramedical category of health providers. Health workers have the double risk of contracting HIV both at work and at home. Many studies have shown that, there is enhanced vulnerability of HIV infection among health providers; however the main concern here is whether this vulnerable group is conscious of their situation.

This study like others done before showed that the Kenyan health workers are fully aware of their risk of HIV infection with 98.3% of all the respondents saying they were very concerned about getting HIV/ AIDS at workplace. This concern is very important since it will act as a driving force towards enhancing risk reduction practices in both their areas of work and also in their social lives. These findings also underscore the importance of a workplace policy to address the potential risks of HIV infection and outline the preventive measures to be taken by health providers.

Attitudes and behavior is another major factor in acceptance of one's HIV/AIDS status and utilization of VCT. This study found that positive attitude towards HIV/AIDS and VCT utilization was fair across the various cadres of health providers as shown in Table 4.4. However, the level of positive attitudes by some cadres for example paramedical personnel was relatively low (67.4%) compared to VCT

Counselors (88.2%), Doctors (85.9%), Nurses (76.8%), and Clinical Officers (75.3%). This low level of positive attitude found among the paramedical category of health workers may have affected their rate of VCT uptake which was also found to be low (41%). This underlines the need to address the issues of attitudes towards HIV/ AIDS and VCT utilization among these categories of health providers.

A study carried out in India indicated that HIV/AIDS was accelerated by people attitudes. The study done in 2004 revealed that, 80% of the respondents had the wrong attitudes towards the infection (WPC, 2005). During the 13th ICASA conference in Nairobi in September 2003, Christian and Muslim leaders who attended the International conference confirmed that, the two religions hampered negative attitude towards people living with HIV /AIDS (PLWHA) which they needed to address in their Churches and Mosques (UNAIDS, 2005). A highly significant number of the health providers in this study showed a willingness to test for HIV in future. In the study 78.9% of those who had not visited a VCT centre expressed willingness do so in future; while 81.4% of the total 403 respondents expressed their wish to have an HIV test in future either for initial testing or re-testing. This level of attitude towards future HIV testing was quite encouraging and contradicts the 2004 Indian study mentioned above.

According to UNAIDS , although VCT is becoming increasingly available in developing and middle income countries many people are still very reluctant to be tested .This is the result of barriers to VCT which include poverty, competing priorities, low awareness, lack of confidentiality and fear of stigma and discrimination (UNAIDS, 2007). This study identified quite a number of barriers that hinder

utilization of VCT services by health providers. Top among the reasons identified was fear of stigma, expressed by 53% of respondents who had not been tested for HIV. Others included partner trust (26%) and services personnel lack of confidentiality 19%, as shown in Table 4.5. when asked their opinion on the barriers that hinder health providers from attending VCT services, 60.4% of the 403 respondents said it was fear while 55.4% of them cited stigma and discrimination only 8.3% mentioned unreliable test results as a barrier as shown in Figure 4.14. However this was a multiple response question and the responses were not mutually exclusive, meaning, one could give more than one barrier. This study has shown clearly that fear, stigma and discrimination are the major barriers towards VCT utilization and HIV testing by health providers.

These findings are in agreement with others from studies conducted elsewhere in Africa. For example, in a study carried out on HIV Testing attitude, AIDS stigma and Voluntary HIV testing in a black township in Cape Town, South Africa, results indicated that AIDS related stigma create barriers to seek VCT. The participants in this study who were not tested for HIV held significantly more AIDS related stigmatization beliefs than people who had been tested (Kalichman, 2006). The barriers seem to have a great influence on VCT services utilization, for example, a related study in Malawi revealed that onsite same day confirmed results had been associated with a fourfold increase on utilization of VCT (CDC, 2007).

In a similar study conducted in Uganda, it was shown that factors that influence VCT utilization included cost of VCT, availability of Anti-retroviral drugs and quality of care of VCT services (Kalichman, 2006). In this health providers study however, the cost of VCT services and physical accessibility did not emerge as significant reasons for failure to attend VCT services by health providers. This study revealed sub

optimal utilization of the VCT services by health providers in all the surveyed facilities, however, the utilization was geographically variable among the five surveyed Counties with Embu county recording the highest rate of utilization (61.2%) and Makueni the lowest 48% as shown in Figure 4.10 . This variability can be attributed to the VCT accessibility in the various Counties. Embu County had more operational VCT sites (10), than Makueni (8) (PMO Report, 2006). The other main factor is that Makueni is a vast County with difficulty terrain and poor road network while Embu is a small County with most of the roads tarmarked.

Where a VCT site is situated is very important for easy access by the clients. Due to their own convenience different clients prefer different VCT sites. Sitting of VCT centers is one of the organizational efforts geared towards customer or clients care (NASCOP, 2005). To some clients where a VCT centre is sited can act as a barrier towards VCT utilization. This study found that 81.6% of health providers preferred to use integrated VCT sites found in GOK health facilities while another 42.8% preferred to use private VCT facilities as shown in Figure 18. However this was a multiple response question and one could choose more than one preference. These finding can be explained by the fact that 83% of the registered VCT sites in this country are integrated sites in hospitals and health centers. These are therefore the most accessible sites for health providers and even the general public (KDHS, 2003). According to NASCOP, Eastern Province is one of the provinces least covered with VCT centers. The target population is 71,561 people per VCT in Eastern province as compared to Nairobi with 25,204 people per VCT (NASCOP, 2005). This can explain further why VCT uptake in the province is still poor among health providers and the public in general.

A number of studies have been carried out in Africa to emphasize on the risk of infection and impact of HIV among Health Care Providers encountered daily in their workplace and the ultimate reason that they all require Voluntary Counseling and HIV testing. The potential risk of HIV infection among health providers especially through percutaneous injuries is very high as found in a study done in Nigeria. In that study, 91% of health care workers (HCWs) considered themselves very concerned about their occupational risk of HIV acquisition. The Nigerian study was done in 2003 to characterize the epidemiology of percutaneous injuries of health care workers. It highlighted the details of needle stick and sharp instrument injuries on HCWs at University Hospital and Clinics in Ile–lfe Nigeria. The results revealed that, needle stick accidents during the previous years were reported by 27% of the 474 HCWs, including 100% of dentists, 81% of surgeons, 32% of non surgical physicians and 31% of nursing staff. All HCWs, in this study were aware of the potential risk of HIV transmission through percutaneous injuries (Adegboye *et al*., 2005). In a similar study carried out in 2005 in the same country (Nigeria), on occupational risk of infection by HIV as well as Hepatitis B Virus (HBV) , it was shown that the risk of acquiring HIV and HBV infection by health workers in the course of performing their duties was apparently high (Ansa *et al*., 2006)

Other studies in Africa that have expressed the vulnerability of Health providers to HIV infection include one done in South Africa on the impact of HIV/AIDS on the health sector . This south African National survey done in 2002 found that an estimated 15.7% of health workers in public and private hospitals were found to be HIV positive and 13% had died from HIV / AIDS related illnesses from 1997 to 2001 (UNAIDS, 2003). In 2004, a related study was carried out to look at the challenges

facing the Kenyan Health workforce during the era of HIV/AIDS. The descriptive cross-sectional study was done to assess the health workforce and investigate the impact of HIV/AIDS on service delivery of key health care sector providers in Kenya. The study results showed that, the health work force has declined in size from 50,504 workers in 1996, to 45,694 in 1999 (189 deaths) and 2000 (198). Between 1996 and 2001, more that 200 nurses and 56 clinicians were reported deceased although the causes of death were not reported. More than half were between the ages of 30 and 44 years. During this five-year period, Nyanza Province lost the largest number of health workers (141) due to death. The assessment looked at 327 deaths of health workers recorded between 1996 and 2002. Of the 170 that listed the cause of death, 45 percent were due to AIDS and AIDS –related illnesses including pneumonia, tuberculosis, chronic diarrhea and immunosuppression (MoH, ECSA, 2006).

This is in conformity with a recent report from the Ministry of Health which reveals that, according to records available in the ministry; between 10 – 20 % of health care workers in Kenya is HIV positive (MoH report, 2006). In Zambia another research was done on HIV/AIDS Needs of Hospital Workers in 2004 and reported in 2005. In this study it was found that health personnel need psychosocial support as they are burdened by caring for patients both at work and at home. Health Workers need support for risk reduction for not only are they at risk of HIV due to occupational factors, but many are at risk because of personal sexual behavior as well (Kiragu *et al*., 2008). Looking at these research findings against the findings in this study, it is apparent that more research needs to be carried out on health personnel in Kenya focusing on HIV impact and response.

CHAPTER FIVE

5 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter gives a summary of the study findings, the conclusions drawn from the findings and recommendations.

5.1 Summary

5.1.1 Socio – Demographic Characteristics

This study involves 403 respondents, a good number (49.1%) who were drawn from Makueni District. The males (53.1%) were slightly more than females (46.9%) and most of the respondents where youthful workers. When categorized by occupation, nurses were well represented (37.2%). About 46% of the respondents had worked for between 1 and 9 years in the Ministry of Health. Many of the respondents (59%) had attained Diploma level of education with quite a few (7%) had University degrees. Catholic and Protestant were the dominant religions among the respondents accounting for 98%. Many of the health providers interviewed were either married or cohabiting with sexual partners (68%).

5.1.2 Utilization of VCT Services

Only half (52.6%) of the health providers had utilized VCT services, but 60% of them had been tested for HIV, some of them outside VCT Centers. Therefore, among those tested for HIV, only 12% were tested outside VCT centre. VCT Counselors had utilized VCT services more than any other cadre with 94% of them having been tested at VCT centers followed by doctors (65%). Paramedics had utilized VCT services least (41%). Level of education emerged as a factor influencing utilization as found in this study, where 60% of those with University

education had utilized the services as compared to 53.2% of those with college certificates. Half of the married health providers had utilized VCT services as compared to 67% of those separated or divorced and 59% of the single respondents. More women (57%) had utilized VCT service as compared to their male counterparts (49%). In the area of HIV testing majority of those who had tested were females (66.1%) compared to males (54.5%). Health providers from Embu County had utilized VCT services more than any other Counties with 61.2% of the respondents having been tested at VCT. Makueni County had the least number of respondents (48%) who had utilized VCT service. This study reveals that the percentage of health providers who had utilized VCT services in Health Centers was higher than that in Hospitals. This shows that those health providers in health centers are more likely to utilize VCT services than those working in the hospitals.

5.1.3. The factors influencing VCT utilization

The level of knowledge on VCT among the VCT Counselors (94%) was found to be higher than in any other cadre, but the paramedics had the least knowledge level (56.8%) among the various categories of health providers. When compared per gender, women had more knowledge (64.5%) that the males (48.3%). The study shows that the level of knowledge has a direct bearing on the utilization of VCT services since the VCT Counselors who had demonstrated a higher level of knowledge (94%) on VCT also had the highest level of VCT utilization (94%) while paramedics demonstrated the least level of knowledge (56.8%) and the least level of VCT utilization (41%). Other factors that influence VCT utilization as found in this study includes, Cadre, level of education and marital status.

5.1.4 Respondents Attitudes and Perceptions towards VCT

Positive attitude towards VCT utilization was found to be high (88.2%) among VCT counselors and low (67.4%) among paramedics. Comparing the level of utilization among the various categories of health providers and attitude, those with higher level of positive attitudes were found to utilize VCT services more, for example VCT counselors with high level of positive attitude (88.2%) utilized VCT more (94%) compared to paramedics whose level of positive attitude (67.4%) had a lower level of VCT utilization (41%).

5.1.5 Respondents Accessibility to VCT Services

The three major barriers that hinder access to utilization of VCT services by health providers include, fear (60.4%), stigma and discrimination (55.4%) and ignorance (38.6 %). When asked the reason why they never utilized VCT services, half of those who had never utilized the services said it was due to fear of stigma. Cost of services did not emerge as significant reasons for not utilizing the services by the health providers. The study showed that 81.6% of the respondents prefer to be attended for VCT services in centers established in Government health facilities; only 16.8% prefer stand alone VCT centers.

5.2 Conclusion

5.2.1 Demographically, with 49.1% of respondents having been drawn from Makueni County, this may seem to have introduced some bias as far as the generalization of the results for Eastern Province are concerned but having 51% of the data from four (4) other Counties, this bias is insignificant. In terms of their occupations, a good number of the respondents (37.2%) were nurses and this implies that any interventions that may be introduced to scale up VCT utilization among health providers should focus more on this cadre of health workers. On their education level, majority of the health providers (59%) had attained diploma level of education and therefore it will be easy to impact knowledge on VCT and also to scale up VCT utilization among them. With 64% of the respondents found to be between 20 and 39 years of age this implies that majority of the health providers are within the reproductive age bracket and therefore the more reason for them to visit VCT centers for HIV testing.

5.2.2 While only a half of the health providers had been able to utilize VCT services, this implies that a very significant number are not aware of their HIV status. Looking at the various categories of health providers the study revealed that about 60% of paramedics had not been counseled and tested for HIV. This in effect shows that, this large number of paramedics will not be effective in promoting VCT utilization among the members of the general population which is part of their fundamental responsibility. Among the five district sampled, health providers in Makueni County had utilized VCT services least (48%). This implies that 52% of health workers in this County have not

utilized the services. Therefore efforts to promote utilization of VCT services should focus on this County among others in the country. Efforts to increase utilization of VCT should also focus on the main hospitals which have a higher population of health workers and relatively low utilization level of the services when compared to the health centers. In conclusion health providers are not utilizing VCT services effectively and therefore there is need to promote the utilization of VCT services among them.

5.2.3 Generally, health providers demonstrated a fair knowledge on VCT across board, but the fact that the paramedical category of health providers demonstrated a relatively limited knowledge level (56.8%) shows that a gap in knowledge still exists especially in some cadres of health workers. And since also in this study it was shown that, the level of knowledge about VCT has a direct bearing on VCT utilization, and then there is need to bridge the gaps of knowledge as found in some of the health providers' categories. To conclude, the level of knowledge about VCT services among health providers is fair (63.1%) however , there is an urgent need to address the gaps of knowledge found in some of the categories e.g. paramedical health providers in order to scale up VCT utilization among them.

5.2.4 Positive attitude towards VCT utilization among health providers was found to be satisfactory across board. However, variation emerged among the various categories of health providers. The paramedical group of health workers had a relatively low positive attitude (67.4%) towards VCT utilization and therefore this implies that quite a significant number (32.6%) of this group had negative attitude towards VCT utilization. There is therefore a need to address attitude

change focusing on some of the health workers categories. The level of positive attitude towards VCT utilization was also found to have a direct bearing on the utilization of VCT services among the health workers. In conclusion, this research found that there are gaps in attitude towards VCT utilization among health providers which needs to be addressed if utilization is to be scaled up among them.

5.2.5 VCT accessibility among health providers is mainly hindered by fear of stigma and discrimination according to this study. This outcome is in line with findings from other surveys done by NASCOP, KDHS–2003 and KAIS- 2007 in the general public. However, lack of confidentiality to service personal was also cited by 19% of the health providers as a reason which caused them not to attend VCT services. There is therefore an urgent need to improve the quality of services at the VCT centers and hence increase confidentiality among the VCT counselors towards their clients. About 26% of the health providers said they trust their partners and therefore see no reason to test for HIV or attend VCT. This shows a gap in knowledge on the purpose of VCT testing which also needs to be addressed. Unlike in other general community based surveys, distance from VCT centre and cost of the services did not feature as a barrier for VCT utilization among health providers. In conclusion VCT services are accessible to health providers in terms of distance and cost but still fear, stigma, discrimination and lack of confidentiality with the service personnel, keep many of the health providers away from VCT services.

5.3 Recommendations

5.3.1 Health care facilities contain a wide array of non medical staff, such as administrators, support staff and custodial staff. The Government and Partners in health, who are implementing workplace activities in a hospital setting need to cater for divergent levels of health personnel and medical expertise.

5.3.2 The government needs to develop a workplace policy for health workers which will address their special needs at workplace and also enhance prevention of occupational risks of HIV transmission at their work stations. This policy should also come up with means of compensating those who get HIV infection through work place related risks.

5.3.3 The Kenyan government through NASCOP will need to develop a work place programme for health providers to promote VCT utilization and especially focus on the paramedical staff.

5.3.4 NASCOP will require improving the confidentiality and privacy of VCT clients through the VCT counselors who may need a refresher course in this aspect.

5.3.5 The gaps found in knowledge on VCT can be addressed by government / NASCOP or partners through health education on VCT and provision of reading materials to health providers.

5.3.6 The negative attitude on VCT utilization by health providers as found in this study needs to be addressed by government and other partners through education and development of a workplace programs to improve positive attitude.

5.3.7 The initiatives that are addressing HIV/AIDS fear, stigma and discrimination among the general public should be extended to health providers.

5.4 Further Research

- There is need to do a survey to come up with the actual HIV prevalence among health providers as a high risk group for HIV infection.

- It's not clear in this research why knowledge on VCT is relatively low among the paramedical staff and this may also need to be looked at further.

REFERENCES

Adegboye, A .A., Moss, G B., Sonyika, F., Kreiss, J.K. The epidemiology of needle stick and sharp instrument accidents in a Nigeria Hospital. Ile-Ife, Nigeria, 2005.

Alta, V.D. HIV/AIDS Care and Counseling: *4nd edition, **97**(8): 101-126*. Johannesburg, South Africa, 2008.

Alwano –eduegu, M.G and **Marum, E.** Knowledge is power. Voluntary Counseling and Testing in Uganda. *UNAIDS Case study, **23**(6): 59-72*. Geneva, Switzerland, June 2005.

Ansa, V.O., Udona, E.J. Occupational risk of infection by human immunodeficiency and hepatitis B virus among health workers in South Eastern Nigeria: University of Calabar Teaching Hospital, 1278 Calabar, 2006.

Assimwe-Okiro, G., Opio, A.A., Musinguzi, J., Madara L. Change in sexual behavior and decline in HIV infection among young pregnant women in Uganda. Kampala, Uganda, 2008.

Balmer, D.H., Grinstead, O.A., Kihuho, F., Gregorich, S.E., Sweat, M.D., Kamega M.C., Plummer, F.A., O' Reilly, K.R., Kalibala, S., Van Pragg, E., and **Coates, T.J.,** The role of HIV Counseling and Testing in the developing world, 2008. *African Medical Journal 4(1): PP.15-23.*

Boswell, Deborah and Baggaely, Rachel. Voluntary Counseling and Testing and Young people. Lusaka, Zambia, 2007.

CDC, Global AIDS Program; Washington DC; USA, 2007.

Family Health International. Evaluating HIV Counseling and Testing and Programs for HIV/AIDS Prevention and Care in Developing Countries. *A Handbook for Program Managers and Decision-Makers, **38** (11): 95-113*. September, 2006.

FHI. Models of HIV Voluntary Counseling and Testing Service Delivery, 2005.

Fykesnes, K., Ndhiovu, Z., Kasumba, K., Mubanga., Musonga, R., Sichhone, M. Studying dynamics of the HIV epidemic; population based data compared with sentinel surveillance in Zambia. *African Medical Journal, **12** (19): 1227-1234*, Lusaka, Zambia, 2005.

Gampbel, C., Marum, E., Alowano- Edweguum., Dillon, B., Moorem and **Gumisiriza, E.** AIDS Education and Prevention. *WHO publications 9, Suppliment B; PP 92*-104 Geneva, Switzerland, 2007.

Hentgen, V., Jaureguiberry, S., Rariharisoa, J. Knowledge, Attitude and Practices of Health Personnel with regard to HIV/AIDS in Tamatave. Madagascar, 2007.

IMPACT Project. Current Issues in HIV Counseling and Testing in South and South East Asia; Geneva; Switzerland, 2005.

Japheth, N., Ties, B., Bennett, J. HIV prevention and AIDS care in Africa, Geneva, Switzerland, 2006.

Japheth, N., Ties, B., Bennett, J. HIV prevention and AIDS care in Africa, Geneva, Switzerland, 2009.

Kalichman, S.C., and **Simbayi, L.C.** HIV testing attitudes, AIDS stigma, and voluntary HIV counseling and testing in a black township Cape Town; *African Medical Journal **79**: pp 442-447*, Cape Town, South Africa, 2006.

Kenya, Ministry of Health (NASCOP). AIDS in Kenya. *7th Edition, **17** (3): 68-96*. Nairobi, Kenya, 2006.

Kenya, Ministry of Health, National AIDS and STD Control Programme (NASCOP). National Guidelines for Voluntary Counseling and Testing. Nairobi, Kenya, 2001.

Kenya, Ministry of Health, National AIDS and STD Control Programme (NASCOP). National guidelines for HIV and Testing Counseling 2008. NASCOP, Nairobi, Kenya, 2008.

Kenya, Ministry of Health, National AIDS and STD Control Programme (NASCOP). HIV/AIDS Decentralization Guidelines. June , 2009.

Kenya, Ministry of Health, National AIDS and STD Control Programme (NASCOP). National Guidelines for HIV Testing and Counseling, 2009.

Kenya, Ministry of Health, National AIDS and STD Control Programme (NASCOP). Annual Sector HIV Report, 2009. *Progress with the National Health Sector Response, **5**(1) pp 41-59.* November, 2010.

Kenya, Ministry of Health. Kenya AIDS Indicator Survey (KAIS), 2007.

Kenya, Ministry of Health. Kenya AIDS Indicator Survey (KAIS), 2012.

Kenya, Ministry of Health. MOH report 2006. Nairobi, Kenya.

Kenya, Ministry of Health. MOH report 2009. Nairobi, Kenya.

Kenya, Ministry of Health. Provincial Medical Officer (Eastern) report, 2008.

Kenya, Ministry of Planning, Kenya National Bureau of Statistics. Population and Housing Census Report, 2009.

Kenya, Ministry of Planning, Population Council. Kenya Demographic Health Survey (KDHS) Report, Nairobi, Kenya, 2003.

Kenya, Ministry of Planning, Population Council. Kenya Demographic Health Survey (KDHS) Report, Nairobi, Kenya, 2008/9.

Kiragu, K., Ngulube, T., Nyumbu, M. "Caring for Caregivers: the HIV/AIDS needs of hospital workers in Zambia.'' *Horizons Research Summary, **19**: pp 92-98*. Population council: Washington, D.C, 2008.

Kisesa, Annefrida, Z., Nkungu, Dulle. Demand creation for VCT services by Social marketing – *Angaza experiences Report, **25**(1) 73-99*. Dar el salaam, Tanzania, 2007.

Ladner, Joel. Factors associated with refusal for HIV VCT in Sex Workers (SWs) in Bobo-Dioulasso , Burkina Faso, June, 2005.

Ministry of education Science and Technology. Strategic Plan 2005 – 2010 Nairobi, Kenya, 2007.

Ministry of Health, (MoH, ECSA). Report on challenges facing the Kenyan Health workforce in the Era of HIV/AIDS. CRHCS – ECSA. Arusha, Tanzania, 2006.

Ministry of Health, Makueni Annual Report, 2009.

Ministry of Health, Makueni District HIV Report, 2009.

Nabwisof., Moorem., Tukwasiibwe, E., Higgin, D. HIV Screening and Testing (CT) in Young Ugandans, Kampala , Uganda , 2008.

NASCOP; http://www.AIDS Kenya. Org, 2005.

National AIDS Control Council (NACC). The Kenya National HIV/ AIDS Strategic Plan 2000-2005, Nairobi, Kenya, October, 2005.

National AIDS Control Council (NACC). The Kenya National HIV/AIDS Strategic Plan 2005/6 – 2009/10, Nairobi, Kenya, 2006.

National AIDS Control Council (NACC). the Kenya National HIV/AIDS Strategic Plan 2009/10 – 2012/13, Nairobi, Kenya, 2010.

Odhiambo, J. Community involvement in initiatives to prevent MTCT of HIV. Cape Town, South Africa, 2007.

Sangiwa, Gloria. (VCT Technical Adviser, Population Services International, Zimbabwe); Characteristics of individuals and couples seeking HIV1 prevention services in Nairobi, Kenya – *The Voluntary HIV1 Counseling and Testing services efficacy study, **34**(8):123-168*, Nairobi, Kenya, 2008.

Shisana, Olive. The Impact of HIV/AIDS on Health Sector. *National Survey of Health Personnel, ambulatory and hospitalized patients in health facilities, **29** (9): 64-157*, Cape Town, South Africa, 2007.

UNAIDS. Report on the Global epidemic, 2008.

UNAIDS. African Gender and Media publication. ICASA GEM. Nairobi, Kenya, 2003.

UNAIDS. AIDS Epidemic update, December, 2007.

UNAIDS. Annual Report 2009, *Uniting the World against AIDS, **27**(3): 72-89*, January, 2009.

UNAIDS. Innovative Approaches to HIV Prevention. *Selected cases studies, **7**(2): 56-105*. Geneva, Switzerland, 2007.

UNAIDS. Progress Report on the Global Response to HIV/AIDS, September, 2003.

UNAIDS. Report on the Global epidemic, 2007.

UNAIDS. Report on the Global epidemic, 2009.

UNAIDS. Report on the Global epidemic, 2010.

UNAIDS. Report on the Global epidemic, 2012.

UNAIDS. Report on the Global epidemic. Geneva, Switzerland, 2006.

UNAIDS. Voluntary Counseling and Testing in United Nation Peace keeping operation. New York, USA, 2005.

UNAIDS/WHO. Voluntary Counseling and Testing Technical update, 2007.

UNICEF, IFA. AIDS News Service. Geneva, Switzerland, 2007.

UNICEF. www.unicef.org; Unicef, Kenya Statistics. Geneva, Switzerland, 2010.

WHO. Voluntary Counseling and Testing for HIV Infection in Antenatal Care. Geneva; Switzerland, 2006.

World Health Organization (WHO). The Global AIDS Strategy. *WHO Publications, World Health Organization, **127**(3):1042- 1211*. Geneva, Switzerland, 2006.

World Health Organization. HIV/AIDS and Sexually Transmitted Infections Initiative. Geneva, Switzerland, January, 2006.

World Population Concern, UNFPA. The International Guidelines on HIV/AIDS and Human Rights. Geneva, Switzerland, 2005.

ANNEX: 1 HEALTH WORKERS QUESTIONNAIRE

THE UTILIZATION OF VOLUNTARY COUNSELING AND TESTING SERVICES BY HEALTH PROVINDERS IN KENYA

IDENTIFICATION

PROVINCE: EASTERN [1]

COUNTY _____
MAKUENI=1 MACHAKOS=2 KITUI=3 EMBU=4 MERU=5

NAME OF THE FACILITY _____

TYPE OF THE FACILITY _____
HOSPITAL=1 HEALTH CENTER=2 DISPENSARY=3 OTHER (SPECIFY)=4

AFFILIATION/ FUNDING OF THE HEALTH FACILITY _____
PUBLIC (GoK)=1 MISSION=2 NGO=3 OTHER (SPECIFY)=4

INTERVIEW DETAILS

		FINAL VISIT
DATE	_____	DAY / MONTH / YEAR
INTERVIEWER'S NAME	_____	INT.CODE
RESULT**	_____	RESULT
TIME	_____	

** RESULT CODES:
1 COMPLETED
2 POSTPONED
3 REFUSED
4 PARTLY COMPLETED
5 OTHER _____ (SPECIFY)

LANGUAGE

LANGUAGE OF QUESTIONNAIRE: **ENGLISH** [1 3]

LANGUAGE OF INTERVIEW *** _____

HOME LANGUAGE OF RESPONDENT*** _____

WAS A TRANSLATOR USED? (YES=1, NO=2).....

*** LANGUAGE CODES:

01 EMBU	04 KIKUYU	07 LUO	10 MIJIKENDA	13 ENGLISH
02 KALENJIN	05 KISII	08 MASAI	11 SOMALI	14 OTHER_____
03 KAMBA	06 LUHYA	09 MERU	12 KISWAHILI	

SUPERVISOR	FIELD EDITOR	OFFICE EDITOR	KEYED BY
NAME _____	NAME _____		

INFORMED CONSENT

INTRODUCTION AND CONSENT

Hello. My name is _____ I am with Kenyatta University's School of Public Health. I'm carrying out a research on **Utilization of VCT services by health personnel.**
The Questionnaire addresses various issues regarding VCT utilization and constraints. You have been chosen as one of the participants of this study. Kindly assist me answering the questions as accurately as possible. Confidentiality of the information given will be highly maintained. It will be used for academic purposes only. Thank you for your cooperation.

Do you have any questions about the survey? May I begin the interview now?

Signature of interviewer: _____ Date: _____

RESPONDENT AGREES TO BE INTERVIEWED .....1 RESPONDENT DOES NOT AGREE TO BE INTERVIEWED ... 2 —<END

SECTION 1. RESPONDENT'S BACKGROUND CHARACTERISTICS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP	CODE
	Interviewer Read: First I would like to ask you some questions about yourself?			
101	Sex	MALE ..... 1 FEMALE 2		
102	What is your date of birth?	DAY ..... MONTH ..... YEAR		
103	How long have you worked in the facility? YEARS			
104	What is your Job? (Circle all that apply)	MEDICAL OFFICER/ PHARMACIST/ DENTIST ..... 1 CLINICAL OFFICER ..... 2 NURSE (REGISTERED/ ENROLLED) ..... 3 VCT COUNCELLOR ..... 4 PARAMEDIC ..... 5 ADMINISRATION/ MANAGEMENT ..... 6 STUDENTS ..... 7 SUPPORT STAFF ..... 8 OTHERS (SPECIFY) 9		
105	In which department(s) are you currently working?			
106	What is the highest level of education you have attained (Circle only one answer)	PRIMARY ..... 1 SECONDARY ..... 2 CERTIFICATE ..... 3 DIPLOMA/ HIGHER DIPLOMA ..... 4 UNIVERSITY DEGREE ..... 5 POST GRADUATE ..... 6 OTHERS (SPECIFY) 7		

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP	CODE
107	What is your Religion? (Circle only one answer)	CATHOLIC ..... 1 PROTESTANT ..... 2 MUSLIM ..... 3 TRADITIONALIST ..... 4 NO RELIGION/ NONE ..... 5 OTHER (SPECIFY) 6		
108	What is your marital status? (Circle only one)	MARRIED ..... 1 NOT MARRIED BUT LIVING WITH PARTNER ..... 2 SINGLE ..... 3 SEPERATED ..... 4 DIVORCED ..... 5 WIDOW/ WIDOWER 6	<201	
109	If married (male) do you have more than one wife? If yes, how many?	YES ..... 1 NO 2		
110	If married (female) does your husband have more than one wife? If yes, how many?	YES ..... 1 NO 2		

SECTION 2. KNOWLEDGE ON OCCUPATIONAL RISKS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP	CODE
201	Would you say the supply of protective equipment (supplies) is adequate/inadequate or not available in this facility?			
	GLOVES	ADEQUATE.....1 INADEQUATE .....2 NOT AVAILABLE.....3		
	GOWNS	ADEQUATE.....1 INADEQUATE .....2 NOT AVAILABLE.....3		
	DISPOSAL FOR SHARPS	ADEQUATE.....1 INADEQUATE .....2 NOT AVAILABLE.....3		
	DISINFECTANT	ADEQUATE.....1 INADEQUATE .....2 NOT AVAILABLE.....3		
	SOAP	ADEQUATE.....1 INADEQUATE .....2 NOT AVAILABLE.....3		
	RUNNING WATER	ADEQUATE.....1 INADEQUATE .....2 NOT AVAILABLE.....3		
202	In this facility are there written guidelines about actions a health worker should take if he or she is accidentally exposed to HIV at work?	YES.....1 NO.....2 DON'T KNOW 3		
203	How concerned are you about getting HIV/AIDS at your workplace?	VERY CONCERNED.....1 SOME WHAT CONCERNERNED .....2 NOT CONCERENED.....3		
204	Do you know what post exposure prophylaxis (PEP) is?	YES.....1 NO.....2		

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP	CODE
205	Is post Exposure prophylaxis available for health workers own use in this facility or elsewhere?	YES AVAILABLE .....1 NO NOT AVAILABLE .....2 DON'T KNOW/ NOT SURE 3		
206	In the last 12 months have you had a situation at work when you thought you were infected with HIV?	YES.....1 NO.....2	—<208	
207	How many times has that happened in the last 12 months?			
208	The last time you felt you might have been exposed to HIV in your workplace did you seek post exposure prophylaxis?	YES.....1 NO.....2	—<301	
209	If No. Why didn't you seek post exposure prophylaxis? (at least 3 reasons)	DID NOT HAVE ENOUGH INFORMATION ON PEP.....1 DID NOT WANT TO TAKE HIV TEST .....2 PEP NOT AVAILABLE .....3 DID NOT KNOW WHERE TO GO .....4 WAS AFRAID OF GOING THROUGH THE PROCESS.....5 DID NOT NEED IT (NEVER HAD AN ACCIDENT) .....6 OTHERS (SPECIFY).....7		

SECTION 3. KNOWLEDGE ON HIV/AIDS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP	CODE
301	HIV/AIDS is a serious health problem known world wide, and I'm sure you know it. What is your source of information (circle more than one answer)	MASS MEDIA..... 1 MEDICAL INSTITUTIONS..... 2 WORKSHOPS/ SEMINARS ..... 3 EDUCATION INSTITUTION..... 4 FRIENDS ..... 5 AT HOME ..... 6 VCT CENTERS..... 7 OTHERS..... 8 (SPECIFY)		
302	How can one acquire/get HIV/AIDS? (Circle more than one)	SEXUAL INTERCOURSE ..... 1 BLOOD TRANSFUSION ..... 2 SHARP INSTRUMENTS ..... 3 KISSING ..... 4 INSECT BITES..... 5 MOTHER TO CHILD ..... 6 BREASTFEEDING..... 7 SHARING CLOTHES ..... 8 CONTACT WITH BODY FLUIDS 9		
303	What can one do to avoid getting HIV/AIDS?(Circle more than one)	USE A CONDOM ..... 1 ABSTAIN..... 2 AVOID BLOOD TRANSFUSION ..... 3 AVOID INSECT BITES..... 4 AVOID SEX WITH PROSTITUTES ..... 5 AVOID SHARING BLADES..... 6 AVOID SHARING CLOTHES ..... 7 STICK TO ONE SEXUAL PARTNER ..... 8 AVOID SHARP INSTRUMENTS ..... 9 AVOID SHARP INSTRUMENTS 10		

SECTION 4. KNOWLEDGE ON VCT

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP	CODE
401	Have you ever heard of VCT?	YES ..... 1 NO 2	—<404	
402	If yes, what does VCT Involve?	LEARNING ABOUT HIV/ AIDS ..... 1 KNOWING ONES SERO STATUS ..... 2 LEARNING HOW TO USE CONDOMS DURING SEX ..... 3 KNOWING WHERE TO ACCESS CARE AND SUPPORT WHEN ONE IS HIV POSITIVE ..... 4 ACCEPTING A PERSON WHO HAS HIV/ AIDS ..... 5 HELPING A PERSON WHO HAS HIV/ AIDS ..... 6 SEEKING MEDICAL CARE FOR STD'S ..... 7 OTHER ..... 8 (SPECIFY)		
403	What happens in VCT Centres?	COUNSELLING ..... 1 TESTING ..... 2 TREATMENT ..... 3 REFERAL 4		
404	Where are patients tested for HIV in this facility?	LABORATORY ..... 1 ANTENATAL CLINIC ..... 2 MATERNITY ..... 3 OUTPATIENT DEPARTMENT ..... 4 VCT ..... 5 NOT TESTED HERE 6		
405	Do you yourself conduct HIV Counseling or testing in this facility?	YES ..... 1 NO 2		
406	Have you ever received any training in HIV counseling or testing?	YES ..... 1 NO 2	—<408	
407	What kind of HIV training in counseling or testing have you received. (Circle all that apply).	LABORATORY ..... 1 ANTENATAL CLINIC ..... 2 MATERNITY ..... 3 OUTPATIENT DEPARTMENT ..... 4 VCT ..... 5 NOT TESTED HERE 6		
409	Do you feel that the management in this facility is encouraging, discouraging or neutral in promoting HIV Testing among health personnel?	ENCOURAGING ..... 1 DISCOURAGING ..... 2 NEUTRAL 3		

SECTION 5. ASSESING THE ATTITUDES OF HEALTH PERSONELL TOWARDS VCT SERVICES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP	CODE
501	Who should visit VCT centers?	MEN ONLY ..... 1 WOMEN ONLY ..... 2 COMMERCIAL SEX WORKERS..... 3 ALL WHO NEED TO KNOW THEIR HIV STATUS 4		
502	Have you ever visited a VCT center?	YES..... 1 NO 2	—<504	
503	If Yes to Q502, Why?	TO KNOW MY HIV STATUS..... 1 TO BE TESTED ..... 2 TO BE COUNSELED ..... 3 TO BE COUNSELED AND TESTED ..... 4 OTHER (SPECIFY)..... 5	<505	
504	If No to Q502, Why?	FEAR OF BEING TESTED..... 1 FEAR OF STIGMA AND DISCRIMINATION..... 2 IT IS NOT NECESSARY ..... 3 DON'T NEED IT ..... 4 DON'T TRUST STAFF WORKING IN VCT CENTRES – FEAR THAT MY RESULTS MAY BE EXPOSED..... 5 BEEN BUSY ..... 6 DISTANCE..... 7 OTHERS (SPECIFY)..... 8		
505	Would you want to visit a VCT Centre in future?	YES..... 1 NO ..... 2 NOT SURE 3	<601	
506	If Yes, for what purpose?	TO KNOW MY STATUS..... 1 TO BE COUNSELED ..... 2 TO BE COUNSELED AND TESTED..... 3 OTHERS (SPECIFY)..... 4		

SECTION 6. IDENTIFYING SPECIAL CIRCUMSTANCES FOR WHICH RESPONDENTS SEEK VCT SERVICES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP	CODE
601	In what circumstances would you recommend health personnel to go for VCT services?	WHEN MAKING NEW RELATIONSHIPS – ESPECIALLY PRE-MARITAL ..... 1 WHY?_____ _____ _____ _____ WHEN PREGNANT ..... 2 WHY?_____ _____ _____ _____ MARRIED COUPLES WISHING TO GET CHILDREN ..... 3 WHY?_____ _____ _____ _____ AFTER PIERCING BY CONTAMINATED NEEDLE, BLADE OR EQUIPMENT..... 4 WHY?_____ _____ _____ _____ AFTER GETTING AN STD..... 5 WHY?_____ _____ _____ _____ AFTER CARING FOR AIDS PATIENTS FOR A LONG TIME..... 6 WHY?_____ _____ OTHERS (SPECIFY)..... 7 _____ _____		

SECTION 7. IDENTIFYING POSSIBLE BARRIERS TO VCT SERVICE UTILIZATION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP	CODE
701	Have you ever been tested for HIV?	YES ..... 1 NO 2	—<704	
702	If yes, where were you tested?	VCT CENTRE ..... 1 GoK INSTITUTION ..... 2 PRIVATE MEDICAL INSTITUTION ..... 3 MOBILE VCT ..... 4 OTHER ..... 5 (SPECIFY)		
703	Were you given the results?	YES ..... 1 NO 2	<705	
704	If No to Q701, would you want to be tested in future?	YES ..... 1 NO 2	<706	
705	If Yes to Q701, why?	TO KNOW MY HIV STATUS ..... 1 TO HAVE EARLY ACCESS TO MEDICAL CARE ..... 2 TO PROTECT MY PARTNER FROM INFECTION ..... 3 TO PLAN MY REPRODUCTIVE INTENTIONS ..... 4 TO PREPARE MY FUTURE ..... 5 OTHERS ..... 6 (SPECIFY)	<707	
706	If No to Q701, Why?	FEAR INSTILLED BY RELIGION ..... 1 PEER RESENTMENT ..... 2 TRUST PARTNER ..... 3 NEGATIVE ATTITUDE OF HEALTH PERSONELL ..... 4 DISTANCE OF VCT CENTRE ..... 5 UNRELIABLE/UNTRUSTWORTHY TEST RESULTS ..... 6 SERVICE PERSONELL LACK CONFIDENTIALITY ..... 7 FEAR OF STIGMATIZATION ..... 8 DELAY IN RESULTS ..... 9 EXPENSIVE SERVICES ..... 10 OTHERS ..... 11 (SPECIFY)		
707	According to you, should all health personnel visit VCT?	YES ..... 1 NO 2	—<709	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP	CODE
708	If yes to Q707, Why?		—<710	
709	If No to Q707, Why?			
710	What are the likely reasons that hinder Health workers from going for VCT services?	FEAR ..... 1 STIGMATIZATION AND DISCRIMINATION..... 2 SERVICE PERSONELL LACK CONFIDENTIALITY..... 3 UNRELIABLE RESULTS..... 4 IGNORANCE ..... 5 OTHERS (SPECIFY)..... 6		

SECTION 8. SUGGESTIONS FOR IMPROVING UTILIZATION OF VCT SERVICES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP	CODE
801	Where would you prefer VCT services to be provided?	IN THE FACILITY ..... 1 OUTSIDE THE FACILITY ..... 2 ANY OF THE ABOVE 3		
802	Which of the following sites would you prefer to have VCT services?	HEALTH FACILITY ..... 1 NGO SITE ..... 2 AT PRIVATE CLINIC/ HOSPITAL ..... 3 MOBILE ..... 4 STAND ALONE 5		
803	What would you expect the counselors and the health providers to do if you are to have satisfactory VCT services?	OBSERVE MAXIMUM CONFIDENTIALITY ..... 1 BE FRIENDLY ..... 2 GIVE RESULTS TO RIGHT CLIENT ONLY ..... 3 POSITIVE RESULTS NOT TO BE RELEASED ..... 4 CONTINUOUS COUNSELING 5		
804	What services would you recommend to be provided to those who are tested positive?	FREE RETROVIRAL DRUGS ..... 1 FREE MEDICAL TREATMENT EVEN FROM NGOs ..... 2 FREQUENT COUNSELING ..... 3 SUPPORTIVE CARE FROM GOVERNMENT AND NGOs 4		
805	What services should be provided to those who have tested negative?	POST COUNSELING ..... 1 SIMILAR ASSISTANCE LIKE OTHER PATIENTS ..... 2 HEALTH EDUCATION AND ADVICE TO CONTINUE LIVING POSITIVELY 3		

I would like to answer any questions that you have before you leave. Is there anything that concerns you, or anything that I could help you with?

Thank you for your help, ideas, and your time!

INTERVIEWER'S OBSERVATIONS

TO BE FILLED IN AFTER COMPLETING INTERVIEW

COMMENTS ABOUT RESPONDENT:

COMMENTS ON SPECIFIC QUESTIONS:

ANY OTHER COMMENTS:

SUPERVISOR'S OBSERVATIONS

NAME OF THE SUPERVISOR: _____

DATE:_____

DATA ENTRY PERSON'S OBSERVATIONS

NAME OF EDITOR: _____

ANNEX 2: ETHICAL CLEARANCE

ANNEX 2.

KENYA MEDICAL RESEARCH INSTITUTE

P.O. Box 54840 – 00200 NAIROBI, Kenya
Tel: +254 (020) 2722541, 2722541, 2713349, 0722-205901, 0733-400003, Fax +254 (020) 2720030,
E-mail: director@kemri.org, info@kemri.org Website: www.kemri.org

KEMRI/RES/7/3/1

27th September 2006

Mr. N. M. Muewa,
Kenyatta University,
School of Health Sciences,
Department of Public Health,
P. O. Box 43844,
NAIROBI.

Thro'
Dean,
Kenyatta University,
School of Health Sciences,
Department of Public Health,
P. O. Box 43844,
NAIROBI

Dear Sir,

RE: **Non-SSC Protocol 025 (Rev)** – The factors affecting utilization of VCT services By health providers in Kenya, A case of eastern province of Kenya **by NM Muewa** et al **(Kenyatta University)**

This is to inform you that during the 137th meeting of KEMRI/National Ethical Review Committee held on 19th September 2006, the above mentioned protocol was discussed.

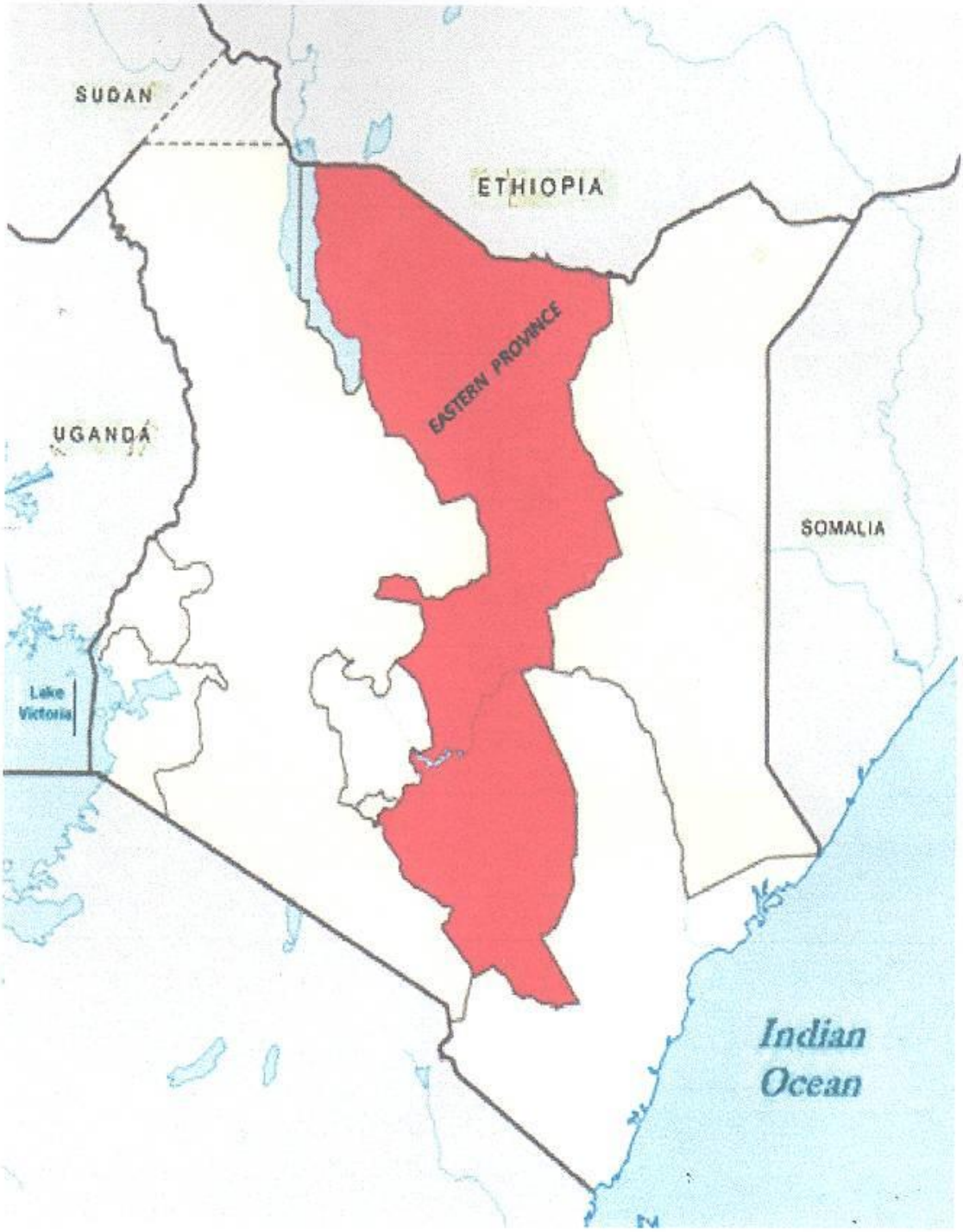
Thank you for the well written and informative proposal. The Committee has taken note of the changes you have made to the revised protocol. Due consideration has been given to ethical issues and therefore the study is granted approval. You may proceed with the study.

You are responsible for reporting to the Ethical Review Committee any changes to the protocol or in the informed Consent Document. This includes changes to research design or procedure that could introduce new or more than minimum risk to human subjects.

R. C. Kithinji,
For: Secretary,
KEMRI/NATIONAL ETHICAL REVIEW COMMITTEE

In Search of Better Health

ANNEX 3: MAP OF KENYA SHOWING EASTERN PROVINCE



Source: http://en.wikipedia.org/wiki/Eastern_Province_(Kenya)

ANNEX4: MAP OF KENYA SHOWING STUDY COUNTIES