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FACULTY OF COMMUNITY AND HEALTH SCIENCES

Uptake of Voluntary Counseling and Testing at Ngungu Mini - hospital, Zambia

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A mini-thesis submitted to the Department of Community and Health Sciences in partial fulfillment of the requirement for the Masters degree in Public Health.

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September 2010

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KEY WORDS

HIV

AIDS

Prevention

Care

Support

Barriers

Testing

Voluntary

ACKNOWLEDGMENT

First and foremost, I would like to extend my sincere gratitude to my supervisor, Dr Brian Van Wyk for the valuable guidance in the development of the proposal and throughout the study. Not forgetting my first supervisor, Dr. Abie Zogoe, for the guidance in the initial development of the proposal.

My appreciation also goes to the Ngungu Mini hospital management for the guidance and cooperation during interviews, in particular the sister-in-charge, Mrs. Tembo.
I would also like to thank my three research assistants, Mrs. Marble Ndabwera Phiri, Elizabeth Mukuka and Mr. Kanemeka, for their assistance in conducting the interviews.
My sincere gratitude also goes to Isaac Mwase for the valuable guidance given during the thesis write up.

Finally my sincere gratitude to all the participants who offered their valuable time to participate in this study: without you, the study would not have been possible.
To them all, may the almighty God richly bless you.

DECLARATION

I declare that "Uptake of Voluntary Counseling and Testing of HIV at Ngungu Mini-hospital in Ngungu Township, Zambia" is my own work and has not been submitted for any examination in any university and that all references used or quoted have been acknowledged.

Signed Date: September 2010

DEDICATION

This study is dedicated to my husband, Milimo M. Kanyemba, children, Twaambo, Mooya and Lushomo, and all who believe in Voluntary Counseling and Testing.

ABBREVIATIONS AND ACRONYMS

ARV	Antiretroviral drugs
CBO	Community Based Organization
CBOH	Central Board of Health
CSO	Central Statistics Office
DHMT	District Health Management Team
FBO	Faith Based Organization
FHI	Family Health International
HBC	Home Based Care
HEART	Hepatitis and AIDS Research Trust
NAC	National AIDS Council
NGO	Non Governmental Organization
NASCOP	National AIDS and STD Control program
PMTCT	Prevention of Mother to Child Transmission
PLHA	People Living with HIVAIDS
TB	Tuberculosis
UNAIDS	United Nations program on HIV/AIDS
VCT	Voluntary Counseling and testing
WHO	World Health Organization
ZAMBART	Zambia AIDS Related Tuberculosis
ZDHS	Zambia Demographic Health Survey

ABSTRACT

Background: In countries like Zambia where HIV prevalence (14.3% in the age group 15-49 years) is one of the highest in sub-Saharan Africa, HIV testing is an important strategy to combat the HIV/AIDS epidemic, because it is a critical step towards HIV/AIDS care, treatment and support. Despite decades of HIV/AIDS information and education campaigns, only 10% of Zambians know their HIV status. This study aimed to describe the uptake of voluntary counseling and testing and factors associated with uptake at Ngungu Mini - hospital in Ngungu Township, Zambia.

Methodology: A descriptive, cross-sectional survey was conducted among 100 adult clients accessing health care at Ngungu mini - hospital during the second week of January 2009. Participants were asked to fill in a questionnaire on VCT, knowledge, attitudes towards HIV testing, and factors that promote/hinder HIV testing. Data was captured with Excel and basic descriptive analysis done using SPSS version 16.0 and Epi Info Version 3.3.1.

Results: The HIV testing was low (25%) amongst study participants despite over a third (69%) of them being knowledgeable about HIV transmission, the importance of VCT and where to access VCT services. Apart from having concerns about their HIV status (60%), illness (40%) was the main reason for testing. Age, level of education, source of livelihood, and knowledge about HIV/AIDS and the importance of VCT were significantly associated with HIV testing.

Participants reported that empathetic attitudes from health workers and community members (48%), awareness of the benefits of testing and the availability of the VCT services (32%), as well as extended opening hours of testing centres (8%) would promote uptake of VCT. On the other hand, fears of a HIV diagnosis and being known to be HIV positive were the main barriers to VCT uptake.

Conclusions: Communities with high levels of unemployment and low literacy should be targeted in HIV/AIDS awareness campaigns. There is need to improve on quality of VCT and primary health care generally, paying specific attention to improve confidentiality of HIV status of clients.

CHAPTER 1: INTRODUCTION

1.1 Global HIV/AIDS epidemic

Since the first cases of HIV/AIDS were diagnosed in the early 80's, HIV/AIDS continues to be one of the most devastating epidemics worldwide (Jackson, 2002). As at the end of 2007, between 30 million and 36.1 million people were estimated to be living with HIV/AIDS globally, and more than 25 million had died from the disease since 1981 (United Nations programs on AIDS [UNAIDS], 2008). UNAIDS estimates indicate that the adult HIV prevalence in sub-Saharan Africa in the 15-49 year age group was 5% in 2007. It is further estimated that about 22 million people are infected with HIV and that about 1.5 million adults and children have already died from HIV/AIDS related illnesses, making sub-Saharan Africa the worst affected region (UNAIDS,2008)..

HIV/AIDS is mainly spread through heterosexual encounters. Jackson indicated that about 70% of the world's HIV infections are transmitted through heterosexual encounters (Jackson, 2002). In sub-Saharan Africa the percentage is even higher as the principal mode of transmission is through heterosexual relationships. The second highest mode of transmission of HIV is from mother to child during pregnancy, at birth or through breastfeeding (World Health Organization [WHO], 2004). In sub-Saharan Africa, it is estimated that between 20% and 30% of babies born from HIV-positive mothers become infected at birth and during breastfeeding while less than 1% of babies from Western Europe, North America and other developed countries get infected during birth and breastfeeding (Jackson, 2002).There are a number of reasons for this difference but the main reasons are inadequate access to prevention facilities, inadequate knowledge on the availability of the services and stigma. Use of non–sterile needles and cutting implements by traditional healers and poorly resourced health settings also contribute to a smaller proportion of people being infected with HIV (Jackson, 2002). If the epidemic is to be controlled there is need to put emphasis on strategies that targets the most common mode of transmission namely heterosexual transmission and mother to child transmission.

1.2 HIV/AIDS epidemic in Zambia

Zambia is one of the countries worst affected by the HIV/AIDS pandemic, with one in seven adults living with HIV and life expectancy having been reduced to 42 years (UNAIDS, 2008). HIV prevalence has dropped from 15.6% in 2001/2002 to 14.3% in 2007 (Ministry of Health [MOH] & National AIDS Council [NAC], 2008). Currently, it is estimated that between 950,000 and 1,100,000 adults aged 15 years and older in Zambia are infected with HIV (UNAIDS, 2008).

The major mode of HIV transmission in Zambia is heterosexual intercourse accounting for 78% of infections (NAC, 2004). Transmission through contaminated blood and blood products, use of needles and sharp instruments and sex between men accounts for less than 1% (NAC, 2004). The rest of infections occur from mother to child during pregnancy, at birth or through breastfeeding.

In Zambia significant progress has been made in preventing transmission and containing the HIV epidemic through the introduction of the National HIV/AIDS and STI/TB policy (NAC, 2004).

HIV Prevention Strategies

Zambia has employed a number of strategies to combat the epidemic. Among the strategies is Information, Education and Communication (IEC) strategies to disseminate information about HIV and AIDS to the general public, through TV, radio programs, pamphlets, posters, fliers and newspapers (NAC, 2004).

HIV/AIDS education is included into the school curriculae at primary and secondary levels, and training curriculae of teacher's training colleges (MOH & NAC, 2008). Family health education is also being provided to in- and out-of-school youths through the Ministry of Sports, Youth and Child Development (NAC, 2004).

The other prevention strategy is summed as ABC of HIV. A is Abstinence; B is be faithful and C is Condoms. In this strategy abstinence is emphasized prior to marriage especially among the Youths

but also emphasized at any time in one's life to protect against infection (NAC, 2004). Being faithful means mutual faithfulness to a single uninfected partner, but also used to include reducing on the number of sexual partners (NAC, 2004).

Condom promotion is one of the strategies Zambia is using to prevent HIV transmission (Bail & Mwikisa, 2000). The condoms have proved to be effective in preventing sexually transmitted infections and HIV if properly and consistently used (Wilkinson, 2002). Condoms are distributed by government health institutions and the private sector in an effort to control the spread of HIV and other sexually transmitted infections (NAC, 2004). Distribution of condoms by government health institutions increased from over 10 million condoms a year in the mid 1990s to over 15 million a year by 2001.

The Prevention of Mother to Child Transmission (PMTCT) programme is another national strategy for preventing HIV transmission from infected pregnant women to their unborn babies during pregnancy, labour, delivery and during breastfeeding respectively (UNAIDS, 2004). HIV infection can also occur during labour if the membrane rupture early (more than 4 hours before birth) or an episiotomy is performed which increases baby's contact with mother's blood. HIV infection during breastfeeding often occurs when a HIV positive mother with high viral load breastfeeds a baby with sores in the mouth or gut because of replacement feeding (Jackson, 2002). Without protection, it is estimated that between 20 - 43% of babies born to mothers who are HIV positive, will acquire the virus before or during birth or through breastfeeding (Jackson, 2002). Currently Zambia uses short courses of Antiretroviral Therapy (ART) such as nevirapine (NVP) and zidovudine (AZT) to prevent mother to child transmission during labour and also to the baby after delivery (WHO ,2006). This strategy was launched in 1999 in three sites in Copper belt Province and has since expanded to 935 centres throughout the country (NAC & MOH, 2008).

HIV Treatment, Care and Support

The Zambian National HIV/AIDS Council policy advocates for equal access to comprehensive HIV/AIDS treatment for all Zambians (NAC, 2004). In this regard, Zambia has committed itself to the provision of antiretroviral therapy (ART) to all Zambians in need of treatment, at no cost to the

patient in public health institutions (NAC, 2009). Since the programme was launched, there has been an increase in the number of HIV positive clients accessing ART services from about 24,000 in 2004 to 51,764 as of November 2005 (MOH and CSO, 2005).

The Home-based Care (HBC) programme is another strategy that is being implemented to care for People Living with HIV/AIDS (PLWHA). HBC is any form of care given to chronically ill people within their home and may involve physical, psychosocial, palliative care and spiritual activities (NAC, 2004). The aim of HBC is to improve the quality of life of clients and lessen the burden of the family by encouraging and supporting the independence of PLWHA and to reduce the burden of caring for people with advanced HIV disease in hospitals (NAC, 2004). The strategy is implemented by government in partnership with local and multi-lateral cooperating partners. In Zambia each district has some community based care groups that take care of chronically ill patients (NAC, 2004).These are either Faith Based Organizations (FBOs) Community Based Organizations(CBOs or Non Governmental Organizations(NGO) groups.

Voluntary Counseling and Testing

HIV/AIDS services in Zambia started with provision of HIV counseling and testing. The Zambia Service Provision Assessment of 2005 estimated that 44% of health institutions in Zambia offer VCT services and this includes both government and private institutions (CSO & MOH, 2005). VCT services offered in both government health institutions and some non-governmental organizations (NGOs) are free of charge. There are also a number of private health institutions that offer VCT services at a minimal fee. However, despite VCT services being readily available and offered free of charge in government health institutions, only 10% of the population knows their HIV status (CSO, MOH & Measure Evaluation, 2000).

1.3 Problem Statement

Studies on VCT uptake in Zambia have concentrated on places of work, or targeted specific high risk groups like pregnant mothers, commercial sex workers or youth (Khan & Weiss, 2006). Few studies have targeted the general population, with the exception of a study in Solwezi by the

Catholic Archdiocese (Zulu, M.G., Lovick, L.B., & Banda, G., 2004). However, this study was done in a rural setting where the services are limited and HIV prevalence rate is the lowest in the country; i.e. 6.8 % (MOH & NAC, 2008). There are no studies that have been done on VCT uptake targeting the general population in Kabwe district in Central Province. A number of NGOs have invested resources in promoting VCT and providing the services free of charge to clients.

Despite Ngungu community having two health facilities offering VCT services and NGOs like Care International and Zambia HIV Related Tuberculosis (ZAMBART), sensitizing communities on the importance of HIV testing, utilization of VCT services in Ngungu catchment area is reported to be low. Only 4% of the total number of people attending Ngungu mini - hospital in 2006 requested VCT services (ZAMBART Zamstar VCT dbase, 2006). The majority of those (75%) who requested for HIV test did so because of being unwell. The implication of testing for HIV only when one starts noticing symptoms, is that the body may be too weak to respond to treatment, because of advanced HIV disease (CBOH, 2003). Understanding the factors that influence VCT uptake at Ngungu Mini – hospital as well as specific barriers to uptake is important to improve VCT uptake

Outline of the thesis

The thesis is divided into seven (7) chapters. The first chapter introduced the research topic and problem statement. The next chapter (Chapter 2) provides a review of studies on VCT uptake in Africa and Zambia. The chapter highlights barriers and factors that promote VCT uptake. Chapter 3 outlines the aim and objectives of the study. Chapter 4 describes the research methodology used to collect and analyze data, reasons for selecting the quantitative study as well as other research techniques. In Chapter 5 the research findings are presented and discussed in chapter 6. The conclusion and recommendations based on the findings of the study are provided in chapter 7.

CHAPTER 2: LITERATURE REVIEW

2.1 Voluntary Counseling and Testing

Voluntary counseling and testing (VCT) is a process where people voluntary present themselves for HIV testing at medical facilities (WHO, 2006). Counseling takes place before and after the HIV test is done to discuss how to live positive should the results be positive or how to maintain a negative status should the results turn out to be negative (NAC, 2004). The blood sample is tested twice, independently, to ensure accuracy of results before release to the client. The process takes between 30 to 45 minutes. Once a positive HIV diagnosis is confirmed, the client is offered post-test counseling and referred for further investigations, care and support. If the test is negative, the client is advised to go for another test after 3 months just in case the client is still within the window period. The window period is the time between exposure to HIV or infection with HIV and the development of antibodies (Jackson, 2002). HIV testing involves the testing for HIV antibodies. During the first few weeks of being infected, the HIV test may be negative because it takes up 12 weeks for antibodies to be produced in detectable quantities for the test to show positive (Jackson, 2002). The HIV test would then show what is called a false negative. If the HIV test results are still negative when a client goes for another HIV test after 3 months, he/she is advised on how to maintain the HIV negative status.

VCT should not be confused with HIV testing. HIV testing is a process where one is tested for HIV without necessarily volunteering and often no counseling precedes the test (WHO, 2006). One example where HIV testing is not done voluntary, is when someone has raped and the court order that the person to be tested for HIV. Involuntary testing is often ordered for ill immigrants upon or shortly after arrival into a new country.

The clients coming for a HIV test must be assured that the process and the results will be kept confidential (UNAIDS, 2001). This means that VCT sites/centres, especially those located within health centres and hospitals should ensure that clients requesting VCT services are not readily identified to the public or by other patients using the health centre. Confidentiality in VCT services involves the use of codes, managing waiting rooms and client procedures in order to maintain

confidentiality of testing and results (NASCOP, 2001).

2.2 The role of Voluntary Counseling and testing

VCT services have been recognized as critical in HIV/AIDS prevention, care and support, because it is the first step in identifying those individuals that are HIV positive, so as to link them with HIV treatment, care and support (USAID, 2005). In Zambia mainly those have who tested HIV positive and have a CD4 count below 200µl are eligible for ART.ART is also given as prophylaxis in case of exposure through injury with infected unsterilized instruments suspected of being contaminated with blood of an HIV patient or to expectant mothers who are HIV positive before and during labour(World Health Organization[WHO], 2005). Receiving counseling and testing for HIV enables people to know their HIV status, understand the implications of their sero-status and make informed choices for the future (WHO, 2005). Knowing one's HIV status enables uninfected people to remain uninfected, and those infected with HIV to plan for their future, and prevent further re-infections as well as protecting their partners and children. There is growing evidence that knowledge about HIV status is often translated into behavioural change, especially if the test result is negative (Matovu *et al.*, 2000). The HIV positive couples that wish to start or increase their families can weigh the risks and benefits and make informed decisions about contraceptives and use of condoms (Nyblade & Field, 2001). For women that are HIV positive, VCT is an entry point to PMTCT programs. This will enable them to make informed decisions on issues such as child bearing, breastfeeding and the use of condoms. A study among HIV negative women attending PMCT program in Uganda, found that most of the participants decided to use condoms until their partners were tested for HIV (Matovu, Ekideit & Chimulwa, 2000).

People that are aware of their HIV positive status can benefit from the available health care programmes such as medical care (e.g. ART), psycho-social support and family planning (UNAIDS, 2005). In Zambia for instance, if an individual is tested and the diagnosis is confirmed HIV positive, the client is referred for a CD4 count and further investigations to assess eligibility for ART (Central Board of Health [CBOH], 2004). HIV positive clients are advised to join a community support groups where they can get psycho-social support (counseling, spiritual support, support to facilitate free discussion and disclosure, risk-reduction strategies) and home based care. For pregnant women

with confirmed HIV positive status, ART prophylaxis is given at birth to reduce the chance of infecting the unborn child.

VCT has also been proved to be cost effective. Studies by UNAIDS and WHO in Kenya, Tanzania and Trinidad found strong evidence to support the assertion that VCT is an effective and cost effective strategy for facilitating behavior change(VCT Efficacy Study group 2000).

VCT offers numerous advantages to people in that through counseling, the fears and worries of being HIV positive, are minimized (Lamptey *et al.*, 2006). Through counseling people are given assurance that though being HIV positive, it is not the end of the world or a death sentence, but can still live long especially with the introduction of ART (MOH, 2001).

2.3 Uptake of Voluntary Counseling and Testing

Uptake of VCT services has varied from place to place. In some places the demand for VCT services has been high and low in some places (Rutenberg, Biddlecom & Kaoma, 2000). Studies among teachers and health workers in Kenya and Zambia initially found low uptake of VCT services, but the uptake increased from 25% at baseline to 68% after sensitization on the importance of VCT was done (Khan *et al.*, 2006).

A study conducted in South Africa among gold miners found a low (20%) VCT uptake (Day *et al.*, 2002). In Botswana, VCT uptake among pregnant women in MTCT programme was less than 50% (Mazhani *et al.*, 2000). Studies by Family Health International [FHI] at six urban antenatal clinics in Zambia revealed a high demand for VCT services (84%) (FHI, 2004). A four-year study to examine the introduction of PMTCT services within maternal and child health programmes in Kenya and Zambia, indicated that although two thirds of the 22 000 women that sought antenatal care, as new clients, received pre-test counseling, less than one third went to have an HIV test (FHI, 2004).

2.4 Factors that Promote VCT Uptake

The availability of support services such as medical care (ART, treatment of opportunistic

infections), family planning, counseling about reproductive choices, emotional care (family, couple and individual) and counseling for positive living have been reported to promote VCT uptake (UNAIDS, 2001). In addition higher uptake was found to be associated with socio-economic factors such as higher level of education and source of livelihood.

2.4.1 Availability of HIV treatment

If people are assured that once tested positive, they will have access to ART and other services which will improve the quality of life, then more people will be willing to be tested. A study in Ndola district in Zambia by Horizons revealed that when VCT was introduced, people did not want to be tested because HIV testing was viewed as a source of stress. However, when PMTCT programme was introduced, VCT uptake increased as women became aware of the benefits (Horizons, 2003). Another study by Day *et al.* (2002) among mineworkers in South Africa revealed that 14% of the workers said they would undergo VCT if ART was provided.

2.4.2 Treatment of opportunistic infections

Treatment of opportunistic infections is the core of care and support services for HIV patients (USAID, 2004). Prompt and effective treatment of the symptoms of opportunistic infections such as coughs, skin rashes, diarrhea and TB due to breakdown of the immune system improves the quality of life for People Living with HIV/AIDS. A study by Mwinga *et al.* (1998) in Lusaka –Zambia revealed that people were willing to test for HIV because of the availability of tuberculosis (TB) preventive therapy and other social interventions.

2.4.3 Follow up counseling and support

Follow up counseling for positive living is a critical component of care and support (FHI, 2003). A study in Uganda revealed that availability of psychosocial support in form of on-going counseling increased VCT uptake (Kadowa & Nuwaha, 2009). In Kenya the evaluation of HIV/AIDS prevention program by Family Health International and USAID revealed that psychosocial support and other referrals for those infected and affected by HIV/AIDS increased VCT uptake (FHI &

USAID, 2007).

In Zambia data from Ndola Demonstration project on empowering communities to respond to HIV/AIDS revealed that HBC groups, psychosocial support for mothers-to-be, volunteers and Positive living groups contributed to an increase in VCT uptake (Horizons, 2003). Another study in urban areas of Lusaka on facility based and home based voluntary counseling and testing found high uptake of VCT when done at home than at facility (Bateganya *et al.,* 2007). The increase in uptake could have been attributed to more follow up counseling and personalized services.

2.4.4 Educational attainment

Educational attainment has been acknowledged as a factor that influence VCT uptake (Zambia Demographic Health Survey, 2002). According to the Zambia Demographic Health Survey (2002), HIV testing is more common among the educated than the uneducated (secondary school level of education and above). The study by Zhou *et al.* (2009) in China also confirms education as factor that influences VCT uptake. Another cohort study in rural Tanzania found demographic characteristics such as education to have an influence on VCT uptake (Wringe *et al.,* 2008). The more educated people are, the more likely they are to take an HIV test. This could be attributed to the fact that they understand importance of testing and the implications of not knowing one's HIV status.

2.4.5 Availability and cost of VCT services

Availability and affordability of the VCT services have been documented as a factor that promote uptake of VCT (USAID, 2000). Studies done in Africa showed a drastic increase in the demand for VCT services when services were made accessible and affordable for those people who want to know their own HIV status (USAID, 2000).

2.4.6 Illness

Illness is another factor that motivates people to seek VCT services (especially if they are suspecting to have an HIV related illness or suspecting their partner to have an HIV related illness) (NASCOP,

2001). The disadvantage of people going for VCT at this late stage is that the body is often already too weak to respond to ART (CBOH, 2004). On the contrary their condition worsens and they die earlier than those who are put on ART early (CBOH, 2003).

The study of VCT uptake among gold miners in South Africa reported that, the motivation for using VCT services was illness (Day *et al*., 2002).

2.4.7 Partner testing

Wanting to get married or getting into a new relationship is another factor that motivates people to take an HIV test (Horizon, 2001). This could either be a requirement especially if the marriage is to go through the church or the couple decides to be safe by taking a test. Reports from Kara Counseling Trust clinics revealed an increase in number of youths seeking premarital testing (Horizon, 2001).

2.4.8 Job or Scholarship opportunities

Job or scholarship opportunities where HIV test are demanded have also forced people to take an HIV test (Yoder *et al*., 2004). In Thailand, VCT uptake was found to be high because it is part of job and scholarship seeking process (Pannetlier *et al.*, 2009). According to the study, 30% of VCT uptake in Thailand is due to non medical cases such as job seeking, scholarship (Pannetlier *et al.*, 2009).

2.5 Barriers to VCT uptake

The most common reason why people shun VCT services are fear of being HIV positive and stigma attached to being HIV/AIDS. In developing countries other barriers to VCT uptake are distance to VCT centres as well as the cost of the services (Nuwaha *et al*., 2002). Other barriers are lack of confidentiality, poor quality of services, limited knowledge about the benefits of VCT and availability of VCT services.

2.5.1 Fear of HIV diagnosis

The Zambia sexual behaviour survey (2005) revealed that 74.5% of the participants in the study had not gone for VCT because of fear of being found to be HIV positive. A study in South Africa carried out among mine workers to identify barriers to VCT services found that fear of being HIV positive was one of the barriers to VCT uptake (Ginwalla et *al*., 2002).

2.5.2 Stigma and Discrimination

Stigma and discrimination have been cited among factors hampering VCT uptake (UNAIDS, 2000). HI/AIDS related stigma is described as a *"process of devaluation of people either living with or associated HIV and AIDS"* (p.1). Most of the HIV/AIDS cases in Africa are sexually transmitted and associated with risky sexual behaviour (Jackson, 2002). Those who are HIV positive are judged to have been conducting themselves promiscuously manner, that they are sinners, unfaithful and sleep around (Kidd & Clay, 2003). Even those infected often feel ashamed to talk about it and start stigmatizing themselves (internalizing stigma). Internalizing stigma can lead to low self esteem, self-blame for contracting HIV, having suicidal thoughts and even delaying or avoiding seeking treatment for fear of being identified as HIV positive (Kidd & Clay, 2003). Stigma at family and community level is in most cases due to insufficient knowledge, myths and misconceptions about HIV and AIDS (Ogden & Nyblade, 2005). Sometimes the family or community members stigmatize an individual simply because they do not understand how HIV/AIDS is transmitted.

Studies conducted by Health and Development Network (HEART) in Botswana, Tanzania and South Africa have acknowledged that health care services were areas where HIV positive people are often stigmatized (HEART, 2001). Some documented forms of stigma in health care centres includes judgmental attitudes and wrong assumptions about the sexual lives of people living with HIV/AIDS, segregation of HIV patients in wards and premature discharging of HIV positive patients from hospital regardless of their overall condition immediately or soon after test results are available (UNAIDS, 2001).

Discrimination is defined as *"unfair and unjust treatment of an individual based on his/her real or*

perceived HIV status" (UNAIDS, 2003, p.1). Discrimination follows stigmatization and occurs when a distinction is made against a person that results in being treated unfairly and unjustly on the basis of belonging or being perceived to belong to a particular group (UNAIDS, 2003). Discrimination is practiced in form of giving PLWHA separate cups, spoons and plates (treating them differently), being kicked out of family, work and rented accommodation. This form of discrimination was common at family level and at the beginning of the epidemic when people did not know the means of transmission. It was also a common habit for family members to hide or not allow a PLWHA to visit friends or relatives for fear of being embarrassed or be associated with an HIV infected person. In some instances the right to marry was denied once a person was found HIV positive (Kidd & Clay, 2003).

Discrimination at places of work has been documented as being a growing problem in Zambia (ZARAN, 2005). The most common forms of discrimination include being denied promotion or being denied opportunity for skills building and sometimes dismissal on flimsy grounds.

2.5.3 Distance to VCT services

Long distances to VCT centres have been identified as a barrier to VCT uptake especially in rural areas (Kumarayake *et al*., 2001; Nuwah *et al.*, 2002). Studies done in Kenya and Uganda revealed that adolescents were not accessing VCT services because of the long distances that they have to travel to access VCT services centres (Horizons, 2001). In Zambia VCT uptake is constrained by limited number of VCT facilities in rural areas (CSO, 2002). NAC (2008) indicates that 1,028 centres are offering VCT services with majority of these sites being situated in urban areas. This means that those living in rural areas have to travel long distances to access the VCT services and this affects VCT uptake negatively.

2.5.4 Cost of VCT Services

Cost of VCT services have been documented to have an effect on uptake and acceptability especially by young people (Boswell & Baggaley, 2002). In Zambia, though, the service is offered free of charge in government health facilities. However, the cost of transport to the health centre is seen as

double payment for the health services among the low household income (KARA, 2006).

2.5.5 Health services barriers

Lack of Confidentiality

Confidentiality is defined as the trust between the counselor and client not to share information discussed (NASCOP, 2001). Many people are afraid to seek VCT services because they fear that the results may not be kept confidential (UNAIDS, 2000). Studies done in Vulindlela, Soweto, Tanzania, Zimbabwe and Thailand found that lack of confidentiality was limiting VCT uptake (Om *et al.,* 2006). However, introduction of mobile VCT with rapid test, improved the uptake. VCT uptakes improved because people carrying out the VCT were not known to them and were from other places. Studies by Boswell and Baggaley (2002) also confirmed that young people were not accessing VCT services because of concerns about confidentiality.

Poor quality of health care

Poor service delivery in the form of limited operating hours, lack of training among staff and shortage of manpower have been documented as some of the factors limiting VCT uptake. Studies conducted in Uganda among urban youth revealed that fear of receiving poor services (poor counseling, no confidentiality) at health care facilities as one of the factors that hindered VCT uptake (Horizons, 2001). About 53% of the people interviewed in a study in Ugandan said they would go for VCT, only if they were well counseled. The same study revealed that adolescents were not accessing VCT services because of non flexible hours of VCT services. Similar studies by Boswell and Baggaley (2002) revealed that young people were not accessing VCT services because the services were not available or not accessible to them. They were also discouraged by the long time of waiting.

Insufficient time for counseling patients and workload has been identified as factors that influence

VCT uptake (Sanjana *et al.*, 2009). High work load and associated lack of time among the health providers has resulted in poor counseling of patients thereby hindering people from using VCT services (HEART, 2001). The studies conducted at four sites in South Africa (Soweto, Vulindlela-Pietermaritzburg), Tanzania and Thailand to compare health facility based and mobile VCT services revealed that poor quality of services in health facilities, limited operating hours and inadequate staffing for these facilities had a limiting effect on the uptake of VCT services in the various community settings (Om *et al.*, 2006). The mobile VCT was well staffed compared to hospital setting.

2.5.6 Limited knowledge about the benefits of VCT

Limited knowledge about the benefits of knowing one's HIV status has been cited as hampering VCT uptake (Ginwalla *et al., 2002*). In Ndola- Zambia, when VCT services were introduced, the services were shunned as the service was viewed by the residents as something without benefits but just a source of stress (Horizons, 2003). However when PMTCT was introduced the uptake increased as women became more aware of the benefits.

According to the study by Family Health International [FHI] VCT services are viewed to be for the sick (FHI, 2004). Most people think all those who go for VCT are HIV positive and are probably already sick from HIV/AIDS related opportunistic infections. This is because most of the people who have gone for VCT have been those who have already started showing symptoms.

Summary

This review shows that voluntary counseling and testing is an important entry to HIV and AIDS prevention, treatment, care and support. The review has also shown that VCT uptake varies from place to place but generally low in sub-Saharan Africa. The review also highlighted barriers such as fear of HIV positive diagnosis, stigma and discrimination, distance to VCT service centres, cost of VCT services, and limited knowledge on the benefits of VCT services. Health related barriers such as lack of confidentiality with health providers and poor quality of health care are hindering VCT uptake. The review also highlighted availability of HIV treatment, treatment of opportunistic

infections, availability of follow up counseling and support services, availability of VCT services, illnesses, partner testing and job or scholarship opportunities as factors promoting VCT uptake.

CHAPTER 3: AIMS AND OBJECTIVES

3.1 Aim

The aim of the study was to describe uptake of voluntary counseling and testing (VCT) for HIV and the factors influencing VCT uptake among clients accessing health services at Ngungu mini-hospital in Kabwe District, Zambia.

3.2 Objectives

The objectives of the study were:

- To describe VCT uptake in a systematically selected sample of clients accessing health services at Ngungu mini-hospital.
- To describe knowledge and attitudes of participants about HIV/AIDS
- To describe knowledge and attitudes of participants about VCT.
- To assess the relationship between knowledge and attitudes towards HIV/AIDS and VCT, and VCT uptake.

CHAPTER 4: METHODOLOGY

4.1 Study design

The study was quantitative and used descriptive, cross-sectional survey design. The design was chosen because it is relatively cost-effective and could be done within the limited time available for the study (Bland, 2001). The methodology eliminates the researchers' influence and gives the facts as they are captured from the field. The methodology allows the researcher to describe and quantify the factors that influence VCT uptake and to test for their statistical significance in the research context.

4.2 Description of study setting

The study was conducted at Ngungu mini-hospital in Ngungu township in Kabwe district. Kabwe is one of the seven districts in the Central Province and acts as the provincial administrative capital of Central Province. Kabwe is divided into 11 townships namely: Nakoli, Natuseko site and service, Ngungu, Bwacha, Mukobeko, Makululu, Chowa, Railways, Katondo, Pollen and Lukanga. Ngungu is situated 10 kilometers north of Kabwe town and the township shares borders with Bwacha to the South, Kapiri - Mposhi district to the north, Nakoli township to the South East and Mukobeko township to the west. Ngungu township has an estimated area of 10 square kilometers with a population of 12,740 (CSO, 2000). Ngungu is divided into urban and rural setting. Three quarters of the population live in the urban part of Ngungu.

The main source of income in the urban part of the township is self-employment, followed by formal employment. In the outskirts of the township farming is the major source of income.

The township has one health centre (Ngungu Health centre) that was upgraded to a mini - hospital in 2006. After the upgrading the up health centre is now able provide most of the services previously provided by the general hospital situated about 7 km away. The hospital admits in-patients and also offering out-patients services .The hospital has a bed capacity of 24 and attends on average to 100 people at the out-patient department on a daily basis, providing primary level curative and

preventive and promotive services. The health centre offers ART services and other services such as in-patient services for observation which previously were only provided at the general hospital.

The mini-hospital in partnership with non - governmental organizations (NGOs) like ZAMBART, Care International and other community based organization (CBOs) have a comprehensive HIV/AIDS program which provides counseling and testing services, ART, positive living support groups and home based care services. Care International and other CBOs sensitize and mobilize communities to access HIV/AIDS services with emphasis on VCT, ART and treatment of opportunistic infections (HIV care). ZAMBART provides VCT services as well as research on opportunistic infections like tuberculosis and malaria. The CBOs provide care and support to HIV positive patients through home based care programmes. The mini-hospital provides ART services and refers patients for continued care and support to HBC groups. The HBC workers from the community, in turn, also refer patients for VCT, ART and treatment of opportunistic infections to the mini - hospital.

4.3 Study population

The study population comprised of men and women aged 18 years and above seeking curative and non-curative services at the out-patient department of Ngungu mini - hospital. On average 500 people access the hospital services per week (5 working days) with an average of 100 people per day (Kabwe District Health Management Team [KDHMT], 2007).

4.4 Sampling

Systematic random sampling was used to recruit 100 participants into the study over a 5 day period. The 100 participants were arrived at based on the fact that it was only possible to interview an average of 20 participants per day. The research team positioned themselves at strategic points where people queue for services at the Outpatient Department. This helped to apply the random sampling frame of choosing every 5^{th} person.

The following measures were put in place to ensure people were interviewed only once during the

period of the study:

- The data collection was done over 5 consecutive days to avoid the same people being recruited on subsequent days.
- By asking if they had already been interviewed the previous day or during the week to avoid interviewing the same people.
- Announcements were also made every day to remind patients that they were supposed to be interviewed only once during the course of the week.

4.5 Data Collection

The research team comprised of the principal researcher, and two research assistants who conducted the interviews over the five days. Prior to data collection, research assistants were trained on how to conduct interviews and how to enter responses in the questionnaire. Both research assistants had an educational attainment of between 10 and 12th grade.

Most questionnaires were administered on a one-to-one basis and four (4) participants requested to fill in the questionnaire at home and bring it the following day to the health centre. The information collected included age, sex, marital status, educational background of participants, knowledge about HIV/AIDS transmission and the importance of VCT, as well as whether they had been tested for HIV or not (Appendix 1). Other information collected included knowledge, attitudes and practices towards HIV testing.

4.6 Data Management and Analysis

Data analysis started with cleaning of data by the principal researcher after data collection by the research assistants. The analysis involved going through the questionnaire and correcting obvious errors, grouping of responses according to how they are related, checking for consistency, summarizing and categorizing responses on a master sheet using MS Excel 2003. To ensure that the data was entered correctly, questionnaires were also entered in SPSS and the questionnaire was kept for further verification.

Key areas of analysis and tables of statistical tabulation were outlined. Data was analyzed descriptively and analytically. Descriptive statistics such as frequencies and percentages provided summaries about the sample. Inferential statistics such as Pearson's chi-square test of independence was used to determine significance of factors associated with VCT uptake using SPSS Version 16.0 and EPI Info Version 3.3.2. Results for Pearson's chi-square test were considered statistically significant at $p \leq 0.05$.

4.7 Validity and Reliability

Validity refers to the degree to which the test or measuring device is truly measuring what one intends to measure while reliability refers to consistency of the test or observation (Heffner, 2004). In order to ensure validity and reliability of research findings, the following measures were put in place to reduce information and selection bias:

4.7.1 Piloting of questionnaire

The questionnaire was pre-tested to check if the questionnaire was clear enough to potential participants. Ambiguous questions can lead to responses that do not accurately capture participant's views. The piloting was to ensure that the questions were clear to the participants, thereby reducing information bias.

On the initial questionnaire a few corrections were made on section 1 question 5. The question was rephrased to: *"Do you have an idea on the number of people suspected to have died of HIV/AIDS"* and also on section 2 question number 10 an addition was made to the question to cater for those that had more than one source of information.

4.7.2 Timeliness

The study was done within five days to avoid interviewing the same people. Interviews were done during peak period (between 8 hours and 12 hours) when most of the people seek health services. The sampling frame also works well when there are a lot of people thereby reducing chance of

interviewing people from same background; thus reducing selection bias.

4.8 Generalizability

Despite the sample size being small, measures were put in place to ensure that the findings could be generalized to other areas. The study used random sampling to avoid bias where every fifth person was interviewed. The literature review was also done to compare what has been done elsewhere and the findings are similar.

4.9 Ethical considerations

Ethical clearance for the research was obtained from University of Zambia ethical clearance committee. Permission to conduct the study was obtained from the Public Health Directorate of the Ministry of Health Zambia, Kabwe District Health Management Team and Ngungu Hospital management.

Participants were informed that the interviews were anonymous and confidential (Appendix 3). Written consent from participants was sought, after explaining the purpose and extent of the study (Appendix 4) and in order to ensure that confidentiality was maintained, the questionnaire had no provision for names but codes were used to identify participants interviewed. The participants were called aside, away from the rest of the people, to ensure confidentiality. All questionnaires were kept under lock and key and no names of participants were requested during interviews. The interviews started with introduction followed by objectives of the study and formalities of consent before actual data collection. At the end of each interview participants were given an opportunity to ask any questions.

CHAPTER 5: RESULTS

5.1 Demographic characteristics of study sample

A sample size of 100 (53 men and 47 women) was realized. The analysis was done using EPI Info 3.3.2 and SPSS 16.0 to calculate mean, standard deviation, Chi-square and confidence limit

The age range of the study sample was 18 to 49 years. The mean age of the study sample was 32.3 years. The median age of the study sample was 31.75 years (IQR: 25.5 - 38 years) (Appendix 2). There were slightly more males (53%) than females (47%) in the study sample, but not significant (p =0.316) (Table 1).

Most participants were married (48%) or previously married (16%). Nine (9%) participants were widowed, five separated and two divorced. Slightly more than a third (36%) reported to be single. There was no significant difference between males and female in the study sample (p=0.169).

Most of the participants had senior secondary (41 %) level of education. Those with junior secondary education level of education accounted for 27%. Fifteen percent(15%) of participants had primary level education and below. There was no difference in education level between males and females (p = 0.335) (table 1).

More than half (62) of the study sample were employed, with 42% being self-employed and 22% in formal employment. More than a third of the participants (36%) were unemployed (table 1).

Table 1: Socio-demographic characteristics of study sample

	Male	Percentages	Female	Percentages
Age (in years)				
18 – 29	20	20	23	23
30 – 39	19	19	17	17
40 – 49	14	14	7	7
TOTAL	53	53	47	47
$\chi^2 = 2.302;\ df = 2;\quad p = 0.316$				
Marital status				
Single	17	17	19	19
Married	29	29	19	19
Divorced	1	1	1	1
Separated	4	4	1	4
Widowed	2	2	7	7
TOTAL	53	53	47	
$\chi^2 = 6.435;\ df = 4;\quad p = 0.169$				
Education				
Primary school and below (grade 7 and below)	6	6	9	9
Junior Secondary (grades 8-9)	13	13	14	14
Senior Secondary school (grades 10-12)	22	22	19	19
Tertiary level	12	12	5	5
TOTAL	53	53	47	47
$\chi^2 = 3.391;\ df = 3;\quad p = 0.335$				
Source of livelihood				
Formal employment	14	14	8	8
Unemployed	13	13	23	23

Self employed	26	26	16	16
TOTAL	53	53	47	47
$\chi^2 = 6.458;\ df = 2;\quad p = 0.04$				

5.2 Knowledge and Awareness about HIV/AIDS

The majority (68%) of respondents were knowledgeable about HIV/AIDS (Fig. 1). Knowledgeable about HIV/AIDS was defined as "having heard of HIV/AIDS", knowing how HIV/AIDS is transmitted, knowing someone who is infected or who had died of HIV/AIDS, and being aware that HIV/AIDS is a problem in the community (Fig. 1). Those who had scanty knowledge, they could at least mention one or two correct answers while those with no idea did not get any correct answer or did not have an idea at all. There was no difference between males and females on knowledge about HIV/AIDS (p =0.270) (Table 2).

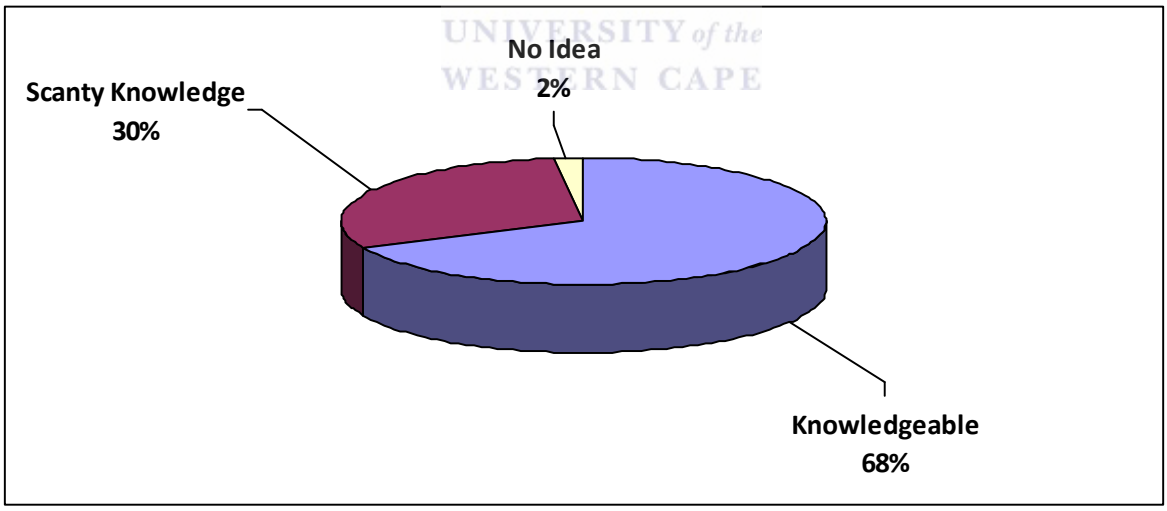

Figure 1: Knowledge about HIV/AIDS

Table 2: Knowledge and awareness about HIV/AIDS

	Total(%)	Male	Female	p-value
Have heard about HIV/AIDS	69	34	35	0.270
Knows how HIV is transmitted	69	34	35	0.270
Knows someone who is infected with HIV or has died of HIV/AIDS	69	34	35	0.270
HIV/AIDS is a problem in the community	69	34	35	0.270

5.3 Knowledge and awareness about VCT

The majority of the respondents knew how one can get infected with the HIV (69); had heard of Voluntary Counseling and Testing (VCT) (70) and knew places where one could get tested (69) (Table 3). There was no difference between males and females on knowledge about VCT (p = 0.307).

Table 3: Knowledge about HIV testing

Question	Total(%)	Male(%)	Female(%)	p-value
How can one know they are infected?	69	34	35	0.307
Have you ever heard of Voluntary counseling and Testing?	70	34	36	0.179
Are there HIV testing facilities in your community	69	34	35	0.170

5.4 Source of information about VCT

The radio (36) was the most common source of HIV/AIDS information, followed by television (24) and peers/relatives (19). Workshops and meetings were the least effective ways of dissemination of HIV/AIDS information (Figure 2).

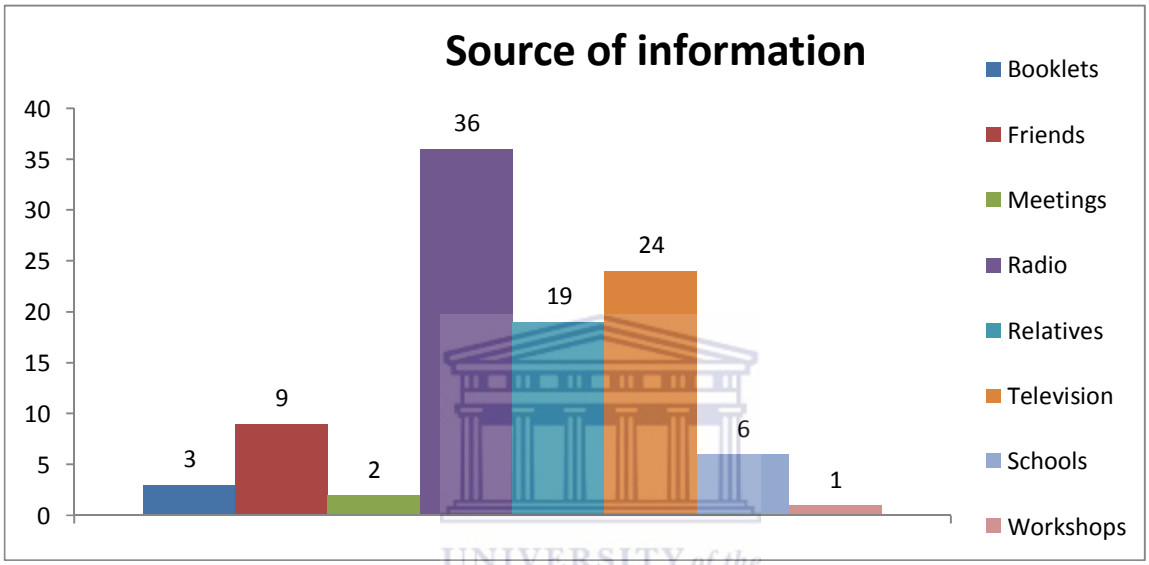

Figure 2: Source of information about HIV/AIDS

5.5 Preference of VCT centre

Ngungu mini-hospital was the most preferred centre (49), because of the availability of ART and other services (17), qualified staff (13), being known to be the only centre offering VCT services (5) and high confidentiality of test results maintained (5) (Table 4). Ten respondents preferred the Catholic Home Based Care centre, because there is privacy (9) and availability of spiritual care (1). One out of four respondents (25) preferred VCT centres outside Ngungu Township for privacy (14) and the availability of counselors of all ages (5). Sixteen respondents indicated that they have no preference. However there was no difference between men and women in terms of preference (χ^2 = *0.271;* p = 0.965).

Table 4: Preferred VCT Centre

Popular Centre	Female(%)	Male(%)	TOTAL
Ngungu	24	25	49
Catholic	5	5	10
Outside Ngungu	11	14	25
Don't know	7	9	16
TOTAL	47	53	100
$\chi^2 = 0.271$; $df = 3$; $p = 0.965$			

5.6 Uptake of voluntary counseling and testing

Uptake of VCT testing was low among the study sample, with only 25% of participants having undergone VCT. Of those who tested, 12% were male and 13% were female (Figure 3). The reasons for testing were to know their status (15), and not feeling well or on the doctors' recommendation (10). There was no difference between males and females (p= 0.120).

Of the 75 participants that had not taken an HIV test, the majority (56%) indicated that they would go in the future (Fig.5). The difference between males (30) and females (26) was insignificant (p = 0.395).

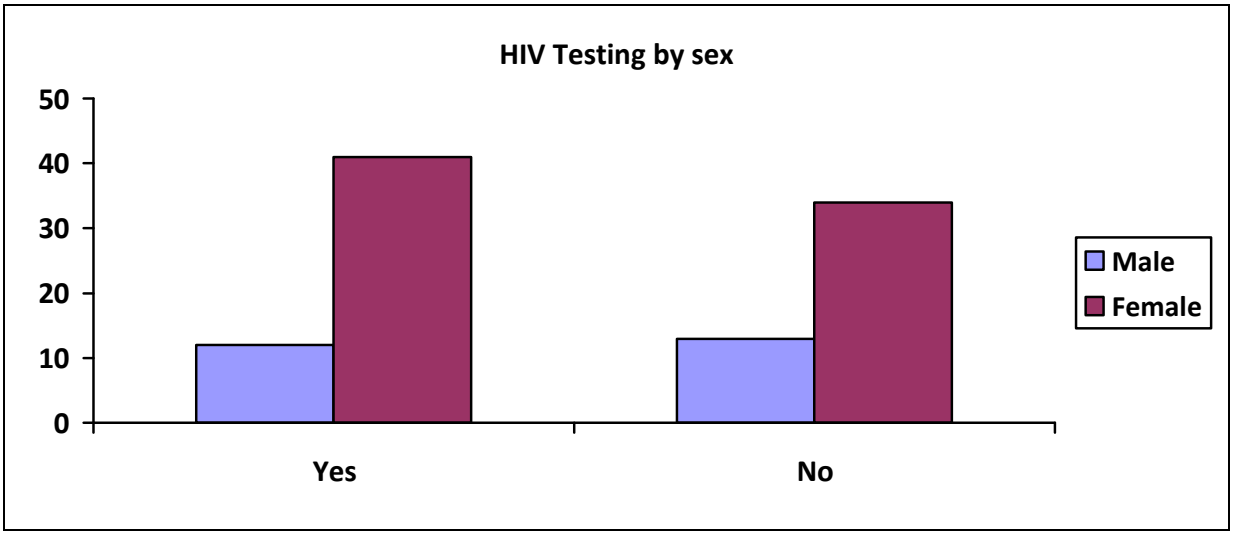

Figure3: HIV Testing by Sex

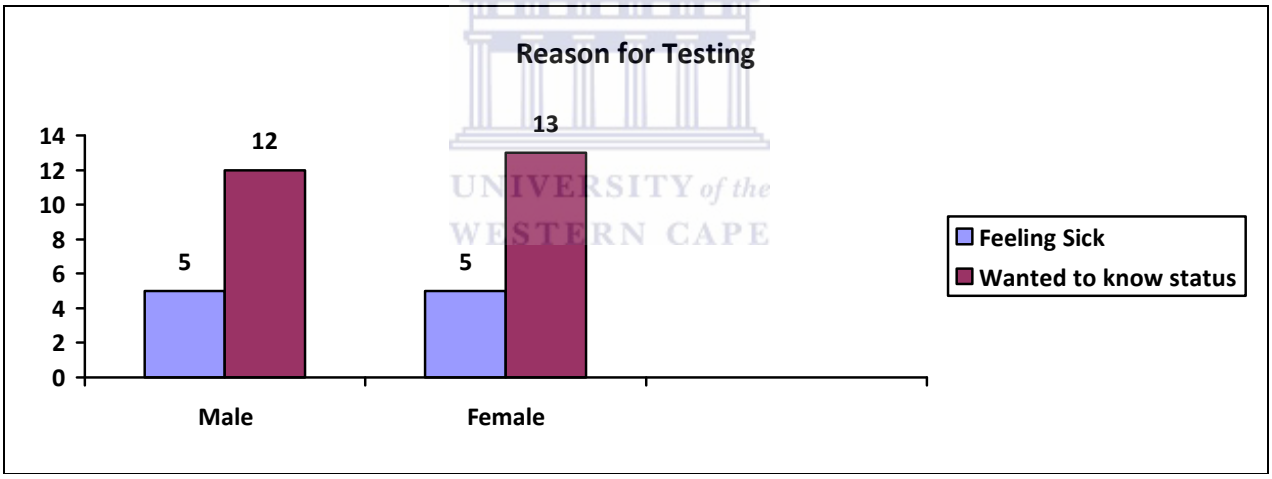

Figure4: Reasons for testing

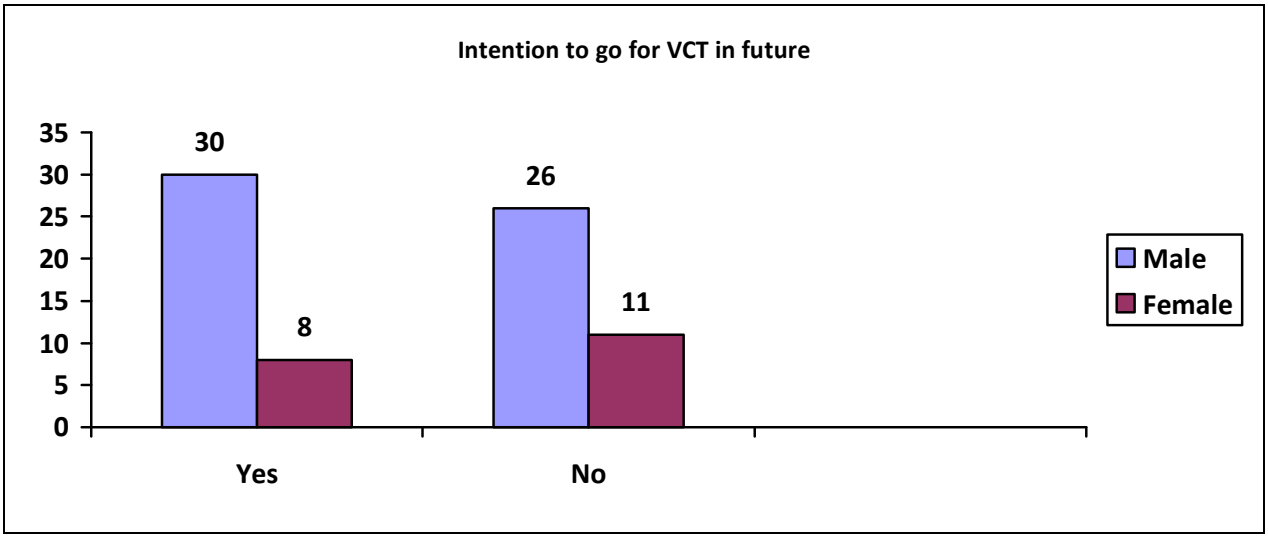

Figure 5: Intentions to go for VCT in future

The respondents that indicated that they would not go for VCT in future cited fear of being known that they had taken the test (45%), fear of being HIV positive (26%), and fear of being thought of as promiscuous (20%) as the reasons for not wanting to take an HIV test. On the other hand 7% of participants thought they were not at risk and 2% did not know where to access the service (Figure 6).

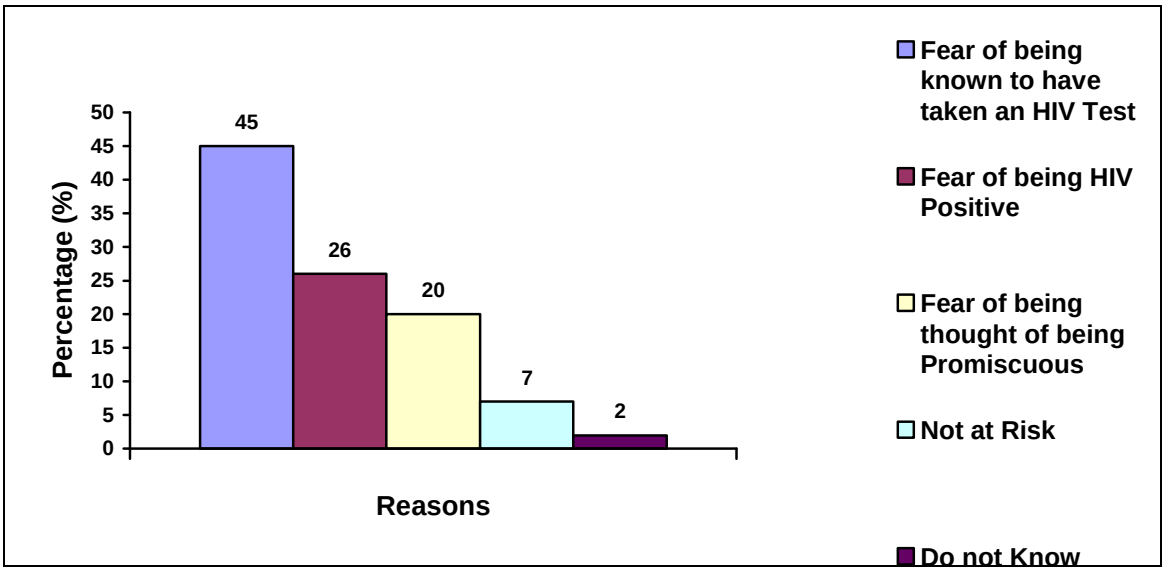

Figure 6: Reasons for not taking VCT

5.6.1 Perceived barriers to VCT

Nearly two thirds (63%) of the respondents said fear of being known by other people that they had gone for VCT hindered VCT uptake. Another reason cited for hindering VCT uptake was fear of being HIV positive results (14%). Participants felt that many people had difficulties accepting positive results as this was viewed as a death sentence. Seventeen (17%) of the participants said that they were not at risk, that is the reason why they did not seek VCT services. Long distance (4%) was another reason cited as hindering people from seeking VCT services. Two (1%) of the participants said fear of poor counseling offered at these health facilities hinders them from utilizing VCT services. (figure 7).

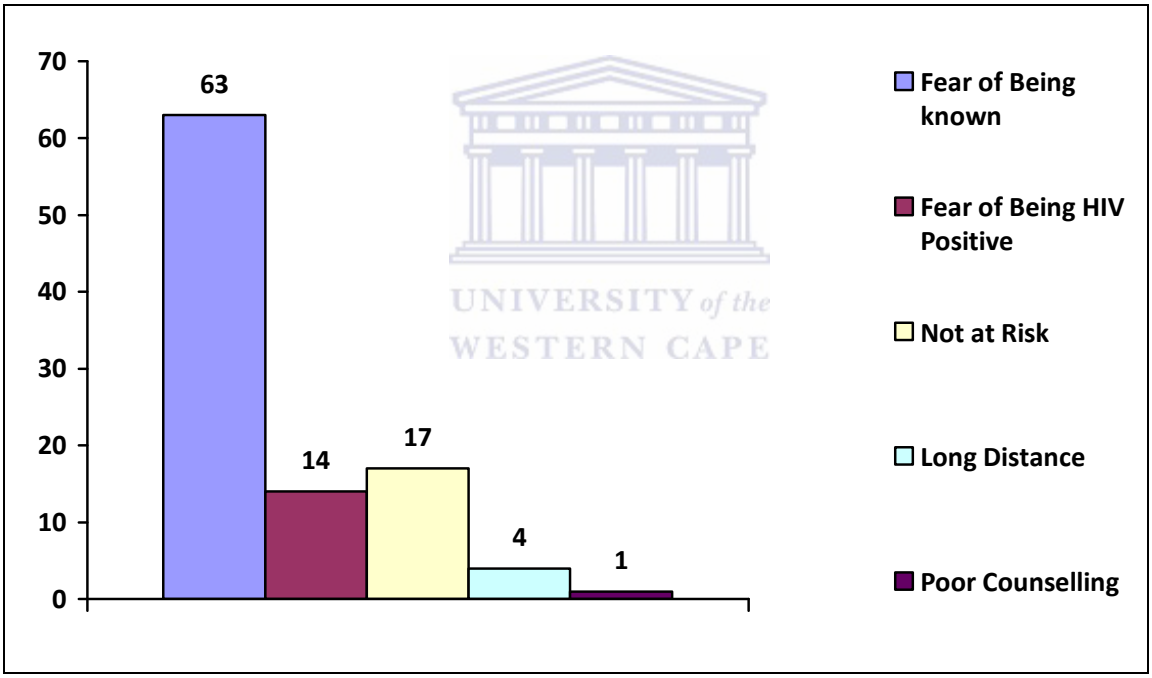

Figure 7: Perceived barriers to VCT uptake

5.6.2 Perceived factors that promote utilization of VCT services

Empathetic attitudes from health care staff and community members was the most cited factor that would make it easier for people to access VCT services (48%). The participants felt that people were not accessing VCT services because the health care staff and community members were not

supporting those who are HIV positive but condemning them or stigmatizing them. About 34% of the participants also felt more awareness on benefits of VCT would promote VCT uptake. Other factors that they thought would contribute to increased VCT uptake were; increased opening hours at VCT centers (8%), good Counseling skills and availability of mobile VCT (figures 6 and 8).

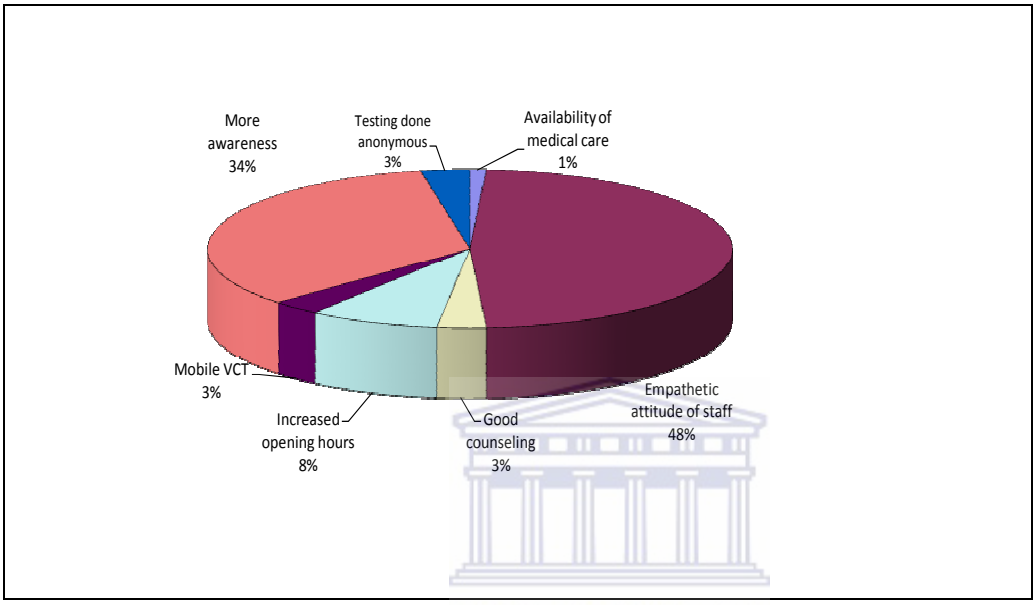

Figure 8: Factors that promote utilization of VCT services

5.6.3 VCT uptake and demographic characteristics

There was no difference in uptake of VCT between women (13) and men (12) (χ^2 =; 3020; p=0.3163).

The age range 30- 39 years had the highest number of people who had taken an HIV test (11%).There was no also no difference in VCT uptake between men and women in terms of age(χ^2 = *2.302***;** p = 0.0516). (Table 5)

In the study married people were the majority that had undertaken an HIV test. Out of the 25% who had been tested for HIV, 12 were married. Those who were single were the second in number among those who had taken an HIV test (5). The divorced were the least only (1) while the widowed and those on separation were 4 and 3 respectively. However there was no difference in VCT uptake between men and women and marital status was not a factor that influences VCT uptake (χ^2 =

6.435; p = 0.0873).

The results revealed that those with a higher level of education were more likely to take the test than those with lower education level, although there was no difference between men and women (χ^2 = *3.391;* p= 0.0152). Out of the 25% participants that had undergone HIV testing, 9 had college education and 8 completed grades 10 - 12 level of education.

Those in formal employment (10) and self employment (10) were more likely to access VCT services compared to those who were unemployed (5) (χ^2 = *6.458; p*= 0.0258).
Employment is significant fact in determining whether one goes for VCT or not. Those who are in informal employment are more likely to go for VCT that those who are not.

Table 5: VCT uptake and Socio-demographic characteristics

	Tested for HIV(%)	**Not tested for HIV(%)**	***p*-value**
Gender			
Male	12	41	**0.563**
Female	13	34	
Age (in years)			
18 – 29	8	35	**0.0516**
30 – 39	11	22	
40 – 49	6	18	
Education			
Primary school and below	1	14	**0.0152***
Secondary school	15	53	
Tertiary	9	8	
Marital status			
Single	5	31	
Married	12	36	
Divorced	1	1	**0.0873**
Separated	3	2	
Widowed	4	5	
Source of livelihood			
Formal employment	10	12	**0.0258***
Unemployed	5	31	
Self employed	10	32	

5. 6.4 Knowledge and awareness of HIV/AIDS and VCT uptake

There was a significant association between knowledge of HIV/AIDS and uptake of HIV testing (p= 0.041). Knowledge was a significant factor determining whether one will go for VCT or not(p=0.041). That is those with knowledge are more like to take an HIV test than those without. Knowledgeable was defined by ability to answer all the questions on HIV correctly. While scanty knowledge was defined as being able to answer only a few questions on HIV correctly. See table 6 below.

Table 6: VCT uptake and Knowledge about HIV/AIDS

Knowledge on HIV	Tested	Percentage
Knowledgeable	17	68
No or Scanty Knowledge	8	32

p= 0.041; Prevalence Ratio = 9

5.6.5 Preferred VCT centre and uptake

There was no association between preferred centre and VCT uptake (p= 0.104).Refer to Figure 6 below.

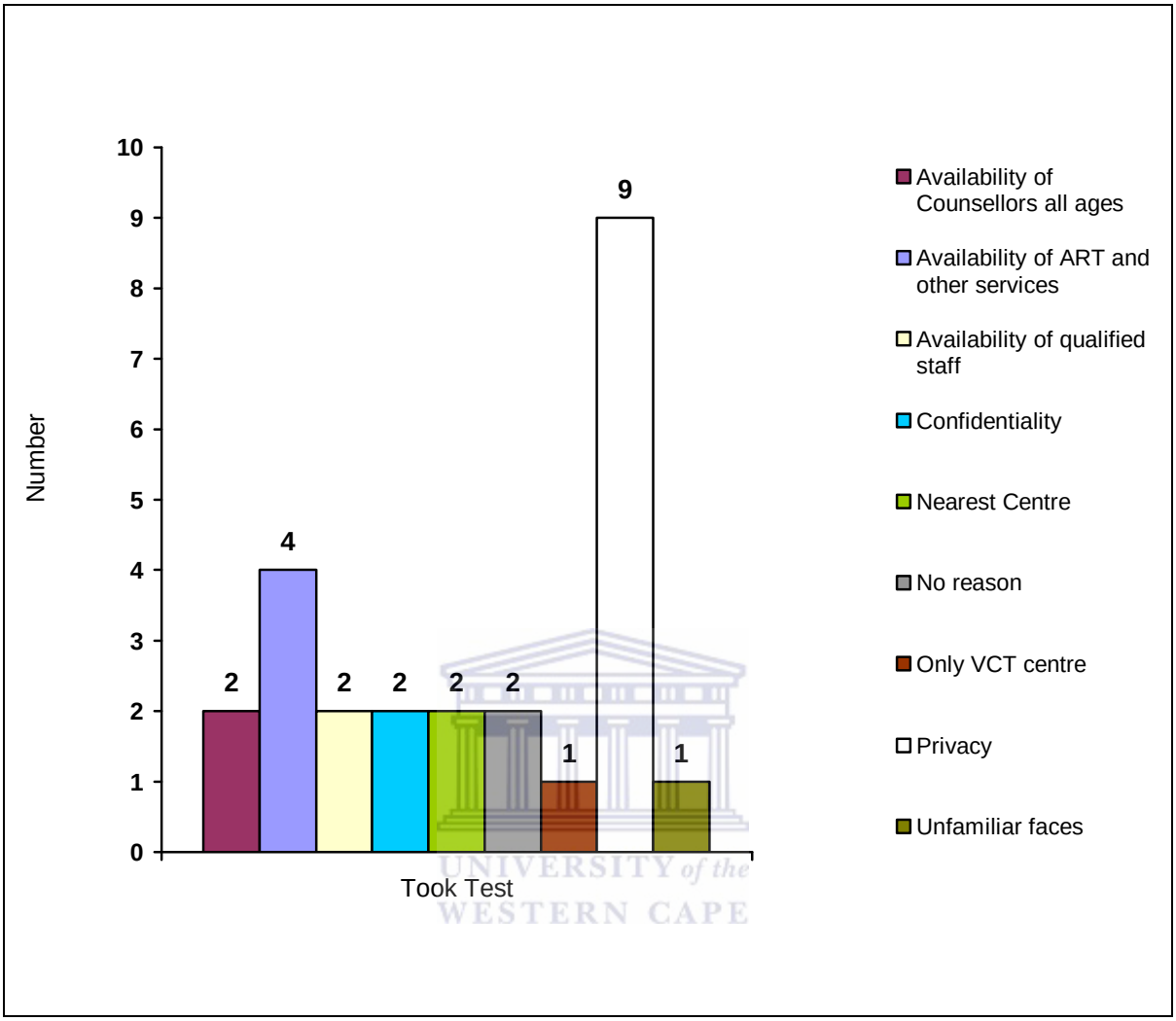

Figure 9: Preferred Centre and VCT uptake

5.6.6 Perception of what would promote VCT uptake

There were 48% of the respondents who thought empathetic attitude from health workers and community members would increase VCT uptake. Thirty-four (34%) respondents thought more awareness on importance of VCT and availability of the service would make it easier to access VCT, while 8 thought increasing VCT opening hours would encourage people to seek VCT services.

Table 7: Perceived Factors that would promote VCT uptake

	Tested for HIV				Total
	YES	%	NO	%	
Availability of medical care	0	0	1	1.3	1
Empathetic attitude from health workers staff	12	48	36	48	48
Good counseling	0	0	3	4	3
Increased opening hours	5	20	3	4	8
Mobile VCT	0	0	3	4	3
More awareness	8	32	26	34.6	34
Testing done anonymous	0	0	3	4	3
Total	25	100	75	100	100

Pearson Chi-Square (Asymptotic Significance 2-Tailed Test) = **0.154**

Conclusion

The study revealed that fear of being known by the public that one had taken an HIV test and fear of being HIV positive were the main perceived barriers to VCT uptake. On the other hand empathetic attitude from health workers and community members, more awareness on the importance and availability of VCT services and increased business hours of VCT were perceived to promote VCT uptake.

CHAPTER 6: DISCUSSION

6.1 Demographic characteristics

The proportion of women in the study was slightly lower than that of the general population of Ngungu (Kabwe District Health Management Plan 2007). This is contrary the literature review which suggests that women being most users of health facility are more likely to be captured in health surveys done at health facilities (FHI 2004). The survey was not able to identify the clear cause for the higher proportion of men.

The study captured participants in the age group 18 years to 49. The age limit could have meant leaving out those below 18 years who are equally affected thereby missing out on their views (CSO, 2007). The age representation in the study population was in line with the area and Zambia's statistics where the number of people decreases with age. This was expected because the general trend of the Zambian population narrows down with advancement in age (CSO, 2000). This age distribution could suggest that the younger age group is the most affected by HIV/AIDS hence the age group that frequents the health facilities. None of the participants were in the age group 50 and above. This could be attributed to the life expectancy which has dropped from 57 years in 2004 to 42 years in 2008 (CSO, 2000). The study could not establish why the pattern was like this. Qualitative studies are needed to understand this pattern.

The educational attainment in the study sample was different from the national statistics. According to ZDHS (2002), those with primary level of education are the majority in Zambia compared to those with secondary level of education and higher (85% of women and 92% of the men have at least attained primary level of education and 44% of men and a third of women had some secondary education (CSO, 2002). In this study, 85% of the study sample had educational attainment of secondary school level and higher. The difference in educational attainment of study sample could be due 10 years or more educational campaigns by NGOs and government. The fact that the educational level of the population is on the high side, health promoters could take advantage of this and focus on health educational campaigns to promote VCT uptake**.**

The proportion of the married and single population in the study was comparable with the Zambian statistics (CSO & MOH, 2002). According the ZDHS of 2000, the married population constitutes 53.8% of the Zambian adult population; followed by those who are single (33.2%.) These findings could mean that the sampling was a representative of the area. Another possible explanation for this representation could be that the married were seeking family planning services and hence were captured in the study.

There was no difference between source of livelihoods among the study sample and literature review (CSO, 2000). According to the population and housing census of 2000, three quarters of the Zambian population are in the informal sector (CSO, 2000). However the number of people dependant on others or not in employment was higher in the national study. This could have been due to people not putting value to self employment. Another possibility could be due to closure of the mines in Kabwe which lead to closure of other companies that were dependant on the mines thereby leaving most of the population unemployed. However the revelation that a third of the population is unemployed poses serious concerns on HIV/AIDS prevention programs (ZDHS, 2007). This means these particular groups of people have no access to HIV/AIDS work related programs or are less likely to be exposed HIV/AIDS prevention programs where access to VCT services is emphasized.

6.2 Knowledge, attitude and practices towards HIV/AIDS and VCT services

Knowledge on HIV/AIDS and importance of Voluntary Counseling and Testing was generally high (68). This was consistent with the results that were found during the Zambia Sexual Behavior Survey of 2000 (CSO & MOH, 2002) and that of Khan and Weiss (2006) in Zambia. In the case of this study it was expected because the educational attainment of the study population was on the higher side. Three quarters of the study population had secondary level of education and higher. The other possible explanation for this trend could be that Ngungu Community being an urban setting; it may have more access to media. Another possibility could be that urban areas have higher levels of infection and deaths which could have made people to be more aware of the epidemic. It was however evident that this knowledge level was not translated into action as only one third of the

study population had accessed VCT services. In the study the low uptake of VCT was attributed to perceived stigma surrounding HIV/AIDS, fear of being HIV positive and poor service delivery.

6.3 Source of information and preferred centre

As expected, the radio was the most important source of information. This could be due to the fact that most people in urban areas have access the media especially radio. If they do not own a radio, at least a neighbor would and would share information in the neighborhood. Meetings and workshops were the least sources of information yet a lot of efforts have gone into meetings and workshops by various stakeholders in this community. From the study results, it was also evident that there are still people who think that they are not at risk and do not know where to access VCT services. This is an indication knowledge gap and flow of information.

These findings have implications on programming especially for organizations involved in HIV/AIDS prevention. This would mean re – strategizing on information dissemination if VCT services are to be utilized or accessed more.

Although Ngungu Mini- hospital was the most preferred centre, reasons advanced by study population for preferring other centres like privacy, availability of counselors of all ages, availability of spiritual care and unfamiliar faces should be taken into consideration if VCT uptake is to be stepped up.

6.4 Demographic characteristics and HIV/AIDS testing

As reported in the literature review, there were relatively fewer participants that had an accessed VCT services despite the test being free and readily available (CSO, 2000). The 25% VCT uptake is still too low in communities like Kabwe where HIV/AIDS prevalence is estimated to be 23.8%. (Kabwe District AIDS Task Force strategic plan 2007-2010, 2007). These findings imply that a lot of work still needs to be done to improve VCT uptake. The low VCT uptake could be attributed to a number of factors such as level of stigma in the community, poor services delivery and limited knowledge on the benefits of VCT services (CSO, 2007). However there was an improvement in the

VCT uptake in the study sample compared to the national (7.8%) and area statistics (4%) (Zamstar, 2006-2007; CSO, 2007). The possible explanation to the increase could have been due to massive sensitizations during World VCT day which has been launched and commemorated since 30th June 2007. Another possible explanation could have been that participants (who had accessed VCT services) were captured during ART clinic since the hospital is now an ART centre since early 2008.

The results in the study revealed that there were more women (13) who had accessed the VCT services despite the men being the majority in the study sample. These findings are consistent with those obtained in the Zambia Demographic Health Survey of 2007 (23.3% women compared to 14.1% men). There are several possible explanations for this result. The first one could be that most of the women an accessed VCT service through antenatal clinic which contributes 33.8% of Zambia's total of population who have been tested (CSO, 2007). The second one could be that women being the majority users of the health facility compared to the men hence more likely to be offered testing services (FHI, 2004). The women also are the ones who care for the sick at home and hospital and hence likely to access VCT services especially when in hospital taking care of the sick.

The finding that gender did not influence VCT uptake, needs to be interpreted with caution because the sample size was small and as such the findings might not be transferable. Secondly, the study was done at the service delivery point which may not represent the general situation of the area.

These findings could suggest that this is the age group (30-39) responsibility of caring for the sick hence found at health facilities most of the times. Another explanation could be that this is the age group where they are either married; separated, divorced or widowed thereby the most affected by the epidemic and may be anxious to know their status. This tally well with the Zambia population and Housing Census of 2001 which indicate that the age group 15 – 49 years are the most affected by HIV.

In the study, educational attainment was a significant factor in VCT uptake. This was expected and similar to the findings of Zambia's population and housing survey of 2002 (CSO, 2002). According to the descriptive assessment those with senior secondary education and college had the highest number of people who had been tested for HIV compared to those with junior secondary and

primary educational attainment. As already mentioned the possible reason for this could be the educated easily understand issues surrounding the pandemic therefore are likely to take action especially on issues that affect their lives. Another possible explanation to this could be that the educated are the ones in formal employment hence most likely to benefit from HIV/AIDS work programs in the workplace. These findings imply that if HIV/AIDS prevention programs are to be successful, the packaging of VCT messages should consider educational levels and also that more efforts should be directed towards to the less educated.

The descriptive assessment of the findings revealed that marital status was a strong factor in determining whether one undertakes an HIV test or not. According to the descriptive assessment the married had the largest number of people who had an HIV test, followed by the single and widowed. The chi-square test for association however showed that this was not significant ($p = 0.0873$). These results need to be interpreted with caution as earlier alluded to. There is a possibility that the sample size was too small to affect the p-Value.

The study revealed that source of livelihood had a strong relationship with HIV testing. This finding is consistent with the national statistics (CSO, 2007). As stated earlier, this revelation could be due to HIV/AIDS workplace programs which most organizations are offering. Another reason could be due to higher educational attainment of people in the study sample.

6.5 Knowledge about HIV and HIV testing

The study revealed that knowledge about HIV/AIDS and the importance of VCT was an important aspect in determining whether one undertakes an HIV test or not. This is also consistent with the Zambia Demographic Survey of 2001-2002 (ZDHS, 2001-2002). Unwillingness to take an HIV test may suggest the level of stigma and discrimination in the community, fear of being HIV positive, and poor service delivery. To prevent stigma and discrimination against people living with HIV/AIDS educational campaigns should be promoted and sustained.

6.6 Source of information and HIV testing

Although the descriptive analysis showed that the source of information particularly the radio and relatives are associated with VCT uptake, the analytical aspect proved that source of information is not associated with VCT uptake (*p= 0.247).* This means that where one gets information on HIV/AIDS has no influence on VCT uptake at Ngungu Mini Hospital. However the type of media to use when disseminating information should be taken into consideration.

6.7 Perceived Factors that promote accessing of VCT services

Empathetic attitudes from health workers and community members were the most cited factor that would promote VCT uptake. This revelation was in line with studies done in Zambia and Eastern and Southern Africa which found out that stigma in health and family setting to be hindering people from seeking VCT services (HEART, 2001). This disclosure is an indication of level of stigma and discrimination in the community and health setting. Stigma and discrimination at health settings could be in form of poor care given to people once proved to be positive (UNAIDS, 2001).

Increased awareness on importance of VCT was second factor cited that would promote VCT uptake. This realization is an indication of the information gap and impresses the need for increased sensitization in the community. For health promoters this could mean harnessing knowledge and understanding to deal with stigma, discrimination and other fears related to HIV/AIDS and VCT. Further research need to be undertaken to determine the type of awareness to be done that would move people to take action.

Participants also thought increasing VCT opening hours would promote utilization of the services. This finding is similar to what was found among youths in Kenya and Uganda (Horizons, 2001). Currently VCT services at Ngungu min Hospital are only available from Monday to Friday and from 07.00 to 16.00. This could mean leaving out people that are busy during the week and thus explain the low VCT uptake. Another explanation to this desire for the VCT centres to be open on weekends is that only emergency cases are attended to (Sundays) and hence privacy will be assured. If VCT services are to be stepped up the responsible authorities at the hospital should therefore consider

opening the service to the public during weekends.

6.8 Perceived barriers to VCT uptake

Fear of being known by other people should the result be HIV positive was a major factor that was expressed as hindering VCT uptake. This again shows the level of stigma that exists in this community. There is however a problem in interpreting results on stigma in that stigma is not necessarily external (from other people) but may also be internal (self stigma). People living with HIV/AIDS (PLWHA) often stigmatize themselves (Kara, 2003). Sometimes PLWHA feel that people laugh at them even when nobody is doing so and as a result they start isolating themselves. Self stigma can result in delaying in seeking medical help for fear of being identified as HIV positive. Delayed treatment of HIV/AIDS related illness normally result in poor response to treatment (CBOH, 2004).

Participants also felt that fear of HIV positive results is another factor hindering VCT uptake. This finding is similar to the literature review (Day *et al.*, 2002). Many people feel that they are not strong enough to accept HIV positive result. This could mean lack of confidence in the quality of counseling offered. If VCT uptake is to increase, clients should be assured that the counseling offered is of good quality and that counselors are well equipped to do so.

The revelation of some respondents that they are not at risk (17%) in a high HIV prevalence area like Kabwe is an indication of knowledge gap about HIV/AIDS among the participants. For health promoters this is an opportunity to scale up sensitization programs.

6.9 Limitations of the study

Despite measures to ensure trustworthiness and representative ness of the study, the findings were limited in a number of ways. Firstly, data collected on Tuesday could have affected the findings as this was also ART clinic day. This may have increased the chances of capturing those that had accessed VCT services. During ART days, this is the time HIV positive clients on ART go for review and also this is the time they collect their drugs. On these days one is likely to capture more

clients that have accessed VCT services as VCT is the entry point to VCT (USAID, 2005) thereby affecting the results. Secondly, the study was done at the service delivery point, thereby leaving out clients not found at the health facility. Ideally the study should have been extended to all parts of the township but unfortunately time and resources could not allow the study to go beyond Ngungu health centre thus the views may therefore, not be representative of the general situation of the area. The sample size was also small. An ideal sample size to generalize study findings to all the residents of Ngungu Township would have been 5% of the area population (12,740) which would be 637 participants (James *et al.,* 2008).

However measures were taken to ensure the results can be generalized to other areas urban setting within the region. Random sampling was used and all the departments that are found at the outpatient were also targeted during the data collection period. The study will also provides baseline information on which further studies can be built on.

CHAPTER 7: CONCLUSION AND RECOMMENDATIONS

CONCLUSION

The study revealed that VCT uptake was low(25%) despite having sufficient knowledge on HIV/AIDS and importance of VCT. For those who had accessed VCT Services did so because of illness and worries about their HIV status. Demographic factors like educational attainment, age and source of livelihood were associated with HIV testing. The perceived factors that would promote VCT utilization were empathetic attitudes from the staff and community members, increased awareness of availability of VCT services, benefits and increased operating hours. On the other hand barriers to VCT services were fear of being known, fear of being HIV positive and stigmatization.

RECOMMENDATIONS

Based on the study findings the following recommendations are offered:

- HIV/AIDS awareness activities should be sustained and should address stigma and the negative perceptions such as promiscuity that are associated with HIV/AIDS by all health promoters working in Ngungu catchment area.

- There should be deliberate targeting of HIV/AIDS information to the unemployment and those with low literacy levels. Those who are not employed were found to missing out on HIV/AIDS information and VCT Services that were offered at work places.

- Radio programme on HIV/AIDS should be scaled up. According to findings, the radio was the form of media through which most people accessed information on HIV/AIDS.

- Mobile VCT could help tap clients who are unable to travel to the VCT centres. Therefore mobile VCT should also be scaled up to increase VCT uptake.

- Hospital administration should consider extending VCT operating hours and if also possible consider offering the service during the weekends as well to in order to cater for those that want to access the facility over the weekend.

- The hospital administration should consider relocating the VCT centres to another place where people may be free to walk in without being seen by the public. Fear of being known by other people was one of the major reason cited as hindering people from accessing VCT services.

- The hospital administration should consider recruiting and training youths as counselors to cater for other youths. Some youths felt they were not free to go for VCT because they were not comfortable to be given counseling by elderly people.

There should be serious commitment from the hospital authority and other stakeholders working in this community in addressing issues raised in the study if VCT uptake is to increase.

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APPENDICES

APPENDIX 1: MEAN, MEDIAN & INTERQUARTILE CALCULATION

AGE GROUP	fi	cumulative	Xi	fiXi	fiXi/N	Xi - ā	$(Xi - ā)^2$	$(Xi - ā)^2 f$i
20 - 29	43	43	24.5	1053.5	10.54	-21.79	474.80	20416.40
30 - 39	36	79	34.5	1242.0	12.42	-19.89	395.61	14241.96
40 - 49	21	100	44.5	934.5	9.35	-22.96	527.16	11070.36
TOTAL	**100**			**3230.5**				**45728.72**

Mean (ā) = $\sum f$iXi/N

= 3230 / 100

= 32.3 Years

Standard Deviation (σ) = $\sqrt{(\sum (Xi - ā)^2 f\text{i}/\sum f\text{i})}$

= $\sqrt{}$ (45728.72 / 100)

= $\sqrt{}$ (457.28)

= 21.38

Median Age: = $L_1 + \{(N/2 - M)/ f\text{i}\}$ L1 – L_2

= 30 + {(100/2 – 43)/ 36}9

= 30 + {(50 – 43)/ 36}9

= 31.75 Years

Interquartile Range

$Q_1 = L_1 + \{(N/4 – M)/ fi\}$ L1 – L_2

= 30 + {(100/4 – 43)/ 36}9

= 30 + {(25 – 43)/ 36}9

= 30 – 4.5

= 25.5 Years

$Q_3 = L_1 + \{(3/4N – M)/ fi\}$ L1 – L_2

= 30 + {(3*100/4 – 43)/ 36}9

= 30 + {(75 – 43)/ 36}9

= 30 + 8

= 38 Years

Definitions of symbols

f_i = is the frequency for the age group (range)

xi =Middle point of range

N = Total number of study sample

M = Pre –modal cumulative frequency

L1 and L2 = are the lower and upper limits of the age ranges

APPENDIX 2: QUESTIONNAIRE

SECTION1: PERSONAL CHARACTERISTICS OF STUDY SAMPLE

Respondent number…….

Sex of respondent

Male……1 ☐

Female….2

Age of respondent.

18- 29….1 ☐

30-39….2

40-49….3

50+……4

Marital status

1. Single……..…1 ☐

2. Married……..2

3. Separated…...….3

4. Divorced……....4

5. Widowed……5

Have you ever attended school?

Yes……..1 ☐

No……...2

What was the highest level attained

1-7…….1 ☐

8-9…….2

10-12…….3

College and above……4

None……..5

What do you do for your living?

Self employed

Formal employment.

Dependant

SECTION 2: KNOWLEDGE, OPINION, ATTITUDE AND PRACTICES TOWARDS TESTING

1. Have you ever heard of HIV or AIDS?

Yes…1

No….2

No response…3

2. How can one get HIV/AIDS?

……

……

……

3. Do you know anyone who is infected with HIV or who has died of AIDS?

Yes…..1

No….2

4. Is HIV/AIDS a problem in your community?

Yes……1

No…….2

I don't know….3

5. If Yes do you have an idea on the number of people that are infected or have died of HIV in your

community.

None 1

Few….2

Many…3

I don‘t know

6. How can people know they are infected with the HIV virus?

By getting tested…1

By being sickly…..2

If they are thin……3

I don’t know…….4

By consulting the witch doctor…5

Others/Specify….6

……

……

7. In your opinion what are the benefits of knowing whether one has the HIV virus?

……

……

……

8. Are there HIV testing centres in this community?

Yes…1

No…2

I don’t know……3

9. Have you ever heard of Voluntary Counseling and Testing?

Yes……1

No…….2

10. Where did you first obtain information on VCT? You Can tick more than one if applicable.

Friend

Relative

neighbors

Radio

TV

Others .Specify…….

11. How many VCT centres are in Ngungu?

One…1

Two…2

Three…3

I don't know…4

12 Do people access VCT services at these sites?

Yes….1

No…..2

I don't know….3

13 Which centre do most people prefer? .....

14 What are reasons for preferring this one to the other? .....

……..

……..

15 What else do people do if they suspect they have HIV or they want to know their status?

Go for VCT…….1

Consult Witch doctor…..2

Others /specify?.....3

……

……

……

16. Have you ever gone for VCT? If not go to question 21.

Yes….1 ☐

No……..3

17. If yes, what was your reason for seeking VCT services?

……

……

……

18. Do you feel you benefited from the counseling and Testing?

Yes…1 ☐

No….2

I don't know..3

19. What do you think about the services offered/

Very Good..1 ☐

Good…2

Acceptable..3

Unsatisfactory..4

20. Comment……..

21.. If you have not undergone VCT do you ever intend to go ?

Yes…..1 ☐

No……2

22. If not what are reasons

(Tick the most important reason)

Fear of results being known by everyone…..1

Fear of being thought to be promiscuous……2

Fear of results being positive….3

Fear of denied certain privileges ..4

Poor counseling services……5

Don't know where to go…5

Not at risk……6

It expensive…….7

Long distance ……8

23 What would make it easier for people to ask for an HIV test?

(Tick the most important reason)

More awareness on availability of the service…..1

Testing done anonymously..2

More empathetic attitude from service staff…3

Opening hours increased…..4

Good counseling….5

Post counseling following up…6

Availability of medical care)…..7

Mobile VCT……8

VCT centres in an isolated place…9

24 Is the counseling room conducive for counseling session?

Yes..1

No..2 ☐

If not what is the problem? Explain

……

……

……

25. If not what can be done to improve the situation
……
……
……

26 . Do have an idea why people do not access VCT?

Yes…..1
No…….2

If yes what are some fears that hinders people to go for VCT?
……
……
……

27. Have you ever encouraged someone to go for VCT?

Yes……..1
No……2

If Yes/No how did you feel?
……
……
……
Thank you for your cooperation

APPENDIX 3: ETHICAL CLEARANCE

THE UNIVERSITY OF ZAMBIA

BIOMEDICAL RESEARCH ETHICS COMMITTEE

Telephone: 260-1-256067
Telegrams: UNZA, LUSAKA
Telex: UNZALU ZA 44370
Fax: + 260-1-250753
E-mail: unzarec@zamtel.zm

Ridgeway Campus
P.O. Box 50110
Lusaka, Zambia

Assurance No. FWA00000338
IRB00001131 of IORG0000774

19 December, 2008
Ref.: 004-08-08

Mrs Phyllis Bune Kanyemba
P.O. Box 81125
KABWE, ZAMBIA

Dear Mrs Kanyemba,

RE: SUBMITTED RESEARCH PROPOSAL: **"FACTORS INFLUENCING VOLUNTARY COUNSELING AND TESTING UPTAKE AT NGUNGU MINI HOSPITAL IN NGUNGU TOWNSHIP – KABWE DISTRICT – ZAMBIA: A DESCRIPTION AND ANALYTICAL STUDY"**

The above-mentioned research proposal was presented to the Biomedical Research Ethics Committee meeting on 29 October, 2008 where changes were recommended. We would like to acknowledge receipt of the corrected version with clarifications. The proposal has now been approved.

CONDITIONS:

- This approval is based strictly on your submitted proposal. Should there be need for you to modify or change the study design or methodology, you will need to seek clearance from the Research Ethics Committee.
- If you have need for further clarification please consult this office. Please note that it is mandatory that you submit a detailed progress report of your study to this Committee every six months and a final copy of your report at the end of the study.
- Any serious adverse events must be reported at once to this Committee.
- Please note that when your approval expires you may need to request for renewal. The request should be accompanied by a Progress Report (Progress Report Forms can be obtained from the Secretariat).

Yours sincerely,

Dr James C. Munthali
A/CHAIRPERSON

Date of approval: 19 December, 2008 **Date of expiry**: 18 December, 2009

APPENDIX 4: INFORMATION SHEET

UNIVERSITY *of the* WESTERN CAPE

DEPARTMENT OF RESEARCH DEVELOPMENT

Information sheet

UPTAKE OF VCT AT NGUNGU MINI HOSPITAL, NGUNGU TOWNSHIP, ZAMBIA

Dear …….

I'm Phyllis C. Bune a student pursuing master degree in public health at the University of the Western Cape by distance learning program. I'm trying to collect information on Voluntary Counseling and Testing services at Ngungu mini Hospital. I have been given permission from the District Director of Health - District Health Management Board and Mini Hospital and the Home Based care.

The survey is being done to find out the number of people that have undergone Voluntary Counseling and Testing. The survey will also find out the factors that are influencing people to go for Voluntary Counseling and Testing and also factors that prevent people from going for VCT.

VCT is important as it enables one to know their status. If they are found to be HIV positive, they will be assisted to get related treatment and support. If they are found be negative they will be assisted on maintain their status.

However information is being collected for academic purposes.

The people to be interviewed will be men and women aged between 18 and above who are looking for medical help and other services at Ngungu mini hospital. These will include those who have

come for treatment, anti-natal care, family planning services, VCT, under-five clinic and support groups.

The participants will be asked questions that will be prepared by Phyllis C. Bune, the student. These will be individual questions. The interview will take between 15 and 20 minutes.

At all times, I will keep the information collected confidentially and I will refer to you or **y**our words using numbers. I shall keep any other records of your participation locked away at all times, and destroy them after the information has been examined. Information collected will be strictly be confidential, and only the researcher will have contact to it.

There may be questions that you may not feel comfortable to answer or discuss, you are free to refuse to answer. I will not be offended and there will be no punishment for it. I would appreciate your guidance should I ask anything which you see as interfering.

I shall keep the answers of the above interviews confidential in the sense that the numbers will be used in all documents which refer to the interview. The contents will be used for the purposes referred to above, but may be used for published or unpublished research at a later stage without further consent. Any change from this agreement will be re discussed with you.

For more information contact Dr. Brian Van Wyk at University of Western Cape at + 27219593520

APPENDIX 5: CONSENT FORM

UNIVERSITY *of the* WESTERN CAPE

DEPARTMENT OF RESEARCH DEVELOPMENT

CONSENT FORM

I have been informed about the purpose of the study and what my participation involves.

I also understand that I can withdraw from the study any time without having to give a reason and that the study is completely voluntary.

I also understand that confidentiality will be maintained and that the findings of the study will only be used for academic purposes.

Signature……. **Date: ……..**

Witness: …… **Date:……...**