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SCHOOL OF PUBLIC HEALTH AND FAMILY MEDICINE

FACULTY OF HEALTH SCIENCES

DETERMINANTS OF HIV VOLUNTARY COUNSELLING AND TESTING AMONG
THE YOUTH: THE CASE OF BOTSWANA

A MINI -DISSERTATION SUBMITTED IN PARTIAL FULLFILMENT OF
MASTERS OF PUBLIC HEALTH

BY

ELLEN N. MOKALAKE (MKLELL001)

UNIVERSITY OF CAPE TOWN

SUPERVISOR: PROF DI COOPER.
DECLARATION

I, Ellen Nnini Mokalake (MKLELL001), hereby declare that the work in this mini-dissertation is based on my original work (except where acknowledgements indicate otherwise) and has not, in whole or in part, been submitted towards another degree, at this University or elsewhere.

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Signature

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Date

University Of Cape Town
DEDICATION

This thesis is dedicated to the lord for the love and guidance he provided me with throughout my study period. My family, Thanda, Tefotsaone and Pule.
ACKNOWLEDGEMENTS

First and foremost, I would like to express my gratitude to the University of Cape Town, department of public health under the direction of Professor Rodney Ehrlich, for granting me the opportunity to pursue my Masters degree. I would like to thank the government of Botswana, ministry of health, for providing me with the financial support to pursue this degree.

The academic and administration staff at the School of Public Health and Family Medicine deserve thanks for the guidance, support and provision of a conducive learning environment that made my academic life meaningful throughout the period of my study.

Special thanks goes to my supervisor Professor Di Cooper for her patience, encouragement, support and above all, professional and academic guidance that she offered me. Without her this study would not have materialised.

I would like to thank the Ministry of Health and Ministry of Education (Botswana) for granting permission to conduct this study. Special thanks goes the management of Ledumang Senior Secondary School, Gaborone Secondary School, Naledi Senior secondary School, Gaborone Technical College and the Botswana Accountancy College who made it possible for me to conduct my study in their institutions.

Special thanks goes to the participants (student at the above mentioned schools) of this study, for agreeing to participate and dedicate their time to the completion of my study questionnaires without which this study couldn’t have materialised.

Special thanks goes to Pinkie, Gao, Mashiko, Goabamang and Alfeous for their love, care and support.

I would like to convey my gratitude to my family, in particular my husband Mr Thanda Lebonamang Mokalake for the single parenting role he played during my absence. My
daughter Tefo, deserves special thanks for the home management duties that she performed whilst I was away. Pule my son, also deserves special thanks for the Technical support he provided for my academic work whilst I was at home, on vacation, and whenever he visited me in Cape Town.
ABSTRACT

This study was conducted in Gaborone city, Botswana. Botswana is a small country in south central part of Africa with a population of 1.7 million (Botswana population census, 2001).

The overall aim of the study was to examine barriers and facilitating factors influencing the readiness for and acceptability of voluntary HIV testing among the youth aged 18-24 years in Gaborone, Botswana.

A quantitative methodology was used in this study. A multistage sampling strategy was also used to recruit one hundred and forty four (144) participants. Information on socio-demographic characteristic, knowledge and utilization of VCT sexual behaviour and perception of risk was gathered by use of a self administered structured questionnaire.

STATA version 8 was used to analyse the results of this study. Summary statistics, chi-square test and logistic regression were employed in the analysis. Participants comprised of students from senior secondary schools and tertiary education institutions from the sampled schools of Gaborone. The modal level of education was secondary and the more than half of participants (56%) were females. Their age ranged from 18-24 years. The majority of participants (75%) were sexually active and just over a third 36% of all participants considered themselves not at risk of HIV. VCT knowledge was reported by a significant proportion (59%) who also reported knowledge of VCT sites. HIV testing was reported by a minority of participants 42% and the most commonly reported reason for testing was media campaigns encouraging HIV testing whilst the most commonly reported reason for not testing was never been sexually active.

Findings from this study revealed that, HIV test acceptance among the youth is still an area that needs greater attention. The facilitation of HIV testing amongst the young people and removal of barriers to testing can be achieved through a focus on use of strategies that seem
to work such as the media. Also, there is need to ensure utilization of VCT services by youth through making them understand of the role that VCT plays in preventing HIV and AIDS.
**LIST OF ACRONYMS**

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>ACHAP</td>
<td>African Comprehensive HIV/AIDS Partnership.</td>
</tr>
<tr>
<td>AIDS</td>
<td>Acquired Immunodeficiency Syndrome</td>
</tr>
<tr>
<td>BOCAIP</td>
<td>Botswana Christian Aids Intervention Program</td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
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<tr>
<td>UNAIDS</td>
<td>United Nations Program on HIV/AIDS.</td>
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<tr>
<td>VCT</td>
<td>Voluntary Counselling and Testing</td>
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<tr>
<td>WHO</td>
<td>World Health Organisation</td>
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<tr>
<td>NACA</td>
<td>National AIDS Coordinating Agency.</td>
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<tr>
<td>UNFPA</td>
<td>United Nation Population Fund</td>
</tr>
</tbody>
</table>
# TABLE OF CONTENTS

DECLARATION ........................................................................................................................................... II  
DEDICATION ................................................................................................................................................ III  
ACKNOWLEDGEMENTS ............................................................................................................................ IV  
ABSTRACT ................................................................................................................................................... VI  
LIST OF ACRONYMS ............................................................................................................................... VIII  

## CHAPTER 2  ........................................................................................................................................ 7  

LITERATURE REVIEW .............................................................................................................................. 7  
  2.1 Introduction ........................................................................................................................................ 7  
  2.2 HIV/AIDS prevalence and youth ...................................................................................................... 7  
  2.3 VCT as part of the HIV/AIDS preventive strategy. ..................................................................... 8  
  2.4 Possible negative outcomes of VCT. ............................................................................................ 11  
  2.5 Factors influencing readiness and acceptability of HIV testing. ............................................ 12  

## CHAPTER 3  ....................................................................................................................................... 14  

METHODOLOGY .................................................................................................................................... 14  
  3.1 Introduction ..................................................................................................................................... 14  
  3.2 Definition of terms............................................................................................................................ 14  
  3.3 Study design ................................................................................................................................... 15  
  3.4 Study site ....................................................................................................................................... 15  
  3.5 The study population ....................................................................................................................... 15  
  3.6 Sampling ....................................................................................................................................... 16  
  3.7 Data collection ................................................................................................................................ 18  
  3.9 Quality assurance ............................................................................................................................ 20  
  3.10 Ethical considerations ................................................................................................................... 20  

## CHAPTER 4  ..................................................................................................................................... 22  

RESULTS .................................................................................................................................................. 22  
  4.1 Introduction ...................................................................................................................................... 22  
  4.2 Demographic profile of participants ............................................................................................ 22  
  4.3 Sexual behaviour and perception of HIV risk ............................................................................... 23  
  4.4 Knowledge of VCT and where VCT sites could be accessed .................................................... 24  
  4.5 HIV testing .................................................................................................................................... 24  

CHAPTER 1

Introduction

1.1 Introduction

This chapter provides the background to the study as well as the justification, aim, specific and implementation objectives.

1.2 Background

HIV/AIDS continues to claim people’s lives globally. An estimated 2.9 million deaths in the world in 2006 were HIV/AIDS related and a total of 39.5 million people were living with the HIV virus (UNAIDS, 2006). Young people aged 15-24 years are the hardest hit in most countries in the world. In 2006 young people accounted for 40 percent of new infections among adults. (UNAIDS, 2006). This clearly calls for intensifying efforts geared towards assisting youth to prevent HIV infection. Sub-Saharan Africa is home to two thirds (63%) of all people with HIV in the world and within this region Southern Africa is home to 32% of all people living with HIV globally, with 34% of all deaths due to AIDS in 2006 having occurred there (UNAIDS, 2006).

In addressing the HIV/AIDS epidemic, global efforts have focused on increasing access to prevention programs and effective treatment. Voluntary counselling and testing (VCT) has been seen as a very important aspect of prevention by most countries in the world. Macauley (2004) contends that VCT aims to help young people evaluate their own behaviour and its consequences. Boswell and Baggaley. (2002) define voluntary counselling and testing (VCT) as “a process whereby an individual or couple undergoes counselling to enable him/her/them to make informed choices about being tested for HIV”. They further describe it as a vital point of entry to other HIV/AIDS services that include prevention and management of HIV related illnesses.
VCT offers benefits to those who test positive as well as, negative. It can help young people evaluate their own behaviour and its consequences, alleviates anxiety, increases their perception of vulnerability to HIV and promotes behaviour change. To those who test HIV positive, VCT provides an opportunity to discuss and understand what an HIV positive status means as well as what responsibilities they have to themselves and others. This includes counselling on how to live positively with the virus, engage in behaviour change such as reduction in the number of sexual partners and effective condom use, referral, for support as well as assist in reducing stigma. Young people who test negative have an opportunity to develop risk-reduction plans and adopt safer- sex behaviours so that they can remain negative (McCauley 2004).

The high rates of infection among young people in many countries of the world has prompted individual countries to prioritize targeting youth in their HIV prevention strategies and care. This includes promoting the uptake of VCT among youth. This move has been seen as urgent especially in Southern Africa where young people constitute more than 30% of the total population with HIV (Horizon et al, 2001).

Botswana is a middle income nation in the south central part of Africa with a population of about 1.7 million. Its HIV prevalence has been among the highest in the whole world since 1995. Although Botswana’s economic outlook has remained strong since independence (1966), the devastation that AIDS has caused, has significantly impacted on its macroeconomic situation (Econsult Botswana, 2007). Life expectancy at birth has fallen from
65 years in the period 1990-1995 to less than 40 years in the period 2000-2005. This is projected as 28 years lower than it would be without an impact of AIDS (UN, 2004).

In response to the high prevalence of HIV, Botswana has gone through three successive stages. The first stage (1987-89) focussed mainly on screening of blood to eliminate the risk of HIV transmission through blood transfusion. The second stage (1989-97) constituted the introduction of information, education and communication programmes. It is during this stage that the government adopted its national policy on HIV/AIDS. During the third stage (from 1997 to the present), the response became multipronged, including education and prevention initiatives as well as comprehensive health care and the provision of anti-retroviral treatment. In this third stage, the country identified and implemented HIV voluntary counselling and testing as a key strategy in HIV prevention and care.

In order to facilitate voluntary counselling and testing, the Botswana government in collaboration with the USA government established and supported the Tebeloepel network of VCT centres throughout the country. These centres are aimed at providing immediate confidential HIV counselling and testing for sexually active Batswana aged 18-49 years (Noble, 2007). Sixteen Tebeloepel HIV counselling and testing centres and eight satellites services were established by October 2005. In addition to these, the African comprehensive HIV/AIDS Partnership (ACHAP) in partnership with the Botswana Christian AIDS Intervention Programme (BOCAIP) which is a non-governmental organisation composed of local AIDS Initiatives and other Christian organisations and institutions, established eleven more counselling centres. By the end of 2005 these centres had trained 447 counsellors and served over 70,000 people (ACHAP, 2005). Also, the Botswana Family Welfare Association
(BOFWA) provides VCT services. This is a non-governmental organisation that was founded in 1988 and whose mandate was to provide sexual and reproductive health education services to 10 to 29 year olds.

The VCT facilities are staffed by counsellors who have backgrounds in social sciences, humanities, nursing and teaching with most of them having university education. All counsellors undergo eight weeks of training. A standardised counselling and testing protocol that takes approximately one hour is used. The protocol comprises: 1) pre-test counselling that focuses on assessing the infection risks and preparing the client to receive results 2) performance of a rapid test and 3) post-test counselling which focuses on risk reduction plans, depending on the client’s HIV status. For example, if one tests HIV positive, disclosure of HIV status, testing of partner and referrals to support and health services are discussed and if testing negative, risk reduction plans are discussed. Counselling services are provided at no cost to the client (Creek et al., 2006). A social marketing campaign has encouraged testing at TebeloMpe centres and has involved promotion messages by the media, billboards featuring Botswana leaders, as well as brightly painted TebeloMpe centre vehicles (Creek et al. 2006). At the centre of these promotion campaigns is the notion that knowledge of HIV status is essential in bringing down stigma and discrimination associated with HIV/AIDS. (Government of Botswana, 2003)

In view of this notion of the importance of knowledge of HIV status in the prevention of HIV/AIDS, much effort has been focussed around improving knowledge of the existence and purpose of VCT services amongst the general population. No effort has however been
invested in identifying barriers and facilitating factors to uptake of VCT services by young people, in spite of the fact that they are the hardest hit by the epidemic.

1.3 Justification

Youth in Botswana are at the centre of the epidemic with young women being at higher risk than their male counterparts. According to The Botswana NACA, (2004) prevalence among young women aged 15-19 years was 19.8% compared to 3.1 % of men of the same age. As knowledge of HIV status through VCT, is important in curbing the HIV epidemic among young people, there is a need to identify barriers to 1) readiness to test 2) readiness for the test results 3) behaviour change based on the results and facilitating factors to testing by youth. Findings from the study will enable the Botswana government to employ programs aimed at confronting the identified barriers as well as promote facilitators to testing by youth. Also the study will significantly contribute to the design of programs for prevention and care for youth in Southern Africa and other countries in an advanced stage of the epidemic.

1.4 Aim

To examine barriers and facilitating factors influencing the readiness for and acceptability of voluntary HIV testing amongst the youth aged 18-24 years in Gaborone-Botswana.

1.5 Specific Objectives

Among youth aged 18-24 years to:

1.5.1 Determine knowledge of the availability of VCT services and potential possible sites for accessing these services.

1.5.2 Determine proportions that have accessed VCT testing services.

1.5.3 Explore socio-economic and demographic factors and their influence on HIV voluntary counselling and testing.
1.5.4 Compare potential differences in the socioeconomic and demographic factors that influence HIV testing between males and females.

1.5.5 Compare potential differences in the socioeconomic and demographic factors that influence HIV testing between secondary and tertiary institution students.

1.5.6 Explore the impact of sexual behaviour and perceptions of HIV risk on uptake of testing for HIV.

1.6 Implementation objectives

To inform policy and planners, especially from the public health sector on factors that determine HIV voluntary counselling and testing by youth in Gaborone, Botswana.
CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Having provided a background, justification, aims and objectives of the study in the previous chapter, this chapter will discuss literature that is related to the study. The discussion will focus around the following areas: Prevalence of HIV/AIDS among the youth, VCT as part of the preventive strategy, and factors that determine readiness and acceptability to test for HIV by youth.

2.2 HIV/AIDS prevalence and youth

The HIV/AIDS epidemic has put the lives of young people at risk more than any epidemic recorded in history. An estimated 11.8 million young people aged 15 to 24 years live with HIV/AIDS and about six thousand of them are reported to be contracting the disease each day. Lack of knowledge about HIV/AIDS as well as other sexually transmitted diseases are reported as factors surrounding high rates of HIV/AIDS infections among the youth (UNICEF, UNAIDS & WHO 2002).

Monasch and Mahym, (2006) contend that in countries with a generalised HIV/AIDS epidemic, the epidemic is driven by young people, and the high risk group are mostly young people aged below 25 years. Findings from their study that reviewed data on young people and HIV/AIDS revealed that lack of knowledge and skill regarding prevention from HIV/AIDS was the main reason behind the risk faced by young people with regards to HIV/AIDS.
UNFPA, (2005) brings in another important aspect to the discussion on HIV/AIDS prevalence and youth. That is, the issue of gender. It holds that in the Sub-Sahara, young women aged 15-24, are at a higher risk of contracting HIV/AIDS than their male counterparts. According to the report this is attributed to some cultural beliefs and practices such as where young girls engage into sexual relationships with older men for material gain.

The African Youth Alliance, a program that was established in Botswana, Ghana and Tanzania aimed at improving HIV/AIDS prevention and sexual reproductive health among the youth states in its summative evaluation report that, the percentage of young people with HIV/AIDS in Botswana is significantly higher than the other two countries in which the program was implemented. Similarly, in this report, the high rates of infection among the youth is attributed to their low levels of knowledge and low perceptions of risk in matters relating to their sexual and reproductive health (AYA report, 2007).

Certainly, evidence from studies conducted in different regions of the world, Botswana included suggests that, HIV/AIDS is more prevalent among young members of the society. Also, a common thread that runs across most of these studies is that of attributing the high infection rates among the youth to their lack of knowledge in matters relating to HIV/AIDS. Therefore, the situation faced by young people with regard to the HIV/AIDS epidemic in countries like Botswana calls for a focus on young people in the fight against this epidemic.

2.3 VCT as part of the HIV/AIDS preventive strategy.

A significant amount of research work has explored the role of VCT as a preventive strategy for HIV/AIDS both for the general population as well as for youth. These include a randomised controlled trial which aimed at determining the impact of VCT on sexual risk behaviour in three developing countries (Kenya, Tanzania and Trinidad). Findings from this
study revealed greater risk reduction among a group assigned to VCT compared to the control group (The Voluntary HIV-1 Counselling and Testing study group, 2000). These findings provide supporting evidence relating to efficiency of VCT in reducing the spread of HIV/AIDS. However, Sarker et al, (2007) argues convincingly that pregnant women are more likely to appreciate the benefits of VCT if it involved couple counselling. These were findings from their cross-sectional survey involving pregnant women who visited district hospital for antenatal care during a period of six months. The study explored determinants of HIV counselling and testing participation in a prevention of Mother-to-Child Transmission programme in Burkina Faso. Nevertheless, studies discussed above focused on the general population and this raises a question as to whether a focus on the youth will produce similar findings. That is, could strategies such as couple counselling be feasible with the youth?

The Horizon program et al, (2001) conducted a study in Nairobi, Kenya and Kampala and Masaka, Uganda to investigate if VCT was an effective HIV/AIDS strategy for youth much as it is for adults. This study used both qualitative and quantitative methodologies. In-depth interviews and focus group discussions were used to collect data from youth, their parent, service providers and community members. Also a survey was conducted from a convenience sample of both HIV tested and untested youth. Findings from this study highlighted several interesting points, that youth testing models did not always match existing VCT models and several factors deter youth from testing. Nevertheless, from the same study, it is concluded that providing full scale VCT or at least strengthening the existing counselling efforts has the capacity to increase youth satisfaction and increase the demand for VCT by youth.

A meta-analysis conducted in South Africa involving literature on VCT in Africa that investigated among other factors, the efficiency of VCT as a preventive strategy, revealed that VCT appeared to be more effective as a preventive strategy with people who test HIV
positive than those who test HIV negative. The researchers contend that, after obtaining HIV negative results clients are likely to perceive themselves as being at lower risk, hence continue to engage in risk taking behaviours (Solomon et al, 2004) and that exposes them to contracting the HIV virus.

From another South African study, Mathews et al, (2009) contend that VCT services provided in most clinics were of adequate quality. However report of reports of bad treatment of clients by clinic staff were raised by simulated clients involved in the study. From the same study, a significant difference in the quality of counselling services between counsellors was identified, with few counsellors providing poor and harmful services. This was identified as a factor that might deter youth from accessing VCT services. This was a descriptive observational study that focussed on assessing whether VCT services in Cape Town were adolescent friendly from their perspective (adolescent) as well as to assess the adequacy of counselling for high risk adolescents. The methodological approach used in this study contributed a lot to the quality of evidence it provided.

In the context of Botswana, Fako, (2006) provides much relevant information relating to VCT as part of a preventive strategy among the youth. This information emanates from findings from his cross-sectional study that involved students from Community Junior Secondary Schools, Senior Secondary schools and tertiary education Institutions in Botswana, from which he investigated social and psychological factors that promote willingness to test for HIV among young people in Botswana. He argues that willingness to go for VCT by young people in Botswana is determined by their perception of risk of being HIV infected, that is, young people at high risk of being HIV infected were less willing to test compared to those at lower risk. Being sexually active, having multiple sexual partners, unhappiness with life in general, no attachment to a father, and a childhood that involved frequent conflict, are factors that related to fear of testing in this study. A coherent family
background, psychological bonding among family members, a positive socialisation environment, social and psychological adjustment outside the family context and a favourable socio-economic background were identified as important factors in shaping positive attitudes of young people towards HIV testing. However, the study did not explore factors associated with the actual testing.

Contrary to Fako’s argument, Creek et al., (2006) argues convincingly that access to Antiretroval treatment has been a significant factor behind increased numbers of clients attending VCT for HIV test in Botswana. In other words, the client’s perception of being HIV infected drives them to seek HIV testing so that they can gain access to treatment. These are findings from a study that analysed data from Tebelopele VCT network in order to describe clients factors associated with HIV infection and trends in VCT use. Therefore, conflicting results from these two studies provides questionable evidence with regards to the role of VCT as an HIV preventive strategy in Botswana. However, The Tebelopele study focuses on the general population hence the findings may not be specific to the youth.

Lack of evidence relating to the role of VCT as an effective HIV/AIDS preventive strategy calls for a focus on the area so as to examine if this is congruent with the rest of the world.

The methodological strengths of Fako’s study are that, it included youth from both urban and rural schools which provided a more geographically representative sample. However, a 76 item questionnaire that was used in Fako’s study was too long to collect data for a single study.

2.4 Possible negative outcomes of VCT.

Though the discussion above has provided evidence that suggesting that VCT is indeed an effective preventive strategy against HIV/AIDS, it is worth looking at the other side of the coin and discuss the negative outcome that related to VCT that has been reported. A cross
sectional study involving mineworkers was carried out in Welkom, South Africa to assess both client and counsellor satisfaction, the quality of service and barriers to VCT uptake. Fear of testing positive was reported as a deterrent to VCT and the fear was related to job loss, death and stigmatisation (Ginwalla et al, 2002). Additional evidence pointing to stigma as a potential deterrent to VCT has been reported (Van Dyk and Van Dyk, 2003; Hutchinson and Mahlalela, 2006) from their studies conducted in South Africa.

Additional literature that is more specific to youth, regarding factors that may deter youth from utilising VCT has been provided by Njagi and Maharaj, (2006). In their survey they examined key factors that influenced uptake of VCT among students aged between 18-24 years at a tertiary institute in Kwazulu Natal. Stigmatisation and discrimination emerged as major deterrents to youth seeking VCT services.

2.5 Factors influencing readiness and acceptability of HIV testing.

In a global context several studies have explored factors that determine voluntary testing and counselling among the general population as well as the youth.

Fylkesnes & Siziya, (2004) contend that HIV voluntary testing and counselling among the youth is determined by the perception of HIV risk. That is, clients who perceive themselves as being at risk of being infected are likely to accept an HIV test compared to those who consider themselves at lower risk. These are findings from a randomised trial on acceptability of voluntary HIV counselling and testing in an urban population in Zambia.

Sarker, (2007) provides additional evidence on prevalence of HIV testing from their cross-sectional survey of women who visited an Antenatal clinic during a period of six months. The study investigated the determinants of voluntary counselling and testing participation in a Prevention-of-Mother to Child Transmission programme among pregnant women. Their findings revealed that, communication with partner played a vital role in the uptake of HIV
testing. Disagreement with partner regarding participation was associated with non-participation.

However, Bond et al. (2005) also bring in another interesting argument from their study that investigated the prevalence of HIV testing within a community sample of heterosexual men and women. They argue that there is a link between healthcare accessibility and HIV testing. That is, they state that the emphasis placed on HIV testing in prenatal and antenatal settings increases the opportunity of women to test for HIV more than men. Kipitu, (2005) brings in an argument that is more specific to the youth. In his study, that examined quality of voluntary counselling and testing, he reports that young people prefer testing centres where they are not known and where they are assured of privacy.

In another view, Solomon et al. (2004), argue that acceptability of HIV from a study conducted in Uganda revealed that acceptability of VCT is mostly driven by intentions of marriage or the beginning of a monogamous relationship. Also, findings from their meta-analysis provided supportive evidence to the idea that most clients accept VCT for psychosocial and support services. That is, accessibility of drugs among other factors contributed to acceptance of VCT. However, in another study, acceptance of HIV testing by youth has been linked to self perceived risk of being HIV infected. (Fylkesnes & Siziya, 2004).
CHAPTER 3

METHODOLOGY

3.1 Introduction

The previous chapter has provided a discussion of literature related to the study. This chapter will describe the methods that were employed in the study, providing an explanation in detail on how the study was conducted. This includes a description of the study design, study sites, study population, sampling strategy, sample size, data management and analysis, quality assurance. In addition, ethical considerations and limitations of the study are presented.

3.2 Definition of terms

Readiness - a state of mental preparedness to undergo an HIV test and willingness to actually be tested.

Acceptability – an act of allowing willingness to allow performance of an HIV test as well as receive its outcome.

Tertiary institutions- in the context of this study: all education institutions that offer non-degree post secondary school education.

Senior Secondary Schools – all education institutions that offer the last two years (form 4 & 5 – Grades 11 and 12) of secondary education in Botswana.

Youth – in the context of this study: any person aged 18- 24 years.

HIV testing- the collection of a blood sample from a client for purposes of determining his/her HIV status

HIV –the virus that causes AIDS
AIDS – a disease that results from being infected with the HIV virus.

VCT – a system of Voluntary Testing and Counselling for HIV

3.3 Study design

A descriptive cross-sectional study design using quantitative methods was used in this study. Limited funding, as well as the time period in which the study needed to be conducted, necessitated the use of a cross-sectional design. This entailed the use of a 15-item self-administered questionnaire, through which information from participants was acquired at one point in time. A quantitative method involves the use of scientific measurements to analyse variables under study. In this study, a quantitative methodology was selected as it suited the need to have a formal and systematic approach to data collection, the data to be seen as being objective, and findings needing to be generalisable (Neumen et al, 2003).

3.4 Study site

Two (2) Senior Secondary Schools, the Gaborone Senior Secondary School and Naledi Senior Secondary School as well as two (2) tertiary education institutions – Botswana Accountancy college and Gaborone Technical College, were used as study sites. Both the secondary and tertiary institutions used in the study are located in a single district of Gaborone. VCT services available to youth in the study sites as well as the general population in Gaborone are provided by three different organisations. These are; Tebelopele Testing and Counselling Centre, Botswana Christian AIDS intervention program and Botswana Family Welfare Association.

3.5 The study population

The study population refers to the group about which the researcher wants to gather information and make conclusions (Katzenellenbogen et al, 1997). The study population
comprised of both male and female students aged 18-24 years, attending four selected
institutions at the time of study. The lowest age limit of 18 years was chosen because people
at that age are legally old enough to consent for themselves in Botswana. The highest age
limit of 24 years was considered most appropriate for this study because HIV Infection rates
in Botswana begin to rise significantly between the ages of 25-34 years. This indicated that
this age group gets infected at an earlier stage (Ministry of Health, Botswana 2006).
Therefore, 18-24 was considered the correct age group range to target prevention of HIV
infection. At the time of the study there were a total of 10245 students from all the five (5)
secondary schools and five (5) tertiary institutions in Gaborone.

3.5.1 Inclusion Criteria

- Male and Female Youth aged 18-24 years
- Attending either of the two secondary schools or two tertiary institutions selected as
  study sites in Gaborone

3.5.2 Exclusion criteria

- Youth aged less than 18 years or above 24 years
- Non-school attending youth
- Primary and Junior School attending youth
- Those unable to cognitively comprehend and answers questions for the study

3.6 Sampling

Sampling allows the researcher to study a group and be able generalise the information about
this group to the broader population, without necessarily having to study every case in the
population (Katzenellenbogen, 2002)
A multistage sampling strategy was employed in order to ensure a representative sample of the population under study with the limited funding that the researcher had. First, the schools were stratified into secondary and tertiary. This was followed by a random selection of one secondary school and one tertiary institution for inclusion in the pilot test. Then from the remaining eight schools (four secondary and four tertiary), the researcher made a random selection of four schools i.e. two from each strata, for inclusion in the study. A list of students in all the secondary schools and tertiary institutions that had been selected in the sample was obtained so as to use that as a sampling frame. The process involved assembling potential participants in the school/institution hall and asking them to write down their names. The sampling frame excluded a school and tertiary institution randomly selected for the pilot study. These were Ledumang senior secondary school and Institute of Health Sciences - Gaborone (see details of pilot study). Each stratum contributed a certain proportion of the study sample and this was determined by the size of that stratum (proportional representation). Schools and tertiary institutions in each stratum were used as pre-existing clusters. This process was made possible through the assistance of the school heads and institution management. Each school and institution selected for inclusion in the study was paid a visit. Selection of participants was then employed using systematic sampling. This involved calculating a sampling interval by dividing the total number of units in each stratum by the proportion it had to contribute to the study sample. The first participant from each cluster was chosen randomly, thereafter participant inclusion was determined by the sampling interval. Where a student declined to participate, the fifth student from him/her was approached for participation. From the secondary education stratum, there were two thousand four hundred and eight (2408) units from which eighty three participants (83) were selected with a sampling interval of twenty nine (29). For tertiary education institutions, sixty one (61) participants were selected from a sample of one thousand six hundred and eighty units (1680) with a sampling interval of 28.
3.6.1 Sample size

About 43% of young people aged 18-24 years attended VCT between January 2005 and December 2006. These were findings from a survey that evaluated VCT utilization among different age groups in Botswana. (Ministry of State President, 2007). Based on the above estimate the minimum sample size for this study was N=94 with a precision of 10% around the 95% confidence interval, hence with a design effect of 1.5, the overall sample size for this study is 141.

3.7 Data collection

Arrangements were made with management of selected schools and tertiary institutions to ensure participants selected for the study were available at a pre-arranged time at a single suitable venue. A team of two researchers composed of women aged between 30 and 45 years, proficient in English, visited each school for data collection. The data collection process began with an introduction by the researchers followed by an explanation of the aims and objectives of the study (see Appendix A). Those willing to participate were asked to sign a consent form and were then assembled in a room at individual desks for data collection. Data was collected through a self administered semi-structured questionnaire that was in English. The questionnaire contained both closed and open-ended questions (See Appendix A for consent form and questionnaire). The researchers stayed for the entire duration of time as participants completed the questionnaire. This process took place over two days i.e. 16th-17th October 2007.

The researchers were available during completion of questionnaires so as to allow participants to ask questions in case they needed clarity on certain items in the questionnaire. Questionnaires were collected as soon as they were completed. Use of a self- administered questionnaire was meant to ensure anonymity for participants as well as make it easier for
participants to answer honestly about sensitive issues such as sexual behaviour and practices that may have led to a decision to go for voluntary counselling and testing. Additionally, self–administered questionnaires reduced the time required for information collection since they were distributed to groups of participants at the same time. It was feasible for participants to answer the questionnaire in English as all students were literate in English.

3.8 Data management and analysis

3.8.1 Data management

Following data collection the study coordinator checked all variables for plausible and implausible codes and missing values. This was done in order to ascertain completeness and accuracy of the data. Data input was then performed using Epidata software and was subsequently exported to STATA software for analysis.

3.8.2 Data analysis

Statistical analysis was performed using STATA (Stata Corp., San Antonio, Texas, USA) version 8 statistical package. Summary statistics determining the nature of the distribution of numerical variables and appropriate summary measures were computed. The Chi square tests were done to check for significant associations between the categorical variables. Logistic regression was used to determine the independent influence of socio-demographic variables as well as other variables on HIV testing by youth. Bivariate analyses were performed to determine the relationship between each of the independent variables to HIV testing (dependant variable). All the variables that appeared significantly (significance level 0.05) related to HIV testing, were then included in the overall multivariate model through use of forward stepwise selection. This same process was used for the multivariate model when disintegrated by sex. An assessment of confounding was done, where possible confounders were included in the models at each step to determine a change of more than 10% in the beta-
coefficient. Where this occurred, these were considered to be possible confounders and these were excluded from the final model.

3.9 Quality assurance

Validity and reliability are critical issues in evaluating research findings. Therefore, researchers need to ensure that instruments used for data collection measure what they are intended to measure (Mouton, 2001). In this study some items in the Questionnaire were borrowed from that of a study by Fako, (2006) that had successfully explored social and psychological factors associated with willingness to test for HIV among young people in Botswana. However, the validity and reliability of the instrument used in the above study have not been reported. In order to ensure quality, the following measures were taken:-

- The instrument was pilot tested in one secondary school (Ledumang) and one tertiary education institution(Institute of Health Sciences) and all the necessary amendments were done before data was collected.

- Eight field workers, fluent in English, were recruited and trained in data collection.

- Close supervision of data collectors was ensured by the principal investigator on a daily basis and she also participated in the data collection process

3.10 Ethical considerations

All the necessary steps were taken to safeguard the dignity, rights, safety and wellbeing of participants before and during the process of conducting the study. Firstly, ethical approval for the study protocol was sought and granted by the University of Cape Town Research and Ethics committee (See Appendix F). The protocol was later submitted to the Health Research and Development committee in the Ministry of Health in Botswana and approval was granted. This was followed by permission for the study being obtained from the Ministry of
Education, since the study participants were students. School and tertiary institution Heads for the selected schools and institutions were then approached for permission to conduct the study and this was also granted. Lastly, individual participants were all taken through the process of informed consent. That is, the necessary information was provided to participants as a group, including the aims and objectives of the study. Participants were informed of their right to refrain from participation or to withdraw from the study at anytime and not to answer any questions they did not wish to, without this in any way affecting their treatment or status at the school/tertiary institution. Participants were assured of anonymity and confidentiality. This was followed by one-on-one sessions between investigators and potential individual participants where the signing of a consent form took place. The investigators kept one copy of each participant’s consent form document and each participant was given a duplicate to keep. The process of informed consent was conducted in English, as students were completely competent in English.
CHAPTER 4

RESULTS

4.1 Introduction

The previous chapter addressed the research design and methodology. This chapter presents the results of the study.

4.2 Demographic profile of participants

A total of 144 participants completed the questionnaire. The overall response rate was 100% (i.e. there were no refusals). More women (n=80) than men (n=64) participated in the study. As can be seen in figure 1, the majority, 58% of participants, were from senior secondary schools whilst 42% attended tertiary education institutions. The median age for participants for both senior secondary schools and tertiary institutions was 19 years (Range: 18-24 years).

As can be seen in table 1, overall, participants from tertiary institutions had higher socio-economic status measured by all the socio-economic variables than those from senior secondary institutions. In both, a sizeable proportion (56%; tertiary, 42%; senior secondary) of participants reported residing in middle cost housing (n=69). This was followed by those who lived in low cost housing (overall n=63; senior secondary 53%, tertiary 31%). The remainder (overall n=12; senior secondary 5%; tertiary 13%), reported living in high cost housing.

Table 1 also shows that the largest proportion of the 83 participants from senior secondary school (33%) and of the 61 participants from tertiary institutions (38%) reported that their mothers were unemployed. A further 28% and 23% respectively reported their mothers were in clerical, industrial and informal jobs, with a smaller proportion respectively (15% and 23%
) reporting that their mothers were in middle management positions. A small and almost equal proportion of participants from senior secondary (6%) and tertiary institutions (8%) reported their mothers to be directors and in executive positions. The remainder (19% and 10% respectively) reported their occupation in the “others” category that included those whose mothers were self employed as well as those engaged in politics.¹

Furthermore, Table 1 shows that more participants from senior secondary schools (n=83) than those from tertiary institutions (n=61) (20% and 13% respectively), reported that their fathers were unemployed and 18% and 25% respectively that their fathers did clerical, industrial and informal jobs. Nineteen percent and 21% respectively reported that their fathers were in middle management positions. A smaller proportion of participants from senior secondary schools (11%) than that from tertiary institutions (20%) reported that their fathers were engaged in director and executive positions. A larger proportion of participants from senior secondary schools (31%) than that from tertiary institutions (21%) reported their fathers were either self employed or politicians (“others” category).²

4.3 Sexual behaviour and perception of HIV risk

As shown on Table II, among the 108 (75%) participants who reported being sexually active, the majority (59%) reported having had one sexual partner, 19% two sexual partners, 5% three sexual partners and 17% reported having had more than three sexual partners in the last 12 months.

¹ Participants whose mothers had died were excluded from the analysis (n=13).
² Participants whose fathers had died and those who did not know what their fathers were doing were excluded from the analysis (n=29)
Just over a third, (36%) of all participants considered themselves not at risk of HIV, followed by 34% who reported their risk of contracting HIV to be moderate, 26% reported they did not know their risk of contracting HIV. A small minority (4%) reported that they considered their risk of contracting HIV to be high.

The majority (58%) of participants who reported being sexually active (n=108) reported using condoms for protection against HIV, 40% reported relying on faithfulness and a small minority (2%) reported using religious and cultural practices for protection against HIV. Use of religious practices involved praying for protection from God with the help of church elders and cultural practices involved cleansing with traditional herbs that they believed protected them from contracting all forms of sexually transmitted diseases.

Sixty percent of participants (n=63) who reported using condoms for protection against HIV reported doing so every time they had sex, 25% reported using condoms sometimes and a smaller proportion (14%) could not remember how often they used condoms when having sex.

4.4 Knowledge of VCT and where VCT sites could be accessed

Fifty nine percent of participants (n=144) had knowledge about VCT. All of these knew the sites where VCT services could be accessed and they all mentioned Tebelopele voluntary counselling and testing centres as the only sites they knew. However, a minority of participants overall (42%); n=144 reported having gone for HIV testing.

4.5 HIV testing

Furthermore, Table II shows that in an overall bivariate analysis, older age (p=0.020), higher education (0.009), being knowledgeable about VCT (p=0.001), being knowledgeable about

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3 Having knowledge about VCT was defined as reporting voluntary HIV counselling and testing services provided at VCT.
sites to access VCT services (p=0.001), being currently sexually active, more number of sexual partners up to three(0.001), lower perception of HIV risk (p=0.023), use of HIV protection methods other than condoms (p=0.001) and inconsistent condom use( p=0.001) were all significantly associated with having been tested for HIV. When disaggregated by sex, none of the factors were significantly associated with HIV testing for males. However, among females, older age (p=0.022), higher education,(p=0.023), being knowledgeable about VCT (p=0.001), being sexually active( p=0.001), having between 1 and 3 sexual partners in the last 12 months  (p=0.009), non- use of HIV protection methods (p=0.001), use of methods other than condoms to prevent HIV( p= 0.001) and inconsistent condom use ( p= 0.001) were significantly associated with having tested for HIV. When disaggregated by educational institution, the following were significantly associated with having tested for HIV among participants from secondary schools: being sexually active  (n= 57; p=0.004), having a greater number of sexual partners more than one (n= 57; p= 0.004), non- use of HIV protection methods, (n=44; p= 0.019) and inconsistent condom use to prevent HIV(n=37; p= 0.010). For participants from tertiary education institutions, similarly to those in secondary schools, being sexual active (n=51; p=0.001),non-use of HIV protection methods and use of protection method other than condoms, (n= 17; p=0.012) and inconsistent condom use (n=20; p=0.05 ) were significantly associated with HIV testing. In addition to these factors for tertiary education student, being knowledgeable about VCT (n=44; p= 0.016) was also significantly associated with testing for HIV.

In a multivariate analysis, none of the variables were significantly related to HIV test acceptance among males. However, being knowledgeable about VCT was independently significantly related to HIV test acceptance among females (see table III).
4.6 Impact of sexual behaviour and perception of risk on uptake of HIV testing

In a bivariate analysis, sexual behaviour was significantly (p=0.0001) related to HIV test uptake. Those who were currently sexually active were more likely to have gone for an HIV test than those who were not sexually active\(^4\) (OR18.44; p=0.001) (Table II). Similarly an increased number of sexual partners (between 1 and 3) was significantly (p=0.0001) related to acceptance of an HIV test. However, those with 4 partners or more were less likely to test for HIV, as were those with no partners. Those with two sexual partners were 1.43 times and those with three sexual partners were 1.32 times more likely to accept HIV test than those with one partner. However, those with more than three sexual partners were less likely (p=0.44) to accept HIV testing than those with one partner and those without any sexual partner (0.11).

Having adopted strategies for protection against acquiring HIV was significantly (p=0.0001) related to greater HIV test acceptance. Within this group however, participants who relied on faithfulness were 1.7 times more likely to accept HIV testing than those who used condoms. Less consistent condom use was significantly (p=0.0001) related to greater HIV test acceptance. Those who used condoms sometimes were 2.3 times and those who could not remember their frequency of condom use, were 2.05 times more likely to accept HIV testing than those who always used condoms.

In the overall multivariate analysis (see Table IV), being knowledgeable about VCT, and being currently sexually active were the only factors independently significantly associated...

\(^4\) As the question asked of respondents was whether they were currently sexually active, the analysis of whether they had tested for HIV is based on this. A greater proportion of students would most likely have gone for an HIV test based on whether they were ever sexually active or not.
with HIV test acceptance. An assessment for interaction between gender and number of sexual partners was found to be insignificant (p=0.21).

4.7 Reasons for HIV test acceptance and non-acceptance

As can be seen in figure 2, the majority of participants (32%; n=60) who tested for HIV reported doing so because of the media campaigns encouraging testing. This was followed by those who reported HIV test acceptance because of being in a new intimate relationship (14%). Similar proportions (13% each) of participants reported accepting an HIV test because of reports on high HIV related deaths in the country and on advice from family members. Ten percent reported pregnancy as their reason for testing and seven percent reported testing because they had engaged in unprotected sex.

Other reasons such as peer pressure, death of a relative, better access to VCT, casual contact with an HIV infected person and religious beliefs were least likely to be given as reasons for testing (less than 10% each).

The commonest reported reason for participants who had not tested as displayed in figure 3, (n=84) was never been sexually active 26%. This was followed by fear of knowledge that they may be HIV infected or a belief that they were less likely to be infected was reported by (17% for each). Twelve percent reported fear of stigma as their reason for not testing and reports on high HIV related deaths discouraged 6% of participants from testing for HIV. Factors such as having multiple sexual partners, peer pressure, having had a relative who died from HIV and involvement in unprotected sex were less likely to be given as reasons for not testing for HIV ( Less than 6% for each). None of the participants gave religion as a reason for not testing

5 Category on religion excluded from pie chart as it had no observations.
CHAPTER 5

DISCUSSION

5.1 Introduction

The previous chapter presented the results and it is evident from these results that a minority (42) of participants in this study had tested for HIV. Media campaigns were reported by a majority as a reason for HIV test uptake whilst not being sexually active was reported as a reason for not testing for HIV. This chapter provides a discussion of the major research findings and relates them to relevant literature.

5.2 Safer sex and sexual risk behaviour

Even though the majority of participants who reported using condoms for HIV prevention reported using them every time they had sex, it is of concern that a significant proportion reported inconsistent condom use. Inconsistent condom use places sexually active people at great risk for HIV acquisition, and is particular concern given the high prevalence rates of HIV and the generalised nature of the epidemic in Botswana. It appears a sizeable proportion of young people may find it hard to personalise their risk of infection and are not taking protective measures to avoid HIV infection, thus placing them at risk for HIV infection. These findings are consistent with findings from a study conducted at the University of Botswana on sexual behavioural and HIV prevention issues (Seloilwe et al, 2001). Similar findings emerged from a Madagascan study that explored determinants of condom use amongst sexually active youth. (Meekers et al, 2006). Additionally, in study in Botswana that explored sexual behaviour of young people, youth reported they felt that condoms made sex less enjoyable (Social Impact Assessment Corporation, 2001). While reasons for consistent or inconsistent condom use were not explored in our study, these kinds of factors may hamper
consistent condom use in this context too. However, further research would be needed to verify this.

While students gave not being sexually active as the main reason for not accepting and HIV test and this is understandable, an equal proportion of those currently sexually active gave using condoms or relying on faithfulness as a reason for having gone for an HIV test. Clearly those relying on faithfulness did not believe that this was necessarily the case. The ABC (abstain, be faithful and condomise) strategy has been widely publicised in Botswana, with strong emphasis on the abstinence and faithfulness components to the exclusion of the condomise component. This strategy may have had some bearing on these findings - that those who are unable to abstain from sex, perceive faithfulness as a better way of preventing HIV rather than using condoms. The adoption of ABC strategies in a number of African countries, have been strongly linked to receipt of financial aid from the United States to support national HIV programs (Murphy et al, 2006). Over the past 8 years during the Bush administration in the United States, abstinence and faithfulness have been strongly promoted often to the exclusion of condoms. In the United States itself teenage pregnancy has increased over this period, during which abstinence was almost exclusively promoted, highlighting the failure of these two components of ABC strategies in promoting safer sex (Kirby, 2007). It is likely that an ABC strategy, tied to US financial aid, has strongly promoted abstinence and faithfulness exclusively, has caused damage to the effectiveness of HIV prevention programs in Botswana. There is also evidence of this being the case in other poor countries (Dworkin & Sentelli, 2007). In addition, adolescents in Botswana, find it difficult to access condoms that are provided free of charge from public health facilities because of the questioning they are subjected to regarding their behaviour from health workers (Meekers et al, 2001). This may also be a factor limiting the choice of HIV/AIDS prevention methods amongst participants from senior secondary schools.
In addition, the implementation of a strong ABC policy may exacerbate inequitable gender relations, as it frequently tends to give men the upper hand when it comes to making decisions about sexual matters resulting in limited choices for women. In some settings the ABC policy has met with some success in delaying sexual debut and limiting the number of partners in young people (Genuis & Genuis, 2004). However, in other settings socio-economic challenges to young women applying this strategy have been highlighted. In a Ugandan study conducted in higher education institutions, female students reported that because of their precarious economic position, they found themselves having to engage in sex at an early stage and have multiple sexual partners for financial survival reasons, making it difficult for them to implement safer sex practices (Katahoire & Kirumira, 2008).

5.3 Willingness to test for HIV

The findings showed that a minority proportion of participants (42%) had gone for HIV testing. Another study that investigated willingness to test for HIV by youth in Botswana showed that most young people were willing to go for an HIV test (Fako, 2006). This indicates a likely disjuncture between stated willingness to test and actually being tested for HIV. The findings on a minority of youth going for HIV testing are consistent with several studies conducted elsewhere (Delvis et al, 2008; Moyer et al, 2007). This gap between intention to test and acting on this by actually going for an HIV test, underscores the need to focus on effective strategies that take into account the factors promoting or hindering testing among youth, so as to make actual HIV testing among youth more likely.

A significant relationship between increased sexual activity and likelihood of having taken an HIV test makes sense as those who are sexually active are more at risk of acquiring HIV, as is the reverse. However, it is worrying that over a third of participants who were sexually active in this study did not consider themselves at risk of contracting HIV. These disturbing findings echo those from earlier studies done in some African countries (Ghana Niger Nigeria.
and Tanzania) that also showed that despite sexual involvement, most young people did not consider themselves at risk of HIV (Bankole et al, 2004).

Findings from this study are consistent with those from studies elsewhere (Moyer et al, 2007) that adopting strategies for protection against acquiring HIV other than condoms, such as faithfulness, was significantly (p=0.0001) related to greater HIV test acceptance. Those who considered themselves to be in faithful relationships, opted to test for HIV to a greater extent than those using condoms. This may mean that despite saying they considered themselves to be in a faithful relationship, they may realistically experience doubt as to whether the relationship has been truly mutually faithful. It is encouraging that those who did not use condoms consistently were more likely to opt for an HIV test, highlighting the fact that they realise this may have placed them at greater risk for HIV infection. However at the same time this clearly underscores the need for effective measures to encourage more consistent condom use.

The difference in factors significantly associated to HIV test acceptance between males and females in this study could be attributed to the fact that Women are major health care users as well as providers and they tend to be more proactive about taking steps to ensure health than Men (Annandale & Hunt, 1990; Cecile et al, 1996). This highlights a need for there to be gender sensitive strategies in promoting tests among youth.

5.4 Reported reasons for HIV testing among youth

Media campaigns that encourage testing emerged as the most common reason 32% (n=60) for testing amongst the youth who tested. Similar findings were reported from a study in Ethiopia that assessed VCT acceptability (Dejene, 2001). This underscores the importance of intensifying these media campaigns to ensure maximum coverage for all the youth.
Testing for HIV because of a new intimate relationship appeared as the second most common reason and this supports the findings from another study done in Botswana (Pual et al, 2001). Similar findings are documented from a study on sexual behaviour of young people in Botswana (Social Impact Assessment Corporation, 2001). This concurs with studies elsewhere (Lee & Sheon, 2008; Sarker, 2007). This means that the need to protect oneself and a partner in a new relationship seemed to be a main driver for a large proportion of youth to seek HIV testing. As a corollary to this, an association of condoms with unfaithfulness in Botswana deters most sexually active people from continuously using condoms in their long standing relationships (Kerapeletswe & Lisenda, 2006). This too is similar to findings elsewhere (Kennedy, 2007). Furthermore, in this study, as in others (Karim, & Karim; Katz et al, 2000; Kennedy et al. 2007) it was also found that condom use is perceived as reducing sexual pleasure and intimacy.

Pregnancy as a facilitating factor for HIV test acceptance for a significant proportion of the youth as revealed by this study is worrying in the sense that it means a significant proportion of the young people still face a challenge relating to voluntarily going for a test. Instead they may become pregnant and only test for HIV when offered this opportunity at an ante-natal clinic and this might be too late for them to prevent HIV infection.

In a country like Botswana where rates of HIV related deaths are high, one would expect like in other countries (Katz, 2006) a significant number of people to relate their acceptance of an HIV test to the threat of AIDS as revealed in national statistics of HIV related deaths. It is surprising that this reason was mentioned by a few participants in this study as a facilitator for testing.

A low proportion of participants, who reported HIV test acceptance as a result of advice from the family, might be an indication that HIV is still not an issue that is discussed within most families. Strategies to encourage more discussion within families are needed as it has been
found elsewhere that discussion on HIV amongst family members is linked to an increase in HIV test uptake (Sarker et al, 2007).

5.5 Factors deterring youth from seeking an HIV test

The most common reason for not testing for HIV was not being sexually active. This made sense as the there is virtually no risk of contracting HIV for those not sexually active. Fear of knowledge of their HIV status was the second most common factor in deterring youth from taking an HIV test. This influencing factor deterring HIV testing is confirmed in other studies of young people in Botswana (Social Impact Assessment Corporation, 2001; Moyer, 2007). Our study also found that youth who engaged in one of the riskiest kinds of sexual behaviour (having more than three partners in the past 12 months) were most likely to avoid having an HIV test. It appears that the drive to test for HIV if a participant has multiple partners only remains good up to a point (having > 1 but < 4 partners). Other than not being sexually active, factors related to fear of the potential negative consequences of testing positive for HIV appeared to weigh heavily in deterring youth from testing (i.e their fear that a test may proved them to be HIV-positive). Strategies to address these fears are urgently needed if youth HIV testing programs are to prove more effective.

The issue of stigma as a deterrent to HIV testing amongst the people, as revealed by this study, links up with fears of the consequences of testing positive for HIV deterring testing. This indicates that despite efforts made by the Government in fighting stigma these have not yet met their intended results.

Limitations

A number of limitations need to be considered in interpreting the findings of this study. The study excluded the out-of-school youth who might have provided a different picture regarding HIV test acceptance, compared to the school-going youth.
Furthermore, findings from this study are specific to the youth in Gaborone which is a city in Botswana and these may not be representative of the practices of youth in rural areas. A future study that includes both in and out of school youth should be and urban and rural youth should be considered. In addition, this was a cross sectional study and did not give an opportunity for follow up the young people to identify changes relating to HIV testing acceptance rates among them. In addition, a cross-sectional study does not allow for determination of causality or the temporal sequence of events. Use of a longitudinal design may have provided more meaningful results. It is also possible that the study may have been underpowered to detect significant associations between some of the determinants and HIV test acceptance.

A further limitation may be related to the ethics of the study. No students refused participation. The researcher was a woman older than the students who participated and while the researcher assured them that their participation was not obligatory and there would be no negative consequences to non-participation in the context of educational institutions, particularly high schools and in the light of the age difference between the students and the researcher, students may have felt nevertheless wary of refusing participation.

Though most students reported not having tested for HIV, the fact that this study involved self reports may have resulted in over reporting of HIV testing for perceived social correctness.

Despite the above limitations, this study focussed on a less researched area in Botswana - that is, HIV and youth. Hence, it provides valuable data on for understanding the determinants of HIV test acceptance among the youth in Gaborone, Botswana. The findings will be used to strengthen and re-direct HIV testing to promote greater uptake and in other HIV prevention campaigns so as to make them more relevant to the youth.
CONCLUSION/RECOMMENDATIONS

The study has provided a base for better understanding the willingness to test of HIV and the determinants of HIV test acceptance among the youth. This might be used to shape HIV preventive services so that they meet the youth’s needs better.

The fact that a minority of youth had gone for HIV tests despite a greater proportion having good knowledge, indicates the need to identify more effective ways of encouraging the youth to go for HIV voluntary counselling and testing.

HIV preventive counselling services needs to be intensified through all agents of socialization such as the school, family, community and churches and means found of outweighing youths fear of testing and encourage them to test for HIV even if they had many partners and emphasising the fact that they can be treated if diagnosed positive. Also there is need for concerted efforts and of course mobilization to fight stigma.

Interventions to address the gaps in motivating youth to test for HIV need to begin with strengthening the interventions that appear to be working.

The perception that HIV testing is necessary only early in relationships underscores the need for a shift in emphasis to occur from mere provision of information about HIV infection to ways of influencing positive behaviour change amongst the youth. The need for use of condoms into the future as partners cannot assume that once the relationship is established, both are faithful also needs to be addressed.

As a significant proportion of participant who reported being sexually active considered themselves at less risk of contracting HIV, youth who are infected should be encouraged to speak to their uninfected counterparts and encourage HIV testing when sexually active.
Future research should include non-school going as well rural area youths so that research results could be generalised to a larger population of youth.

The national statistics on HIV/AIDS should continue to be communicated in places where it can be readily available to youth such as schools, youth recreational facilities, via the internet and churches as this has been reported in this study as one of the factors that weighed heavily in facilitating youth to take an HIV test.

The overall findings from this study suggest the need to develop and implement more youth-focused voluntary counselling and testing services and re-strategise on what factors motivate youth to test for HIV and what factors youth campaigns need to focus on in decreasing sexual risk behaviour. This may also require an integration of these services into the already existing sexual and reproductive services with the aim of creating awareness of HIV risk to the youth before they become sexually active.
Figure 1: Distribution of participants by educational institution

Key
1 secondary education
2 tertiary education
Figure 2: Pie chart showing reasons for HIV test acceptance by Participants (n=60).

Key
1 pregnancy 2 Unprotected sex
3 New intimate relationship 4 Peer pressure
5 Death of a relative 6 Have access to VCT
7 contact with HIV infected person 8 Media campaigns
9 National statistics on HIV deaths 10 Advise from family members
11 Religion 12 Other
Figure 3: Pie chart showing reasons for HIV test non-acceptance by participants (n=84)

Key
1 Fear of knowledge about HIV status
2 A believe that one is less likely to be infected
3 Involvement in unprotected sex
4 Fear of partner
5 Multiple sexual partners
6 Peer Pressure
7 Fear of stigma
8 Had a relative who died from HIV
9 National reports on HIV related deaths
10 Not sexually active
11 Other
## Table 1: Background socio-demographic characteristics of participants

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total N=144</th>
<th>Secondary N=83</th>
<th>Tertiary N=61</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>64(44)</td>
<td>44(53)</td>
<td>20(33)</td>
</tr>
<tr>
<td>Female</td>
<td>80(56)</td>
<td>39(47)</td>
<td>41(67)</td>
</tr>
<tr>
<td><strong>Median Age (years)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(IQR)</td>
<td>19(18-24)</td>
<td>18(18-20)</td>
<td>22(18-24)</td>
</tr>
<tr>
<td><strong>Residence</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low cost</td>
<td>63(44)</td>
<td>44(53)</td>
<td>19(31)</td>
</tr>
<tr>
<td>Medium cost</td>
<td>69(48)</td>
<td>35(42)</td>
<td>34(56)</td>
</tr>
<tr>
<td>High cost</td>
<td>12(8)</td>
<td>4(5)</td>
<td>8(13)</td>
</tr>
<tr>
<td><strong>Maternal job</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>50(34)</td>
<td>27(33)</td>
<td>23(38)</td>
</tr>
<tr>
<td>Clerical,industrial informal</td>
<td>36(25)</td>
<td>23(28)</td>
<td>13(21)</td>
</tr>
<tr>
<td>Middle management</td>
<td>26(18)</td>
<td>12(15)</td>
<td>14(23)</td>
</tr>
<tr>
<td>Directors,Executives</td>
<td>10(7)</td>
<td>5(6)</td>
<td>5(8)</td>
</tr>
<tr>
<td>Others</td>
<td>22(15)</td>
<td>16(19)</td>
<td>6(10)</td>
</tr>
<tr>
<td><strong>Paternal job</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>25(17)</td>
<td>17(20)</td>
<td>8(13)</td>
</tr>
<tr>
<td>Clerical, industrial informal</td>
<td>30(21)</td>
<td>15(18)</td>
<td>15(25)</td>
</tr>
<tr>
<td>Middle management</td>
<td>29(20)</td>
<td>16(19)</td>
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<tr>
<td>Directors, executives</td>
<td>23(11)</td>
<td>9(11)</td>
<td>12(20)</td>
</tr>
<tr>
<td>Others</td>
<td>39(27)</td>
<td>26(31)</td>
<td>13(21)</td>
</tr>
</tbody>
</table>
Table 11: Factors associated with testing

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total N=144</th>
<th>HIV tested N=60</th>
<th>Not tested N=84</th>
<th>X2</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>64(44)</td>
<td>23(38)</td>
<td>41(49)</td>
<td>1.56</td>
<td>0.212</td>
</tr>
<tr>
<td>Female</td>
<td>80(56)</td>
<td>37(61)</td>
<td>43(51)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Age in years</strong></td>
<td>19 (18-24)</td>
<td>19 (18-24)</td>
<td>18.5 (18-24)</td>
<td>15.07</td>
<td>0.020*</td>
</tr>
<tr>
<td>(IQR)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senior secondary</td>
<td>83(58)</td>
<td>27(45)</td>
<td>56(67)</td>
<td>6.73</td>
<td>0.009*</td>
</tr>
<tr>
<td>tertiary</td>
<td>61(42)</td>
<td>28(47)</td>
<td>33(39)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Residence</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low cost</td>
<td>63(44)</td>
<td>27(45)</td>
<td>36(43)</td>
<td>0.38</td>
<td>0.826</td>
</tr>
<tr>
<td>Medium cost</td>
<td>69(48)</td>
<td>29(48)</td>
<td>40(48)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High cost</td>
<td>12(8)</td>
<td>4(7)</td>
<td>8(10)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Maternal occupation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>50(35)</td>
<td>25(42)</td>
<td>25(30)</td>
<td>7.01</td>
<td>0.135</td>
</tr>
<tr>
<td>Clerical, industrial</td>
<td>36(25)</td>
<td>13(22)</td>
<td>23(27)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>informal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle management</td>
<td>26(18)</td>
<td>13(22)</td>
<td>13(15)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Directors, Executives</td>
<td>10(7)</td>
<td>1(2)</td>
<td>9(11)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>22(15)</td>
<td>8(13)</td>
<td>14(17)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Paternal occupation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>25(17)</td>
<td>10(17)</td>
<td>15(18)</td>
<td>6.45</td>
<td>0.168</td>
</tr>
<tr>
<td>Clerical, industrial</td>
<td>30(21)</td>
<td>16(27)</td>
<td>14(17)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>informal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle management</td>
<td>29(20)</td>
<td>12(20)</td>
<td>17(20)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Directors, Executives</td>
<td>21(15)</td>
<td>4(7)</td>
<td>17(20)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td></td>
<td>p-value</td>
<td></td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-----------</td>
<td>-----------</td>
<td>-----</td>
<td>---------</td>
<td></td>
</tr>
<tr>
<td><strong>VCT Knowledge</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>85(59)</td>
<td>59(98)</td>
<td>26(31)</td>
<td>0.001b</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>59(41)</td>
<td>1(2)</td>
<td>58(69)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>VCT site</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>85(59)</td>
<td>60(100)</td>
<td>25(30)</td>
<td>0.001b</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>59(41)</td>
<td>0(0)</td>
<td>59(70)</td>
<td></td>
<td></td>
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<tr>
<td><strong>Sexual activity</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Yes</td>
<td>108(75)</td>
<td>56(93)</td>
<td>52(62)</td>
<td>0.001b</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>36(25)</td>
<td>4(7)</td>
<td>32(38)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Number of sexual Partners</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One</td>
<td>64(59)</td>
<td>34(57)</td>
<td>30(36)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two</td>
<td>21(19)</td>
<td>13(22)</td>
<td>8(10)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Three</td>
<td>5(5)</td>
<td>3(5)</td>
<td>2(2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than three</td>
<td>18(17)</td>
<td>6(10)</td>
<td>12(14)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not applicable</td>
<td>36(25)</td>
<td>4(7)</td>
<td>32(38)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HIV risk</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No risk</td>
<td>52(36)</td>
<td>16(27)</td>
<td>36(43)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate</td>
<td>49(34)</td>
<td>29(48)</td>
<td>20(24)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High/very high</td>
<td>6(4)</td>
<td>2(3)</td>
<td>4(5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don’t know</td>
<td>37(26)</td>
<td>13(22)</td>
<td>24(29)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HIV protection</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condom</td>
<td>63(58)</td>
<td>30(50)</td>
<td>33(39)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faithfulness</td>
<td>43(40)</td>
<td>30(50)</td>
<td>13(15)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not applicable</td>
<td>36(25)</td>
<td>0(0)</td>
<td>36(43)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>2(1)</td>
<td>0(0)</td>
<td>2(2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condom use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Always</td>
<td>38(60)</td>
<td>25(42)</td>
<td>13(15)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Factors significantly associated with HIV test acceptance (Significance level < 0.05)

<table>
<thead>
<tr>
<th></th>
<th>Sometimes</th>
<th>Can not remember</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>16(25)</td>
<td>9(14)</td>
<td>81(56)</td>
</tr>
<tr>
<td>Can not remember</td>
<td>10(17)</td>
<td>0(0)</td>
<td>25(42)</td>
</tr>
<tr>
<td>6(7)</td>
<td></td>
<td>9(11)</td>
<td>56(67)</td>
</tr>
</tbody>
</table>

6Factors significantly associated with HIV test acceptance (Significance level < 0.05)
Table III: Multiple logistic regression model predicting the relative odds of accepting an HIV test among female youth.

<table>
<thead>
<tr>
<th>Variable</th>
<th>OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in years</td>
<td>1.01</td>
<td>0.71-1.44</td>
</tr>
<tr>
<td>Education</td>
<td>1.55</td>
<td>0.33-7.31</td>
</tr>
<tr>
<td>VCT knowledge</td>
<td>0.01</td>
<td>0.01-0.06</td>
</tr>
</tbody>
</table>

Table IV: Multiple logistic regression model predicting the relative odds of accepting an HIV among the youth.

<table>
<thead>
<tr>
<th>Variable</th>
<th>OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (continuous)</td>
<td>0.83</td>
<td>0.54-1.26</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>1.48</td>
<td>0.53-4.20</td>
</tr>
<tr>
<td>Level of education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tertiary=2</td>
<td>2.60</td>
<td>0.40-17.12</td>
</tr>
<tr>
<td>VCT knowledge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No=2</td>
<td>0.01</td>
<td>0.00-0.53</td>
</tr>
<tr>
<td>Sexual activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No=2</td>
<td>0.10</td>
<td>0.22-0.46</td>
</tr>
<tr>
<td>No of sexual partners</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two=2</td>
<td>1.87</td>
<td>0.40-8.83</td>
</tr>
<tr>
<td>Three=3</td>
<td>3.80</td>
<td>0.13-115.41</td>
</tr>
<tr>
<td>More than 3=4</td>
<td>0.41</td>
<td>0.01-1.82</td>
</tr>
<tr>
<td>Perception of HIV risk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate=2</td>
<td>0.75</td>
<td>0.21-2.71</td>
</tr>
<tr>
<td>High/very high=3</td>
<td>2.55</td>
<td>0.75-86.89</td>
</tr>
<tr>
<td>Don’t know=4</td>
<td>0.80</td>
<td>0.14-3.81</td>
</tr>
</tbody>
</table>
REFERENCES


APPENDIX A: Data collection instrument

Part A: Informed consent for quantitative interview with youth at secondary and tertiary institutions.

Name of institution: ----------------------------------

Date: ----------------------------------

[Read the following information to the participant]

My name is ________________________________. I am administering a research questionnaire on behalf of Mrs Ellen Mokalake who is a student at the University of Cape Town, South Africa. We are interested in learning about the potential barriers and facilitators that determine readiness for and acceptability of HIV voluntary counselling and testing by youth in Gaborone, Botswana. The research will inform policy and planners especially from the public health sector about factors that influence HIV voluntary counselling and testing by youth. This is likely to influence decisions on strategies to maximise VCT uptake.

As a member of the youth, a group that is at the centre of the HIV/AIDS epidemic, we would like to invite you to participate in this study. We think that your experiences can contribute to understanding these issues. We would like to find out about your thoughts regarding testing or not testing for HIV, your knowledge and utilization of VCT and your sexual activity.

Right to refuse or withdraw
You do not have to take part in this research if you do not wish to do so, and refusing to participate will not have any negative consequences on you either here at school, health facilities or anywhere else. You will still have the benefits that you would otherwise have at this school. You may stop participating in the interview at any time that you wish without losing any of your rights as a student or VCT client. If you do not wish to answer any of the questions included in the survey, you may skip them and move on the next question.

**Procedures**

If you agree to participate, we will ask you to sign a consent form and I will ask you to complete a questionnaire. You will not be expected to write your name on the questionnaire or anything that could be used to identify you. This means your answers will be anonymous. The expected duration of the entire process will be about 45 minutes to an hour.

**Confidentiality**

Completion of the questionnaires will take place in a room in the school, where a group of 15 students will be assigned individual desks and no one else but the two researchers will be present. The information recorded is considered confidential, and no one else except our research team will have access to the completed questionnaires. The number assigned to each file will be kept under lock and key and will not be divulged to anyone. The consent form will be kept separately from the questionnaires.
Benefits

There will be no direct benefits to you, but your participation is likely to help us find out more about barriers and facilitating factors influencing VCT uptake by youth. You will not be provided any incentives to take part in the research.

Who to contact

If you have any questions you may ask those now or later. If there is anything that is unclear or you need further information; we shall be pleased to provide it [researcher ask if the respondent has any questions and provide the necessary clarification]. If you wish to ask later, you may contact the following: Mrs Ellen Mokalake, University of Cape Town, Cell: 0844519680; email: mklell001@mail.uct.ac.za or Dr Di Cooper, Women’s Health Unit, Tel: 406-6528; email: di@cormack.uct.ac.za.

The proposal for this study been reviewed and approved by the University of Cape Town’s Research Ethics Committee as well as the Botswana research and Ethics committee, whose tasks are to make sure that research participants are protected from harm.
Part B: Questionnaire

1) Demographic information

1.1 Sex
1 = male
2 = Female

1.2 How old are you?

1.3 What is your level of education?
1 = senior secondary
3 = senior tertiary

2) Socioeconomic status

2.1 Where do you live?
1 = low cost housing
2 = medium cost housing
3 = high cost housing

2.2 What type of job does your mother do?
1. unemployed

2. clerical, industrial, informal

3. sector middle management

4. Director, executive, professional

5. don’t know

2.3 What type of job does your father do?

1. unemployed

2. clerical, industrial, informal

3. sector middle management

4. Director, executive, professional

5. don’t know

3) Knowledge and utilization of VCT

3.1 Do you know what VCT is?

1. Yes

2. No

If yes, explain ________________

[if no to 3.1 move to 4.1]
3.2 Do you know where you could go to get VCT in Gaborone?

If yes, where would you go? _______________________

3.3 Have you ever been to a VCT centre for an HIV test?

1= Yes

2= No

[if no to 3.3 move to 3.5]

3.4 What factors influenced your decision to go for an HIV test?

1= Pregnancy

2= involvement in unprotected sex

3= a new intimate relationship

4= peer pressure

5= death of a relative

6= have had access to VCT

7= contact with HIV infected persons

8= the media

9= HIV related deaths in the country

10= advice from family members

11= religion

12= other, (specify) __________________
3.5 What factors have influenced your decision not to go for an HIV test?

1= Fear of knowledge about HIV status
2= A believe that I am less likely to be infected
3= lack of accessibility of VCT
4= Have had unprotected sex and fear the outcome
5= fear of a partner
6= Have had a number of sexual partners and fear the outcome
7= peer pressure
8= fear of stigma in case of positive results
9= Have relatives who have died of AIDS.
10= Large numbers of AIDS related death in the country the country
11= Not sexually active
12= other, (specify) ____________________

4) Sexual activity

4.1 Are you currently sexually active?
1= Yes
2= No

[If no to 4.3]

4.2 How many sexual partners have you had in the last 12 months?
1= one
2= two

3= three

4= more than three

4.3 What would you say about your risk of being infected with the HIV virus?

1= no risk

2= moderate

3= high or very high

4= don’t know

4.4 What measures if any, have you taken to protect you and your partner/s from contracting the HIV virus?

1= condom use

2= faithfulness

3= none

4= other, (specify) ________________

[Ask 4.5 if “condom use” is mentioned in 4.4]

4.5 How often do you use a condom when having sex?

1= always

2= sometimes
3= can not remember

4= Not applicable

This is the end of the questionnaire. Thank you very much for your time and assistance.
APPENDIX B. Certificate of consent for quantitative study

Study title: Determinants of HIV voluntary testing and counselling among the youth: The case of Botswana

Principal investigator/ coordinator

Ellen Mokalake, MPH student

University of Cape Town.

I _______________________________ confirm that the research has been explained to me and I understand its meaning. I have been informed about my right to decide not to take part or withdrawing from the study at any time without there being any negative consequences for me. Also, I confirm that I have had an opportunity to ask questions about the study and I am satisfied with the answers and explanations that have been provided. I therefore agree to participate in the study.

_______________________                                                    _____________
Printed name of participant                                                     Signature

Date ____/____/____/ (dd/mm/yy)

_______________________                                                    _____________
Interviewer’s name                                                             Signature

Date ____/____/____/ (dd/mm/yy)
Dear Sir/madam

RE-REQUEST TO CONDUCT A STUDY

I am a master’s student at the faculty of health sciences, University of Cape Town. As a partial fulfilment of a masters in public health degree, I am undertaking a study seeks to investigate the determinants of HIV Voluntary counselling and testing among the youth in Gaborone, Botswana. The study aims at examining barriers and facilitating factors that influence readiness for and acceptability of voluntary HIV testing among youth aged 18-24 years. It is hoped that findings from this study will inform policy and planners, especially from the public health sector, about factors that influence HIV voluntary counselling and testing among the youth.
This letter serves to request your office to grant me permission to conduct the study on students in your school.

Participants’ rights will be observed through provision of information on informed consent to participants prior to their participation. Participation will therefore be on voluntary basis.

The study protocol has been approved by the university of Cape Town Research and ethics committee as well as the Botswana research and ethic committee.

Thanking you in advance for your cooperation

Ellen Mokalake

Student number: MKLELL001

Email address: mklell001@mail.uct.ac.za

Cell no: 0844519680

Research supervisor: Dr Di Cooper

Women’s Health Unit

Tel: 406-6528:

email: di@cormack.uct.ac.za.
Dear Sir/madam

RE-REQUEST TO CONDUCT A STUDY

I am a master’s student at the faculty of health sciences, University of Cape Town. As a partial fulfilment of a masters in public health degree, I am undertaking a study seeks to investigate the determinants of HIV Voluntary counselling and testing among the youth in Gaborone, Botswana. The study aims at examining barriers and facilitating factors that influence readiness for and acceptability of voluntary HIV testing among youth aged 18-24 years. It is hoped that findings from this study will inform policy and planners, especially from the public health sector, about factors that influence HIV voluntary counselling and testing among the youth.
This letter serves to request your office to grant me permission to conduct the study on students in the following school: _________________________________.

Participants’ rights will be observed through provision of information on informed consent to participants prior to their participation. Participation will therefore be on voluntary basis.

The study protocol has been approved by the university of Cape Town Research and ethics committee as well as the Botswana research and ethic committee.

Thanking you in advance for your cooperation

Ellen Mokalake

Student number: MKLELL001

Email address: mklell001@mail.uct.ac.za

Cell no: 0844519680

Research supervisor: Dr Di Cooper

Women’s Health Unit

Tel: 406-6528:

email: di@cormack.uct.ac.za.
APPENDIX E

MRS ELLEN MOkalake
Box 985
Gaborone

PERMIT: DETERMINANTS OF HIV VOLUNTARY COUNSELLING AND TESTING AMONG THE YOUTH: THE CASE OF GABORONE (BOTSWANA)

Your application for a research permit for the above stated research protocol refers. We note that you have satisfactorily revised the protocol as per our suggestions.

Permission is therefore granted to conduct the above mentioned study. This approval is valid for a period of 1 year effective October 5, 2007.

This permit does not however give you authority to collect data from the selected schools without prior approval from the management of these institutions. Furthermore, consent should be obtained from all participants.

The research should be conducted as outlined in the approved proposal. Any changes to the approved proposal will need to be resubmitted to the Health Research Unit in the Ministry of Health before implementation for review.

Furthermore, you are requested to submit at least one hardcopy and an electronic copy of the report to the Health Research Unit, Ministry of Health within 3 months of completion of the study.

Approval is for academic fulfilment only

Thank you,

S. El-Halabi
For/Permanent Secretary Ministry of Health
APPENDIX F

UNIVERSITY OF CAPE TOWN

Health Sciences Faculty
Research Ethics Committee
Room E52-24 Groote Schuur Hospital Old Main Building
Observatory 7925
Telephone (021) 406 6338 • Facsimile (021) 406 6411
e-mail: ree@uct.ac.za

29 August 2007

REC REF: 356/2007

Mrs E Mokalake
C/o Dr D Cooper
Public Health & Family Medicine

Dear Mrs Mokalake

PROJECT TITLE:
DETERMINANTS OF VOLUNTARY COUNSELING AND TESTING AMONG THE
YOUTH: THE CASE OF BOTSWANA

Thank you for submitting your study to the Research Ethics Committee for review.

It is a pleasure to inform you that the Ethics Committee has formally approved the above mentioned study.

This serves to confirm that the University of Cape Town Research Ethics Committee complies to the Ethics Standards for Clinical Research with a new drug in patients, based on the Medical Research Council (MRC-SA), Food and Drug Administration (FDA-USA), International Convention on Harmonisation Good Clinical Practice (ICH GCP) and Declaration of Helsinki guidelines.

The Research Ethics Committee granting this approval is in compliance with the ICH Harmonised Tripartite Guidelines E6: Note for Guidance on Good Clinical Practice (CPMP/ICH/135/95) and FDA Code Federal Regulation Part 50, 56 and 312.

Please note that the ongoing ethical conduct of the study remains the responsibility of the principal investigator.

Please quote the REC. REF in all your correspondence.

Yours sincerely

[Signature]

PROF M BLOCKMAN
CHAIRPERSON, HSF HUMAN ETHICS