

AN INVESTIGATION OF THE FACTORS THAT IMPACT ON THE UTILISATION OF VOLUNTARY HIV COUNSELLING AND TESTING SERVICES AT A WELLNESS CENTRE IN A HIGHER EDUCATION INSTITUTION

By

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DECLARATION

I, Martha Agrineth Buthelezi, do hereby declare that this study is representative of my work. Where the work of others was used, this has been acknowledged accordingly in the text.

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DEDICATION

This work is dedicated to my late parents
Mr. and Mrs. Abion and Bellina Buthelezi

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ABSTRACT

Introduction: This study investigated the factors that impact on the utilisation of voluntary HIV counselling and testing (VCT) service at a wellness centre in a higher education institution.

Purpose: The purpose of the study was to identify factors that impact on the utilisation of VCT service in a higher education institution.

Methodology: A quantitative descriptive survey research design was used to describe the phenomenon and to establish relationships between variables. Participants were selected randomly in order to obtain a broad representative sample in three strata. A formal structured close-ended questionnaire was used to collect data. The questionnaire was designed to focus on variables such as demographic data, environmental factors, enabling factors, predisposing and behavioural factors.

Findings: No significant relationship was identified between knowledge of HIV, AIDS and VCT and high school attended in rural, township and urban areas. There was no significant relationship between environmental factors and utilisation of VCT. There was no association between predisposing factors such as risk of VCT and perceived benefits of VCT utilisation. There was no relationship between knowledge and consistency of condom use and utilisation of VCT. The majority of respondents stated that the VCT service was not user friendly and the attitude of the staff toward students was poor. There was no significant relationship between accessibility of VCT service and utilisation of VCT. There was a lack of utilisation of campus VCT services and the majority of respondents utilised other services.

Conclusion: The study showed that respondents who knew about availability of VCT were likely to have used the facility. Respondents who showed positive

attitudes towards VCT were likely to utilise the VCT service. Respondents who had done VCT were likely to adapt behaviour change processes to maintain a negative status and individuals who were living with HIV visited the VCT facility to prevent reinfection or infecting other people.

Recommendations: It was recommended that staff be given training to address their reported negative attitudes towards students and to improve accessibility of VCT service by students. Different models of behaviour change communication should be developed and used to encourage and increase the utilisation of VCT service by students on campus.

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ACRONYMS AND ABBREVIATIONS

AIDS:	Acquired immune-deficiency syndrome
ARV:	Antiretroviral
BCC:	Behaviour Change Communication
DoE:	Department of Education
DoH:	Department of Health
DUT:	Durban University of Technology
HCT:	HIV counselling and testing
HEAIDS:	Higher Education AIDS programme
HEIs:	Higher Education Institutions
HESA:	Higher Education South Africa
HIV:	Human immune deficiency virus
MUT:	Mangosuthu University of Technology
NSP:	National Strategic Plan for HIV, AIDS and sexually transmitted infections
PLHA:	People living with HIV and AIDS
PMTCT:	Prevention of mother to child HIV transmission
STIs:	Sexually transmitted infections
UNAIDS:	United Nations AIDS programme
VCT:	Voluntary HIV counselling and testing

CHAPTER 1

INTRODUCTION

1.1 Introduction

According to UNAIDS (2009:11), the estimated number of people around the world living with HIV in 2008 was 33.4 million. Persistently high rates of new infections are indicators that drive the epidemic. Worldwide the estimated number of new infections in 2008 was 2.7 million. About 67% (1.9 million) of the global new infections and 72% (1.4 million) of HIV related deaths were in Sub-Saharan Africa (UNAIDS, 2009:16). Southern Africa accounts for 32% of the new HIV infections and HIV and AIDS-related deaths worldwide, as well as 32% of the global total of people living with HIV. In Sub-Saharan Africa, South Africa accounts for about 8.6 % of adults infected with HIV in the age group of 15-49 years. In sixteen African countries, the prevalence of the disease in adults in the 15-49 years age group exceeds 10% (Cichocki, 2008:1).

Susceptibility to heterosexual South Africa has the largest number of people living with HIV (PLHA), with 5.7 million people infected. This accounts for 17% of the global total. An estimated rate of the prevalence in South Africa was 16.9% in 2008 (UNAIDS, 2009:16). It is important to know the age at which young people first had sexual intercourse because young people accounted for 45% of new HIV infection worldwide and this puts them at high risk. In South Africa, a study that was conducted among rural males, between 15 and 24 years of age found that 13% of the youth had their first sexual relationship at the age of 15 years. Young girls who reported they first had sexual intercourse during their early teens had a higher risk of teenage pregnancy and HIV infection (Shisana, Rehle, Simbayi, Zuma, Jooste, Pillay, van Wyk, Mbelle, van Zyl, Parker, Zungu and Pezi, 2009:1). In South Africa, young females have a prevalence rate of HIV

that is three to four times higher than their young male peers. This suggests that females have a higher HIV prevalence at an earlier age than males (Shisana *et al.*, 2009:2). In 2004, the estimated HIV prevalence in South Africa was 15% and 5% for females and males respectively (Simbayi, Chauveau and Shisana, 2004:1532).

Within South Africa, KwaZulu Natal has the highest prevalence of HIV, which is attested to by the highest HIV (39%) prevalence rates among pregnant women attending antenatal public clinics. The study conducted by Rehle, Shisana, Pillay, Zuma, Puren and Parker (2007:98) found that youth in the 15 - 24 year age group had the highest incidence rate for HIV infections, and that females account for 90% of the recent HIV infections in South Africa. The increased vulnerability of females is not only due to their greater physiological transmission, but also to the severe social, legal and economic disadvantages women often confront (Khobotlo, Tshehlo, Nkonyana, Ramoseme, Khobitile, Chitosha, Hilderbrand and Fraser, 2009:65). Other groups that were identified as high risk were people who had had more than one sexual partner in the previous 12 months, people who were single and the youth (Rehle, *et al.*, 2007:198). Such national statistics continue to reflect a high incidence of HIV and AIDS. Among youth are indicative of the risk of HIV amongst the youth. The youth aged 17-35 years comprise the client base of Higher education institutions (Higher Education HIV and AIDS Programme, 2010: VIa).

The South African National Strategic Plan (NSP) for HIV, AIDS and Sexually Transmitted Infections 2007-2011 has two primary aims, namely: (a) to reduce the number of new infections by 50%; and (b) reduce the impact of HIV and AIDS on individuals, families and communities (South African National AIDS Council, 2007). With regard to sectoral HIV and AIDS interventions, the Department of Education (DoE) has also implemented programmes with objectives aligned to the NSP. The Higher Education HIV and AIDS Programme (HEAIDS) operates at sub-sector level in the Department of Education. The strategic framework of

HEAIDS reflects the strategic objectives of the Department of Education. The Department of Education has aligned its key result areas along the national and sectoral HIV and AIDS strategies. HEAIDS coordinates HIV and AIDS programmes at all Institutions of Higher learning in the country, with a view to strengthening capacity and to responding comprehensively to the related challenges. In line with the national HEAIDS policy, the campus HIV and AIDS programme exists to reduce the threat of the spread of HIV and AIDS among students, staff and the surrounding community, as well as to mitigate the impact of HIV and AIDS (HEAIDS, 2003-2004:5).

Condom usage is promoted globally as an effective means of reducing the risk of sexually transmitted infections and, more specifically, HIV infection (Shisana, Rehle, Simbayi, Parker, Zuma, Bhana, Connolly, Jooster, and Pillay, 2005:198). The HIV and AIDS related behaviour change communication (BCC) programmes should be acceptable, accessible and yield the desired outcomes (Higher Education HIV and AIDS Programme, 2010:13 a). Condoms are widely distributed at community clinics. Students have access to these clinics and this could be the reason for the low rate of condom distribution on campus. However, Shisana *et al.* (2005:198) found that the behaviours and beliefs of adolescents relating to condom use indicated that inconsistent condom usage was the norm rather than the exception among sexually reproductive adults. Kalina, Geckova, Jarcuska, Orosova, van Dijk and Reijneveld (2009:5) found that this trend is not limited to Sub-Saharan Africa. Amongst sexually experienced Slovak students, inconsistent condom use was the most prevalent risky behaviour in both genders, with 81% of females and 72% of males not using condoms consistently. The assumption would be to expect condom use in the student population to be inconsistent (Kalina *et al.*, 2009:8).

A study by Mishra, Hong and Govindasamy (2008:8) found that previously tested adults who knew their HIV status were less likely than their untested counterparts to get infected. People who have HIV counselling and testing gain factual

information which sensitises them to engage in the process of behaviour change. Inconsistency in condom usage decreases in an attempt to prevent HIV infection (Njagi and Maharaj, 2006:123). Most countries have taken initiatives to increase the rates of HIV testing. Botswana has the highest rate of HIV testing, with 210 tests per 1000 population (UNAIDS, 2009:25). Pettifor, Rees, Kleinschmidt, Steffenson, MacPhail, Hlongwa-Madikizela, Vermaak and Padian (2005:53) found that among young people in South Africa between the ages of 15 and 24 years, approximately 25% of women and 15% of men reported that they had not been tested for HIV (Pettifor *et al.*, 2005:53).

The sub-sector of Higher Education Institutions realised its responsibility and responded to the mitigation of the epidemic as a united front. The higher education sub-sector plays a unique role through advanced education and research. The prevalence survey of HIV and AIDS that was conducted by HEAIDS, in 2010 at twenty two Institutions of Higher Education showed that HEI's in the Province of KwaZulu-Natal have higher rates of HIV infected people compared to institutions in other provinces. In the University under study, the HIV and AIDS prevalence among students was 3.5% and amongst support staff it was 9% (Higher Education HIV and AIDS Programme, 2010:23-26a). These figures justify the critical and urgent need for Higher Education Institutions (HEIs) in South Africa to focus on a strategic response to the HIV and AIDS epidemic. The Voluntary HIV Counselling and Testing (VCT) programme in HEIs is regarded as the key to curbing the pandemic (UNAIDS, 2009:8; HEAIDS, 2003-2004:42). VCT exposes individuals to personalised knowledge about HIV and AIDS. Scientific evidence showed an increase in the use of protection after VCT, compared to individuals who have not had VCT (Kalichman, 2007:40).

In 2000, Higher Education Institutions (HEIs) in South Africa launched an initiative at national level to fund and establish HIV and AIDS programmes in Higher Education in South Africa. In institutions where programmes were in existence, HEAIDS strengthened these programmes by providing capacity and

support (HEAIDS, 2003-2004:39). These programmes were aimed at expanding the VCT services in HEIs. Students were aware of the risk of exposure to unprotected sexual intercourse (HEAIDS, 2003-2004:40). Njagi and Maharaj (2006:122-124) found that the programmes largely targeted youth who, even though they had knowledge of HIV transmission engaged in high-risk sexual behaviour, were inconsistent in the use of condoms, and had multiple sexual partners. Some youth who engaged in high-risk behaviours were afraid of having an HIV test. People who engaged in high-risk behaviour were not keen to participate in VCT programmes. The pattern of HIV prevalence in the HEIs matches that of the KwaZulu-Natal Region. The institution under study is situated in a densely populated, low socio-economic area. The challenges of high HIV prevalence and the rate of HIV infection among the youth is related to the high-risk environment in which they live (Shisana *et al.*, 2005:72 and 136).

1.2 Background

Voluntary HIV counselling and testing (VCT) in a wellness centre (Campus Clinic) at a higher education institution (HEI) is a process where individuals decide to have a HIV test after being counselled on issues regarding HIV and AIDS. VCT and HIV test/ testing is used interchangeably in the context. The number of individuals who utilize voluntary HIV counselling and testing services at the University campus clinic is low, estimated to be less than fifty percent. Young people (15-24 years) have been identified as vulnerable to HIV infection (Higher Education HIV and AIDS Programme, 2010:7b). The people in this age group represent the future high-skilled workers who are the backbone of the South African economy (Higher Education HIV and AIDS Programme, 2010:2b).

Various factors influence VCT in South African communities (Venter, 2007:8). These factors are related to knowledge, perceptions, attitudes, behavioural patterns of individuals and their interactions within their communities (Pettifor *et al.*, 2005:72). Other factors that influence VCT are accessibility to VCT clinics

and the establishment of antiretroviral (ARV) treatment clinics for care and support of HIV-positive people (South African National AIDS Council, 2007:7). Venter (2007:8) responded to the National Strategic Plan and stated that the objectives for HIV and AIDS awareness is to provide basic information on HIV and AIDS and to encourage people to be aware of their HIV status. Various factors contribute to the aggravation of the impact of HIV and AIDS. For example, a lack of knowledge, HIV and AIDS-related stigma and discrimination, unemployment and poverty, management of related opportunistic infections and an increased number of orphans (Pettifor *et al.*, 2005:72). The awareness of one's HIV status results in the timeous referral for ARV treatment, which means an improvement in the quality of health, prolonged life expectancy and a positive impact on combating the epidemic nationally (Pettifor *et al.*, 2005:53). VCT is a primary entry point to ARV drug therapy (UNAIDS, 2009:25).

The South African government developed the five-year National Strategic Plan for HIV and AIDS 2000-2005 to aggressively combat the HIV and AIDS pandemic (South African National AIDS Council, 2007:7). The roll out of ARV treatment was slow and the international community intervened, urging the South African government to fast track the roll out of ARV (Venter, 2007:8). Phase one of the strategic plan focused on HIV and AIDS awareness campaigns, prevention of mother-to-child HIV transmission (PMTCT), provision of ARV treatment programmes, as well as nutrition and non-scientific supplements (Venter, 2007:8; South African National AIDS Council, 2007:7). The ARV treatment campaign was only launched in 2003 (South African National AIDS Council, 2007:7). South Africa developed strategies to address the complex challenges of HIV and AIDS. Some examples of strategies are awareness programmes, VCT programmes, prevention of mother to child HIV transmission, roll out of ARV treatment and increasing accessibility to these service providers (South African National AIDS Council, 2007:7).

In a survey of the National HIV rate and sexual behaviour among young South Africans, Pettifor *et al.* (2005:1532), found that the overall HIV prevalence of youth (15-14 years) who were infected by the age of sixteen years was 10.2%. Women are four times more likely to be infected with HIV than men because women reported inconsistent condom use. Pettifor *et al.* (2005:1531) also indicated that South Africa has an opportunity to reverse this HIV and AIDS epidemic over the next 10 years by encouraging individuals to have HIV tests early and promoting behavior change process.

The study conducted by HEAIDS regarding the formulation of the Strategic Framework 2010, found that the young people within the age group 15 and 24 years were in high schools, colleges and universities. Young people in universities were considered a high risk group for HIV infection because of their high-risk sexual activities, such as younger women getting involved with older men (“sugar daddies”) who made it difficult to negotiate condom usage (Pettifor *et al.*, 2005:73); practices of unprotected sex or inconsistency of condom usage; and multiple partners (Njagi and Maharaj, 2006:123). Therefore, the need to target young people in the prevention of HIV and AIDS infection and the promotion of VCT intervention was established (Njagi and Maharaj, 2006:113). The HEAIDS Strategic Framework 2006-2009 presented guidelines prioritising the significant focus areas and to promote VCT in the Higher Education Sector in line with the global strategy for the management of HIV and AIDS. The HIV and AIDS epidemic has impacted negatively on HEIs and the business sector. HEIs could play an important role in curbing the epidemic through VCT intervention (Higher Education HIV and AIDS Programme, 2010:7b).

1.3 Problem statement

The Higher Education sector took the initiative to promote VCT programmes in Higher Education Institutions. HEIs emphasise the importance of knowing one’s HIV status. The HEAIDS HIV and AIDS programme was first launched in 2000/2001 in partnership with the Department of Education, South African

Universities Vice Chancellors' Association and the Committee of Technikon Principals which is currently called Higher Education South Africa (HESA). A collaborative and collective response was to establish a programme to combat the HIV and AIDS epidemic in HEIs. Phase 1 HIV and AIDS programme in HEIs were implemented in all 23 institutions as interventions to curb the epidemic (HEAIDS, 2003-2004:5). The Higher Education AIDS Programme 2010 also found that students were engaging in high-risk behaviour (Higher Education HIV and AIDS Programme, 2010:7b). In 2010, the South African government changed the approach from VCT to HIV counselling and testing in order to increase the number of people who tested early for HIV. The new campaign was geared towards screening all people for illnesses and HIV, which was part of phase two (2008-2010) of the HIV and AIDS programme (Higher Education HIV and AIDS Programme 2009:7). This South African Government campaign is called the HIV counselling and testing campaign (HCT). The HCT campaign makes provision for the health care provider to initiate HIV counselling and testing to complement voluntary HIV counselling and Testing (National HIV Counselling and Testing (HCT) Policy Guidelines, 2010:15).

The challenge was to encourage students to be aware of their HIV status and to change their sexual behaviour. VCT services were utilised as a strategy to encourage young people to test for HIV (HEAIDS Strategic Framework, 2006-2009:8). The assumption was that VCT would encourage individuals to change their practices of high-risk sexual behaviour (Njagi and Maharaj, 2006:122). VCT was intended to reduce their high-risk sexual behaviour through behavioural change and effective communication. VCT facilities were established on campuses to provide both one-on-one HIV counselling and group counselling (HEAIDS, 2003-2004:48). The VCT model has been used as the core of HIV and AIDS prevention in the South African public health sector (Kalichman, 2007:40).

Many young people between the ages of 15 to 24 years are unaware of their HIV status because they do not know where to get tested. It has been confirmed by different researchers that young people who are involved in high-risk sexual activities do not consider themselves at high risk of HIV infection (Kalichman, 2007:40). Opt, Loffred, Knowles and Fletcher (2007:165), found that white students in the University of Orange Free State did not consider themselves at high-risk. The issue of ethnocentrism is related to the fact that the highest rate of HIV and AIDS prevalence is among blacks, so it is assumed that black youth are at high-risk of becoming infected with HIV (Opt *et al.*, 2007:165).

Individuals who have accessed VCT at the Campus Clinic were assured of confidentiality being maintained. The poor provision of same day VCT services due to staff shortages was a challenge, which impeded the utilisation of the Campus VCT facility on demand (Higher Education HIV and AIDS Programme, 2010:27b). The need to provide continuing care and support for people who are living with HIV and AIDS is crucial (Hutchinson, Mahlalela and Yukich, 2007:508) in order to encourage HIV status disclosure and prevent further infection of HIV, as well as to address the fear of stigmatisation and rejection (Pettifor *et al.*, 2005:1532).

Therefore the need to establish the utilisation of HIV voluntary counselling and testing services by students at risk for HIV and AIDS in a Higher Education Institution is recognised.

1.4 Aim of the study

The aim of the study was to identify the factors that contribute to the underutilisation of VCT services at a higher education institution.

1.5 Research objectives

The objectives of the study were to:

- identify factors which impact on the utilisation of voluntary HIV counselling and testing programmes by higher education students;
- determine factors that facilitate or hinder VCT services utilisation by HEI students, with specific reference to reinforcing factors of policy, predisposing factors, perceptions and attitudes about HIV and AIDS; and
- describe environmental factors that negatively impact on the utilisation of VCT services.

1.6 Research question

What are the factors that influence the utilisation of VCT services in Higher Education Institutions?

1.7 Significance of the study

The majority of the student population is within the 15 and 25 year age group. The goal of a VCT programme is to provide information on HIV and AIDS. Voluntary HIV counselling and testing provides individuals with factual information and thus sensitises them to the process of behaviour change (Kalichman, 2007:40). Youth between ages of 15 and 24 years recognised the need to change their high-risk sexual behaviour and improve the consistency of condom usage during sexual intercourse (Pettifor *et al.*, 2005:53).

There was an urgent need to expand and sustain a comprehensive VCT programme in Southern Africa. The HEI under study identified the need for such support programmes and implemented a VCT programme to provide information on HIV and AIDS. The information was used to encourage and increase

participation in voluntary counselling services; to improve VCT programmes and align them with the national standards guidelines; and to improve the quality of health of the people (Higher Education AIDS Programme, 2010:42a).

The study would target students who attend the Wellness Centre of the university for treatment of illnesses rather than for VCT. Thus, the study aims to determine factors that impact on the utilisation of VCT services and attitudes towards VCT. The institution under study benefited from the investigation as it provided baseline information on the effectiveness of its VCT services and the appropriateness of the reinforcing factors. Knowledge, perceptions and attitudes impact both positively and negatively on VCT programmes. Knowledge about HIV and AIDS influences the willingness to have an HIV test for the early diagnosis of HIV status so that a negative HIV status can be maintained and a positive HIV status can be monitored (Kalichman, 2007:40). A VCT programme was established in 2000 at the University under study (South African National Aids Council, 2007:7). The initial rate of attendance for the VCT services and access to the facility, testing and treatment at the University was slow. There is an indication of a slight increase of VCT statistics from an average of twelve people a month in the year 2000 to 100 a month in 2009, but this is not sufficient to combat the epidemic. Therefore, this study intends addressing the gaps in the strategic planning of VCT programmes in HEIs. The study would be useful to health practitioners when planning health education programmes to resolve the issue. The results of the study will enable the institution to strengthen the monitoring and evaluation system and to measure the effectiveness of VCT programmes.

1.8 Conceptual framework

The factors which influence the utilisation of VCT services are related to the problems of the individuals' knowledge about VCT services, their perceptions of the health problems and the prioritised need for HIV awareness. At the university

under study, it is assumed that all the students have been exposed to HIV and AIDS awareness interventions. Students are encouraged through the media to test for HIV whilst in high school or in institutions of higher learning. This study will focus on knowledge about HIV and AIDS, predisposing factors, reinforcement, enabling factors and administrative and policy regulations (Stanhope and Lancaster, 2007:270). The conceptual framework is used as a checklist to determine the extent of the response to the HIV and AIDS epidemic in higher education institutions. Other important issues are the identification of social problems and priority factors. It is crucial to review previous studies in similar situations in order to draw conclusions about the extent and severity of the epidemic, thereby enhancing strategic remedial planning. The pattern of behaviours within that particular community also assists in addressing the priority factors. Environmental factors that impact on VCT are commonly related to accessibility to the VCT sites and transport.

The conceptual framework was adapted from the PRECEDE-PROCEED Model. The conceptual framework provided focus variables on which the questionnaire was based, namely, demographic factors, reinforcing factors, predisposing factors, environmental factors, behaviour and enabling factors (Stanhope and Lancaster, 2007:270).

1.8.1 PRECEDE-PROCEED Model

The PRECEDE-PROCEED Model focuses on planning and evaluating community health promotion programmes. PRECEDE is an acronym that stands for the Predisposing, Reinforcing, Enabling causes in Educational, Diagnosis and Evaluation. PROCEED is an acronym that stands for Policy, Regulatory and Organisational Constructs in Educational and Environmental Development. The main objective of the PRECEDE-PROCEED Model is to help communities to change their behaviour (Green and Mercer, 2012:1). The first step is an assessment of the environment in which the community lives to

establish the extent of social influence on healthy behaviour. The second step is to explore the internal and environmental factors of the community that influence and predispose them to certain behaviours. The third step is the identification of factors that will help the community to adopt healthy behaviours. The fourth step is the setting of priorities and the development, implementation and evaluation of the programme. The PRECEDE-PROCEED model is used as a checklist to ensure that processes of problem solving are implemented (Stanhope and Lancaster, 2007:270).

The PRECEDE section of the Model was used because the VCT programme focuses on health promotion. Ideal strategies for health education require reinforcement factors such as policies on HIV and AIDS, VCT accreditation, procedures of confidentiality, practices of monitoring, care, support and evaluation of the service, a multi-team approach (multi-sectoral approach), and the involvement of the University community in the planning and implementation of the VCT programme (Green and Mercer, 2012:1). Predicted predisposing factors such as the perceived benefits of VCT, fear, stigma of HIV and AIDS, fear of knowing one's HIV status, and the disempowerment of female students are identified and addressed through health education. These are the factors that impact on the utilisation of VCT services. The environmental factors are accessible VCT services in terms of structure, user-friendliness for students, centrally situated services and walk-in services. Other factors are cost effectiveness, record keeping and the volume of the clients which could result in long queues. The reinforcement factors, predisposing factors, environmental factors, and behavioural patterns are selected as variables on which the questionnaire is based (Hutchinson, Mahlalela and Yukich, 2007:508).

The PRECEDE section of the Model, as described by Stanhope and Lancaster (2007:271), was selected to provide a meaningful description and guidelines to be used for the observation and implementation of health promotion. The major objective for VCT programmes in higher education institutions is to provide health

promotion and to increase the utilisation of VCT services by students. Therefore, the PRECEDE section of the Model is used to identify the needs of the community, existing enabling factors and gaps in the programme (Stanhope and Lancaster, 2007:270). The outcome of the study will enable the development of new strategies to enhance the reinforcement and adoption of healthy behavioural change, healthy lifestyles, and the improvement of accessibility and economic factors (Green and Mercer, 2012:1).

Figure 1 depicts variables that were selected in the study and used as a guide. For example, demographic data would influence the utilisation of VCT centres. Knowledge about benefits of a VCT programme and related issues of HIV and AIDS, such as documentation and the volume of patients/clients will also influence the utilisation levels. Another factor is reinforcement, which includes government's national policy and strategic plan and the involvement of stakeholders at all levels (Stanhope and Lancaster, 2007:270). The PRECEDE-PROCEED model focuses on the health promotion part of the study.

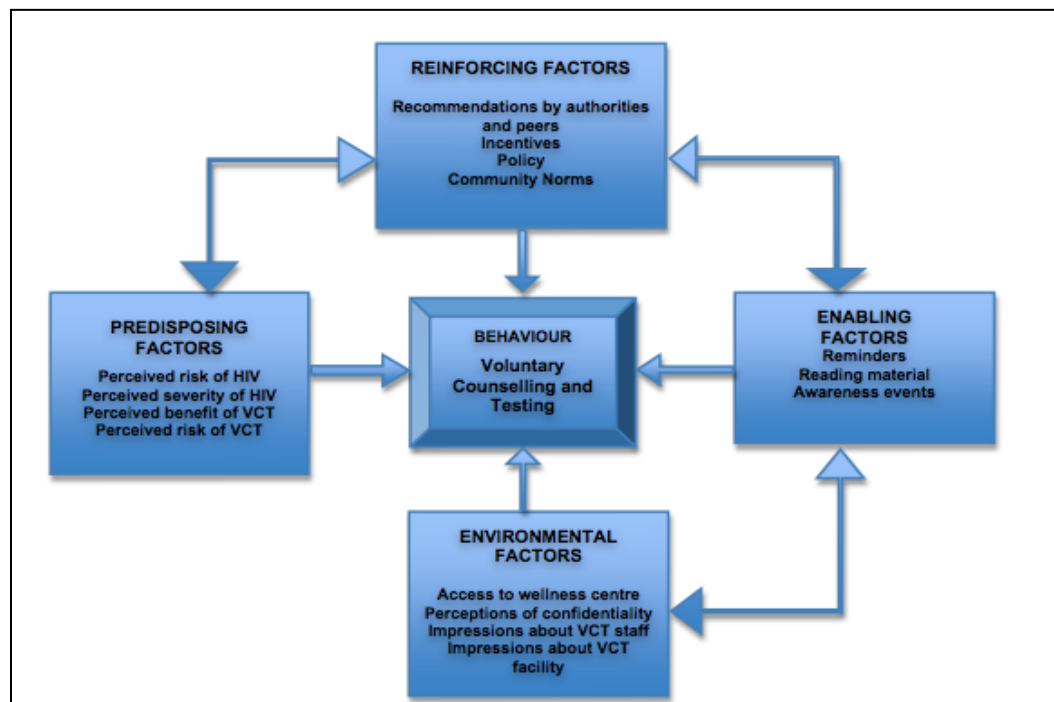


Figure 1: Factors included in the PRECEDE PROCEED Conceptual Model
(Santibanez, Zimmerman, Nowalk, Jewel and Bardella, 2004:43)

1.8.2 Application of PRECEDE-PROCEED Model

The elements of PRECEDE section of the Model was used as a framework for developing the questionnaire. The PRECEDE section of the Model was the central focus that was used as a checklist to investigate the utilisation of VCT services in higher education institutions.

The PROCEED section of the Model was not used in this study. The elements of PROCEED section of a model are policy, regulatory, organisational, constructs in, educational, environmental and development. The elements of the PROCEED Model are interrelated and described as an infrastructure of the institutions of higher education and related government intervention as laid out in the policies that govern the national and international strategies for VCT (Green and Mercer, 2012:1). The South African National Strategic Plan 2007-2011 for HIV, AIDS, Sexually Transmitted Infections and Tuberculosis is part of the government's policy that provides a broad guideline for the formulation of an appropriate framework which regulates the implementation of the strategic plans (South African National AIDS Council, 2007:7). Organisational is described as the national framework that was developed and launched by the National Higher Education HIV and AIDS (HEAIDS) programme management in 2010 (Higher Education HIV and AIDS Programme, 2010:27b). . Constructs in educational and environmental development is a package which was addressed through the establishment of VCT services in all twenty three institutions of higher education in phase 1 of the HEAIDS programme in 2000-2005. HEAIDS phase 1 programme strengthened existing HIV programmes and assisted in the establishment of HIV and AIDS programmes in institutions that did not have them. The important focus was to develop programmes that met the needs and within the context of each university. Programmes that assisted in the development of HIV and AIDS programmes focused on the establishment of VCT services as the core of preventive strategies to combat HIV and AIDS in universities (HEAIDS, 2003-2004:39).

1.9 Operational definitions

Voluntary is the decision to take an HIV test based on the individual's own choice.

Voluntary HIV counselling and testing is pre-counselling of people before having a test for HIV. VCT is used synonymously with HIV testing and/or knowing the HIV status.

Wellness centre is the campus clinic which provides comprehensive health care services to students who are registered at the university. Wellness centre is used interchangeably with campus clinic.

Higher Education Institution/HEI is an institution that offers academic programmes which lead to degrees or diplomas.

Utilisation factor is the extent of utilisation of VCT services by students in a Higher Education Institution.

1.10 Conclusion

This chapter addresses the issues of background, problem statement, purpose of the study, research objectives, research question, significance of the study, conceptual framework, and operational definitions. South African Higher Education Institutions are challenged to effectively respond to the mitigation of the HIV and AIDS epidemic. Students in higher Education Institutions are at high- risk of HIV infection because they are in the age group that is the most affected by the epidemic (Pettifor *et al.*, 2005:1532). It is essential to curb the epidemic's impact on the higher education sub-sector's role to produce highly skilled workers. Scarce human resources are at risk of depletion, thus affecting the economy of the country. Therefore, there is a need for research in Higher Education Institutions to curb the spread of HIV. Hence, a National Policy for HIV and AIDS framework was developed and launched in 2010 (Higher Education HIV and AIDS Programme, 2010:42c).

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Literature reviews help to create a logical flow of current and relevant information as well as an understanding of the methodology and the topic. In peer-reviewed literature, strengths and weaknesses are identified in order to determine areas that have not been investigated (Moule and Goodman, 2009:96). Literature reviews focus on the collection of current information on the topic and identify any gaps in the knowledge base. Literature reviews also provide relevant information on the background to the study, thereby increasing the depth of knowledge on the topic (Moule and Goodman, 2009:114 and 137).

2.2 Conceptual framework - The PRECEDE-PROCEED Model

The conceptual framework for this study is the PRECEDE-PROCEED Model. The model's key focus areas are the identification of behavioural and environmental risk factors that affect the health of people (Green and Mercer, 2012:1). This model provides a guide that enables the logical and systematic collection of information relating to behaviour and behavioural practice (Stanhope and Lancaster, 2007:271). The relationship between societal norms; cultural influence; psycho-social and economic factors influencing attitudes; knowledge and behavioural patterns of youth and general society (Kalichman, 2007:45) can be established. Impacts on the utilisation of VCT in Higher Education Institutions are reinforcing; pre-disposing; environmental; enabling; and behavioural factors that were adapted to enable a logical flow of information (Stanhope and Lancaster, 2007:251). The focus variables were adapted to address the potential

factors that impact on the utilisation of VCT in Higher Education Institutions (Stanhope and Lancaster, 2007:252).

The PRECEDE section of the Model consists of the factors that enable the implementation of the health promotion programme. These are reinforcing factors such as recommendations by authorities and peers, incentives, policy and communication norms. Certain predisposing factors hinder the effectiveness of VCT because they expose individuals to high-risk sexual behavioural patterns that lead to fear to test for HIV and knowing about one's HIV-positive status. Individuals who have engaged in high-risk sexual intercourse are reluctant to have HIV tests (Fako, 2006:207). There is also a fear of stigmatisation by the community (Francis, 2010:340). The issues in this study are the perceived risk of HIV, the perceived severity of HIV, the perceived benefit of VCT and the perceived risk of VCT. The enabling factors are processes that enhance the utilisation of VCT services. These are communication of information, reminders, dissemination of material for reading and VCT awareness events to sensitise the university community (Stanhope and Lancaster, 2007:252). The environmental factors refer to access to the wellness centre or campus clinic, perceptions of confidentiality by the students, impressions of students about staff, and impressions about the VCT facility. These factors were used as the basis for the construction of the research question (Pignatelli, Simpore, Pietra, Ouedraogo, Conombo, Pizzocolo, De Laco, Tall, Ouiminga, Carosi and Giampiero a Castelli, 2006:350).

The core of the PRECEDE section of the Model is voluntary HIV counselling and testing, which is a strategy for HIV and AIDS awareness and a basis for a behaviour communication and change process. The reinforcing factors were used as a checklist to determine the available infrastructure, policies and procedures (Green and Mercer, 2012:1). The predisposing factors examined the extent to which these factors impacted on the utilisation of VCT. The environmental factors examined accessibility, attitudes and perceptions of

students and staff towards VCT services, including the adequacy of reading material. The PRECEDE section of the Model focuses on the enabling factors which would enhance the implementation and effectiveness of VCT. The enabling communication activities as highlighted in the model are reminders, reading material and awareness events (Stanhope and Lancaster, 2007:271). The broader aspects of communication were also identified in the literature. For example, the South African government utilises different media programmes (television, newspapers, magazines and mass community engagement campaigns) to provide information to the people (Hutchinson *et al.*, 2007:491).

Other factors which influence the utilisation of VCT services are related to the problems of the individuals' knowledge about VCT services, perceptions of the health problem and a prioritised need for HIV awareness. At the university under study, the assumption is that all the students have been exposed to HIV and AIDS awareness initiatives. Students are encouraged to test for HIV whilst in high school or in institutions of higher learning. The study will focus on the aspects of knowledge about HIV and AIDS; predisposing factors; reinforcing factors; enabling factors; administration; policy and regulations (Stanhope and Lancaster, 2007:251). The HEAIDS Strategic Framework 2009-2010 was used as a checklist to determine the extent of the response to the HIV and AIDS epidemic in higher education institutions (Higher Education HIV and AIDS Programme, 2010:142b).

2.2.1 Predisposing factors

The predisposing factors are part of the PRECEDE section of the Model. The identification of all factors that hinder the utilisation of VCT is crucial. The predisposing factors are used as a checklist to measure the effective implementation of the re-enforcing factors. The key focus areas are the perceived risk of HIV, the perceived severity, and the perceived benefit and risk of VCT. The factors that impact on VCT programmes are cultural, psycho-social,

economic, behavioural patterns, knowledge, perceptions, attitudes, stigma, denial and accessibility (Kalichman, 2007:42).

A comparative survey of social and psychological factors associated with a willingness to have HIV tests among youth in Botswana was done by Fako (2006:207) in secondary schools and tertiary institutions. The study found that 50% of the students were willing to have HIV tests. Students who were sexually active are at high risk and were less willing to have HIV tests. High-risk behaviours contribute to the fear to test for HIV. The study found that among students who were sexually active and who used condoms, one fifth were willing to test for HIV. In secondary school and tertiary institutions, the younger students were more willing to have VCT than older students who were sexually active. Individuals who were infected with HIV were less likely to have HIV tests compared with uninfected people (Fako, 2006:206). A study of the factors motivating young people in Malawi to have VCT was done by Mphaya, Roos and Ehlers (2008:59) and they found that young people have VCT to find out their HIV status after exposure to sexual intercourse and when they feel at risk of HIV infection. The practice of having VCT is motivated by exposure to factual information of VCT (Mphaya, Roos and Ehlers 2008:59).

Fako (2006:206) found that the degree of exposure to VCT awareness initiatives impacts on the utilisation of VCT. The students from urban areas and privileged backgrounds, who are more exposed to information, are more willing to have VCT in comparison to students from rural areas who are less exposed to information. The study revealed that HIV infection, STIs and access to condoms/condom usage had no impact on their willingness to have VCT, although previous studies have associated it with a willingness to test. Knowing that an individual has strong family support is an important factor that encourages people to utilise the VCT services (Fako, 2006:206). Ot wombe *et al.* (2010:3) affirmed that different levels of barriers included individual, interpersonal, community and cultural barriers.

2.2.2 Perceived risk of HIV

Perceived risk of HIV is an element of the predisposing factors within the PRECEDE section of the Model. The degree of exposure to HIV and AIDS information also plays a critical role as factors that influence the willingness to have VCT. The youth's knowledge about HIV and AIDS transmission does not deter them from engaging in unprotected sex because they do not perceive themselves at high risk of HIV infection (Pettifor *et al.*, 2005:76).

2.2.3 Perceived severity of HIV

According to Badenhorst, Van Staden, and Coetsee (2008:27), students have been exposed to a great deal of information about HIV and AIDS and they recognise that they are personally at risk. Despite this, some students continue to practice high-risk sexual behaviour. In a study that was done at the University of the Free State (UFS) to determine HIV and AIDS risk factors among students living in the residences, Badenhorst, Van Staden, and Coetsee (2008:27), found that patterns of behaviour are not based on culture. They found that the behaviour pattern is the main issue. The study concluded that individual students do not perceive their sexual behaviour as high risk even if they are exposed to high-risk behaviour such as multiple sexual partners or unprotected sex.

In their study of knowledge, attitudes to HIV and AIDS and sexual behaviour of students in tertiary institutions in South-Western Nigeria, Odu, Asekun-Olarinmoye, Bamidele, Egbewale, Amusan and Olowu (2008:90) found that psychological factors such as fear of discovering one's HIV-positive status, fatality, stigmatisation, rejection by the partner and significant others, all impeded the utilisation of VCT services. The study that was done by Njagi and Maharaj (2006:127) found that psycho-social factors are related to individuals' attitudes,

perceptions about VCT and its benefits, stigma and isolation, fear of knowing one's HIV status, fear of death, women disempowerment, and confidentiality assurance. Studies, which have been conducted in higher education institutions in South Africa found that the majority of students have been informed about VCT and yet still, do not know their HIV status. These young people between 15 and 24 years of age know about the risky sexual practices that predispose individuals to HIV infection (Njagi and Maharaj, 2006:127). Kalichman (2007:45) reported the lack of consistent usage of condoms during sexual contact.

2.2.4 Perceived benefit of VCT

The programmes providing knowledge about HIV and AIDS have been vigorously implemented among the youth. The HIV and AIDS programmes have been established in the South African Higher Education Institutions to provide information and to change behavioural patterns (Odu *et al.*, 2008:92). The current wellness approach to HIV and AIDS has been adapted and its foundation is health education, which aims to provide skills and enhance responsibility for one's own health. A VCT service on campus provides for the early detection of HIV and is a key entry point for antiretroviral treatment and coping with HIV and AIDS. In South Africa, the first prevalence study was conducted in 23 HEIs in 2009 to establish a baseline HIV and AIDS prevalence rate using sero-conversion laboratory blood tests among students and staff (Higher Education HIV and AIDS Programme, 2010:43a).

VCT is an important strategy for the prevention, early detection and treatment of HIV infection in the world. Kenya has about 1.4 million adults and children living with HIV and AIDS. Irungu, Varkey, Cha and Patterson (2008:111) conducted a study at Nakuru in Kenya across the general population to investigate access to VCT, attitudes and community preferences regarding VCT. The results showed that there were more female than male participants in VCT programmes. There were more single than married participants in the VCT programme, and the

distribution was equal amongst urban and rural residents. The majority of participants were aware of VCT facilities and these were accessible in urban areas. Of 280 participants, 78.2% were ready to have VCT. Of these, 75.3% felt the information on VCT was intended to protect them from HIV infection, to plan for the future, and to get treatment early. A small number of participants (9.8%) were not aware of a VCT programme or were unsure of information about VCT. Irungu *et al.* (2008:117) found that in the rural areas the clinics were not accessible hence the strategic plan for the future would have to include providing mobile services in order to reach all the people. HIV and AIDS in Kenya continue to be a major concern. The primary factors which impede the utilisation of VCT services are accessibility to VCT services, information about the benefits of having VCT, and addressing the stigma within communities associated with HIV and AIDS (Irungu *et al.*, 2008:117).

2.2.5 Perceived risk of VCT

A comparative study between traditional and non-traditional students in North Carolina in USA was done by Opt, Loffred, Knowles and Fletcher (2007:165). They aimed to compare the knowledge of HIV and AIDS between students, perceptions of HIV and AIDS, and sexual practices with previously reported results about traditional students. Traditional students were younger students who resided at school and non-traditional students were older and commuted to school daily. The study found more similarities than differences between groups. In the study by Opt *et al.* (2007:165), it was found that college students are knowledgeable about HIV and AIDS and the risks of HIV and AIDS. The study found that 64.3% of non-traditional students said they had been tested for HIV compared to 54.3% of traditional students. Age and life experience were cited as possible contributing factors. The traditional students were younger compared with the older non-traditional students who had long term relationships. The students who were less concerned did not have HIV tests. The students' reasons for having HIV tests were routine check-up, surgery, post exposure to

unprotected sex, and blood donation. Among non-traditional students, the reasons for not having HIV tests willingly was because they were married, had one partner, or were not sexually active. The non-traditional students did not perceive themselves at high-risk when engaging in unprotected sex. Traditional high school students who lived on campus were more exposed to factual information on HIV and AIDS than non-traditional students (Opt *et al.*, 2007:165).

Irungu *et al.* (2008:117), found that peoples' reasons for not having VCT were their fear of the risk factors from previous high-risk exposure, post-test depression if results are HIV positive, rejection by friends, family and community, domestic violence, and that the knowledge of being HIV positive could accelerate death. The participants who were ready for VCT were from urban areas, had secondary education, access to clinics, and would change their behaviour if they were HIV positive. The study also found that their positive attitude was due to an exposure to factual information (Irungu *et al.*, 2008:117).

The factors that impact negatively on the providers of VCT are a lack of or limited resources, training and time. For example, a lack of manpower and infrastructure, which results in the poor quality of the VCT service. The consequences of the disclosure of one's HIV-positive status also posed a real hindrance (Obermeyer and Osborn, 2007:1774). The adoption of the rapid test for HIV provides immediate results in the presence of the individual. The previous high rate of failure to come back for the ELISA laboratory HIV test reports was addressed. The offer of HIV tests in the public health clinics is intended to increase the number of people that have VCT (Njagi and Maharaj, 2006:115).

2.2.6 Environmental factors that impact on the utilisation of VCT

Environmental factors are an element of the PRECEDE section of a Model. The factors that impede the utilisation of VCT service are the unavailability of

affordable transport and financial constraints (Kalichman, 2007:45). The South African National AIDS Council's (2007:10) report on accessibility of VCT services addresses the issue of affordable transport by establishing partnerships with other non-governmental stakeholders to bring VCT services closer to the communities. VCT services should be user-friendly to the youth without the health professionals being judgmental. People are encouraged to have VCT in order to know their HIV status even if they are not engaging in sexual intercourse (Kalichman, 2007:40).

2.2.7 Behaviour and behavioural intentions

Another element of the PRECEDE section of the Model is behaviour and behavioural intentions. The expected outcome of HIV counselling and testing is to establish one's HIV negative or positive status. Njagi and Maharaj (2006:113) reported that VCT is identified as the strategy for health promotion and prevention of HIV infection in the world. Individuals who have VCT become exposed to personalised information as opposed to general information and thereafter engage in a process of behaviour change through healthy behavioural choices (Kalichman, 2007:45). The consistency of condom use also gradually improved. A limitation on multiple sexual partners is practiced and the fear of having VCT is also overcome by the recognition of the benefits of VCT (Obermeyer and Osborn, 2007:1763).

Pettifor *et al.* (2005:77) found that the key determinants of behavioural patterns are related to the prevalence and incidence of HIV infection, sexual intercourse at an early age which predisposes an individual to multiple sexual partnerships, intergenerational sex, multiple sexual partners, and consistent usage of condoms. In this study it was further established that behavioural change is vital for the effective mitigation of HIV and AIDS. Strategies that address community norms should therefore be identified as a priority.

The cultural and social issues that are related to education on gender empowerment is linked to safer sex decisions, multiple sexual relationships, and serial partnerships which involves changes in sexual partners frequently. These increase factors of the vulnerability of women and children to abuse (Pignatelli *et al.*, 2006:350). Hutchinson *et al.* (2007:491) studied the role of media and interpersonal communication in the dissemination of information on HIV and AIDS to address stigmatisation. They found that support was provided through media and social networking and this encouraged behavioural change. The communication behaviour change approach will curb the HIV and AIDS epidemic by increasing the number of people reached through dissemination of information and having VCT (Hutchinson *et al.*, 2007:491). Kalichman (2007:40) reported that progress has been made towards the prevention of HIV infection through the dissemination of information and behaviour change communication.

2.3 Voluntary HIV counselling and testing (VCT)

VCT is the core of the PRECEDE section of a Model. It is globally accepted that voluntary HIV counselling and testing (VCT) plays an important role in the prevention of HIV and AIDS (Human Sciences Research Council, 2008:4), early detection of HIV, monitoring and timeous referral for antiretroviral treatment (Fako, 2006:201). HIV and AIDS are prevalent in higher education institutions because the age group of youth (15 and 24 years) accounts for the majority (25%) of the infections in the epidemic (Mphaya, Roos and Ehlers, 2008:60).

Information on the factors that influence voluntary HIV counselling and testing was reviewed by Moule and Goodman (2009:137). These factors include knowledge about HIV and AIDS, prevention of HIV infection or transmission, attitudes (denial and stigmatisation) towards people living with HIV and AIDS, behavioural practices and attitudes to early detection of HIV, and accessibility to health care facilities for VCT (Fako, 2006:202). Obermeyer and Osborn (2007:1770) studied the utilisation of VCT and reviewed social and behavioural

evidence. They found that there are multiple factors that influence VCT programmes. The cost of transport prevents people from using VCT facilities and attending training. A lack of resources also impacts negatively on the provision of quality service by the providers. Psychosocial factors that impede VCT are related to people, knowledge, perceptions, attitudes, stigma, denial, accessibility and perception of risks of VCT. Rapid HIV testing has reduced the rate of unclaimed the results. The provider-initiated system for HIV testing has improved the acceptance of VCT because of the benefits related to the improvement of health status of the people (Obermeyer and Osborn, 2007:1770).

Kalichman (2007:40) reported that VCT was directed at the reduction of new infections that were escalating, prolonging the life of the HIV infected individuals and improving their quality of health. The effectiveness of the VCT programme could be used as an indicator for prolonging people's lives as opposed to HIV and AIDS being a fatal disease (Obermeyer and Osborn, 2007:1770). The assumption was that the effectiveness of the VCT programme could lead to a decrease in mortality (Venter, 2007:8). The South African National AIDS Council (2007:23) reported that another crucial factor was that the accessibility of VCT facilities should be increased and well staffed in order to increase the number of people reached. VCT is a programme that enables people to have knowledge of their HIV status, to be monitored, and to be referred timeously for antiretroviral treatment (South African National AIDS Council, 2007:64). When individuals are aware of their HIV status and have come to terms with their illness, their care and support programmes are developed to improve and maintain the quality of their health. Individuals are encouraged to test for HIV when they are well, and prior to having a very low CD4 cell count (Pignatelli *et al.*, 2006:350).

Different strategies of HIV and AIDS awareness programmes have been developed, implemented and reviewed. Health Education models have been developed in countries such as Ghana, Kenya, Zimbabwe and USA, which have successfully decreased the escalation of HIV transmission (Kalichman, 2007:

45). These models of good practice for the effective management of HIV and AIDS have been adapted into the South African Higher Education HIV and AIDS Programme (Higher Education HIV and AIDS Programme, 2010:23a).

Pignatelli *et al.* (2006:350) focused on the provision of knowledge about VCT programmes and also addressed the issues of stigmatisation and discrimination that surrounds HIV and AIDS. Stigmatisation and discrimination prevent people from disclosing their HIV status. Non-disclosure also promotes secondary infection, increases new infections and re-infections and enhances the negative perceptions of the VCT. Appropriate knowledge of HIV and AIDS will prevent a negative attitude about HIV Counselling and Testing (HCT) programmes. HCT is initiated by the Health Professional with a purpose of excluding HIV and AIDS when managing a sick patient. Consent to perform HCT is obtained from the individual. VCT includes individuals who request for the HIV tests voluntarily. The HCT programme is aimed at reaching all the people of the country. People are encouraged to test early for HIV so that they can be monitored if they are HIV positive (Pignatelli *et al.*, 2006:350). The aim is to start antiretroviral treatment as soon as possible before a person is too sick to respond to treatment (Venter, 2007:10). Stigmatisation and discrimination are issues related to HIV and AIDS that have prompted the international community and South Africa to promote comprehensive VCT programmes (Pignatelli *et al.*, 2006:350). Hutchinson *et al.* (2007:490) found that reluctance to disclose one's HIV positive status is caused by fear of rejection and isolation by families and communities (Hutchinson *et al.*, 2007:490). In higher education institutions, the fear of discrimination is experienced by students when applying for study loans, employment opportunities, rejection by families and psycho-social issues which all negatively influence the utilisation of VCT services (Hutchinson *et al.*, 2007:49).

Kalichman (2007:40) conducted a study in the United States of America (USA) and found that the strategic plan for the VCT programme should include or target people living with HIV and AIDS. He referred to this as 'positive prevention'.

‘Positive prevention’ in this context means the prevention of transmission of HIV and/or re-infection by individuals living with HIV. Positive prevention programmes have been implemented and evaluated for effectiveness in USA. Kalichman (2007:45) suggested that these strategies could be applied in the South African setting. The adoption of a positive prevention programme would result in the reduction of ‘institutionalised’ AIDS stigma, culturally associated denial and would increase access to health facilities for STIs and ARV therapy for all groups of people (Pignatelli *et al.*, 2006: 350). Positive awareness is part of a comprehensive VCT programme which creates awareness within the high-risk groups who are living with HIV and AIDS and are unaware of their HIV status, as well as those who know that they are HIV positive (Kalichman, 2007:44). Information on factors that impact negatively on VCT programme was identified as gaps that impact on the study (HEAIDS, 2003-2004:57).

In his study of social and psychological factors that are associated with a willingness to have VCT among young people in Botswana, Fako (2006:207) found that a willingness to test could be correctly determined given information on five predictors. Students whose sexual practices are high-risk are less willing to have VCT than those not at risk. Students who are sexually active, have multiple sexual partners, are not happy with life in general, are not attached to their fathers, and who frequently fight with other children as they grow up, have a greater fear of having VCT. A supportive family background is important. Psychological bonding in the family context, a positive socialisation environment, and a favourable socio-economic background are also important in shaping the attitudes of the youth regarding VCT. The recommendations were that students should be encouraged to have VCT before they engage in sexual intercourse because as they grow older, they may engage in high-risk behaviours. The legal age limit for youth to qualify for VCT should be lowered (from sixteen years to twelve years). Awareness of the benefits of VCT should be intensified, particularly amongst sexually active groups and those who are from poor backgrounds in rural areas (Fako, 2006:207).

2.3.1 Community strategies relating to VCT programmes

VCT is a turning point in mitigating the pandemic (Odu *et al.*, 2008:95). The focus of VCT is on various benefits such as:

- encouraging people to test for HIV and know their status,
- a platform for providing HIV infection prevention education,
- promoting safer sex practices or healthy sexual choices and
- an entry point to access antiretroviral treatment, care and management (Mphaya *et al.*, 2008:74).

Factors that pose barriers to VCT are the fear of associating with VCT facilities, transport issues, confidentiality and disclosure, stigmatisation and isolation (Kalichman, 2007:44). These characteristics are real in the student population who are just a fraction of the general population (Shisana *et al.*, 2009:68).

2.4 Higher Education Institutions' VCT programmes

The Higher Education HIV and AIDS Programme (2010:5) developed guidelines at a national level. These guidelines enable management of HIV and AIDS, provide guidelines for development of strategic HIV and AIDS programmes in Higher Education Institutions. HEAIDS provides strategies for the communication process through programme coordination. As a national office, HEAIDS assists in the management of HIV and AIDS programmes in all institutions of higher education. Communication processes are strategically planned, take place regularly and routinely, and are sustained over a specified time frame. Various channels of communication are used, namely newsletters, regular meetings at different levels and websites. The major purpose of communication is to share information at regular intervals as well as to develop and establish standard frames of reference for monitoring and evaluation purposes (Higher Education HIV and AIDS Programme, 2010:13c).

The Higher Education Institutions AIDS Programme 2010 reported that there is an urgent need to expand and sustain a comprehensive VCT programme in South Africa as a key activity for early detection of HIV, to facilitate the monitoring and management of opportunistic infections and the timeous referral for antiretroviral treatment. HEIs have an obligation to search for current information on the pattern of the HIV and AIDS epidemic, curb the increase of new HIV infections, restore quality of health of individuals who are HIV infected and retain skilled people to strengthen the economy of the country. The HEI under study has identified the need for such support programmes and has implemented a VCT programme to provide information on HIV and AIDS. Information on factors that impact negatively on the VCT programme will be identified as a gap (Higher Education AIDS Programme, 2003-2004, Higher Education AIDS Programme, 2010). Odu *et al.* (2008:9) reported that there is an essential need to reach learners in high schools and tertiary institutions to disseminate HIV and AIDS information. Young people should be encouraged to test for HIV early, before they engage in sexual intercourse (Mphaya, *et al.*, 2008:73-75). Increasing people's knowledge of HIV status is important, as this has been linked to an increase in preventing unhealthy behaviours among those who test HIV positive through VCT (Shisana *et al.*, 2009:39)

The Higher Education HIV and AIDS programme management established and strengthened accredited VCT sites on campuses in higher education institutions between 2000 and 2005. HIV counselling and testing (HCT) is currently a new trend, which has been implemented through the use of mobile HIV counselling and testing clinics through partnerships with the Non-Governmental Organisations (NGOs). The referral system is used for care, support and management. The initiation of antiretroviral treatment is done through the accredited NGO. Currently, the Campus clinics are advocating for accreditation to initiate antiretroviral treatment and decrease referrals (South African National AIDS Council, 2007:60).

2.4.1 Communication strategy

The communication strategy involves processes that are used to disseminate information on VCT, HIV and AIDS (Pettifor *et al.*, 2005:53). South Africa has adapted the best models of communication from successful programmes in Ghana, Zimbabwe, USA and other countries that were able to stabilise the pandemic (Kalichman, 2007:45). The communication processes involve media (television, newspapers and radio), advertisements, pamphlets, posters, word of mouth, mobilisation of communities and various other publications. Pettifor *et al.* (2005:53) reported that open communication about HIV, AIDS and VCT is the key to addressing barriers such as socio-cultural, psychological, economic and behavioural choices that impede VCT (Pettifor *et al.*, 2005:53). VCT is the communication process that addresses individual perception of high-risk behaviour and HIV infection (Hutchinson *et al.*, 2007:491).

The major purpose of this exercise was to identify social concerns of University communities, the level of HIV and AIDS mitigation, identification of gaps, and problems so that planning could address the real priority needs related to the epidemic. This was phase 1 of HEAIDS response to mitigation of the HIV and AIDS epidemic. Health education processes are evaluated on an ongoing basis (HEAIDS, 2003-2004:90; and National Strategic Plan, 2007-2011:65). The outcome was that accredited VCT services at all campus health clinics were established to provide accessibility and to encourage university communities to test for HIV (Odu *et al.*, 2006:354). HEAIDS provided empowerment through workshops for health care providers, peer education training on campus to fast track communication processes for staff and students, monitoring and evaluation of services (Higher Education HIV and AIDS Programme, 2009:2).

Phase 2 of the HEAIDS programme 2007 and 2010:3 focused on reinforcing factors that would enable effective VCT at the Universities (Higher Education HIV and AIDS Programme, 2010:3a). The enabling factors were the development of

the National Higher Education Institutions HIV and AIDS Policy Framework 2010 as well as The Monitoring and Evaluation and HIV and AIDS in the Work Place 2010 (Higher Education HIV and AIDS Programme, 2010:51c). The crucial activity was a baseline research study on all Higher Education Institutions to establish HIV and AIDS prevalence and to measure students' knowledge, attitudes and perceptions regarding HIV. The study found that students were aware of VCT, HIV and AIDS but that most individuals did not perceive themselves at high risk for HIV infection even though their behavioural pattern was high-risk (Pettifor *et al.*, 2005:35)

HEAIDS developed a communication framework as a guideline to assist institutions to establish effective behaviour change communication strategies (Higher Education HIV and AIDS Programme, 2010:5a). The HEAIDS model of communication identified three key focus areas that form the scope of communication activities (Higher Education HIV and AIDS Programme, 2010:13 c). Communication is influenced by attitudes, the culture of communication, values and social pressures that impact on the non-communicator's ability to appreciate communication. The core purpose of communication is to ensure that university communities get current information that will enable the combating of HIV and AIDS whilst promoting HIV counselling and testing (Higher Education HIV and AIDS Programme, 2010:145a).

Higher Education Institutions are responsible for the implementation of the recommendations regarding the programme and the development of policies and programmes in alignment with the HEAIDS framework. HEIs are responsible for developing channels of communication to reach their target communities and these are based on the guidelines that are provided by HEAIDS and the NSP. HEIs establish relations, forums and networks with appropriate stakeholders for the sharing of expertise and information or knowledge (Higher Education HIV and AIDS Programme, 2010:44a).

Strategies for HIV and AIDS prevention should target young people who are vulnerable. The VCT programmes should empower women and children. There must be involvement of the government in the development of the strategic plan and implementation. There is agreement between various researchers regarding the positive impact of VCT and post-VCT support which leads to behaviour change (Venter, 2007:11). The results showed that there was an increased awareness amongst young people about the benefits of VCT (Njagi and Maharaj, 2006:122). Existing research on VCT confirms that global problems are related to a lack of knowledge on HIV and AIDS, related stigmatisation, and discrimination that impacts on the individuals and their families (Njagi and Maharaj, 2006:123; and South African National AIDS Council, 2007:60).

2.4.2 VCT programmes in Higher Education Institutions

The South African government mobilised stakeholders and communities to develop strategic VCT programmes to suit their situations, to be accessible and to increase the number of people who test for HIV. In February 2010, the South African government's NSP for HIV and AIDS endeavoured to launch a broader approach of HIV counselling and testing that obligates Health Professionals to screen patients if there is an indication of opportunistic infections in order to exclude HIV and AIDS. The patients should sign an informed consent form for HIV tests. The individuals can also have VCT on request. The major objective is to increase HIV testing by 50% and referral for antiretroviral treatment by 80% (South African AIDS Council, 2010:64). Individuals are exposed to information on HIV and AIDS through VCT (South African AIDS Council, 2010:65). It is essential to educate the patient on the benefits of testing and allow them to choose, thus not infringing on the human rights of the patients (Heywood, 2005:17).

2.4.3 Accessibility of VCT facility

VCT is part of a wellness programme at the university under study. The goals of the wellness programme are the early identification of HIV and other diseases, management or monitoring of the diseases, and referral to other appropriate care providers (Mangosuthu University of Technology Concept Paper, 2008:1). South African Higher Education Institutions have developed a Higher Education HIV and AIDS Programme (HEAIDS) which is very similar to the programme suggested by Kalichman (2007:40) in terms of the VCT strategies and behavioural change. The local programme, known as Higher Education HIV and AIDS Programme (HEAIDS) is managed at a national level by the Department of Education and Institutions of Higher Education as stakeholders. These VCT programmes are aligned to the NSP objectives (Higher Education HIV and AIDS Programme, 2009:12).

2.5 National Strategic Plan for HIV and AIDS: 2007-2011

The reinforcing factors that underpin the policies for the provision of VCT form part of the National Strategic Plan. The National Strategic Plan (2007-2011) provides a broad guideline for HIV and AIDS programmes. The objectives of the National Strategic Plan 2007-2011 will be used to measure the uptake of VCT and to reduce new HIV infection by 50% (National HIV, AIDS and STI Strategic Plan, 2007-2011:65).

The NSP has advanced the guidelines of the National Strategic Plan (2007-2011:64) from VCT to an HIV counselling and testing (HCT) strategy to increase the number of people who test for HIV. The HCT strategy is widely relevant, focused, action-oriented and involves communities. HCT is a primary preventive measure which is aimed at knowing an individual's HIV status and monitoring those with a negative HIV status (Pignatelli *et al.*, 2006:350). HCT allows the Health Professional to initiate HIV testing through education regarding the need

for and benefits of knowing their HIV status and the effective management of opportunistic infections (South African National AIDS Council, 2007- 2011:64).

2.6. Conclusion

The purpose of this literature review was to collect current information on the topic under discussion. The conceptual framework, the PRECEDE-PROCEED Model, was used as a guideline for this study. VCT and testing programmes were reviewed as were the community norms relating to VCT. HEAIDS HIV and AIDS programme in Higher Education Institutions and the strategies of VCT and VCT programmes in the Higher Education Institutions were also reviewed. Accessibility of the VCT facilities in HEI together with the South African National Strategic Plan for HIV, AIDS and sexually transmitted infection 2007-2011 was discussed as a guideline for VCT programmes in South Africa and its alignment with VCT programmes in HEIs. The literature review provided information on the latest studies and the development of VCT programmes.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

The study investigated factors that impact on the utilisation of voluntary HIV counselling and testing at the wellness centre in a Higher Education Institution. This chapter describes the philosophical underpinnings of positivism, outlines the research design, and describes the population. The method of sampling, the development of the instrument, validity and reliability of the instrument, pilot study, data collection, data analysis, ethical approval and conclusion are also described.

3.2 Research design

The quantitative research paradigm was used to combine aspects of logical reasoning with other features in order to create systems of problem-solving as this tends to be more reliable than other methods of acquiring knowledge (Polit and Beck, 2010: 14). A positivist paradigm refers to the systematic and logical way that the world is viewed as a complex reality that exists (Brink, 2008:22). Moule and Goodman (2009:17) described positivism as a paradigm that dominates logical thinking about a disciplined inquiry to acquire knowledge about an unknown phenomenon. According to Polit and Beck (2010:14), positivism reflects a broader cultural phenomenon that emphasises rational scientific inquiry. Positivism assumes that reality exists in a real world, which is driven by natural causes. The researcher is independent from the phenomena under study and emphasis is placed on discrete concepts. The design is fixed, focuses on objective, quantifiable measures and uses statistical analysis. The context is

also controlled, the researcher's hunches are verified and positivism focuses on the product (Polit and Beck, 2010:16).

Non-experimental research design was selected to describe the phenomenon and establish the relationship between variables in order to generate knowledge. A quantitative descriptive survey research design was used to investigate factors that impact on the utilisation of voluntary HIV counselling and testing services in a wellness centre by students in a Higher Education Institution. The descriptive study was selected as a process which carefully describes the daily experiences of people or things such as knowledge, perceptions, attitudes and behaviour in order to answer questions. Quantitative research is described as a set of logical steps used to answer the research question (Polit and Beck, 2010:236). Quantitative research design determines the methods used to recruit respondents, collect and analyse data and interpret the results. The research design is selected to suit the purpose and financial implications of the study (Polit and Beck, 2010:236). A survey requires the use of a formal structured questionnaire to obtain data from randomly selected people to ensure a representative people (Mouton, 2006:123). This study used a survey to obtain information regarding the students' knowledge, perceptions, attitudes and behavioural patterns (De Vos, 2005:193). The questionnaire was designed to focus on many variables, namely:

- demographic data to understand the background of the participants, awareness of the existence of the VCT facility and VCT,
- the perceptions of students about the VCT facility,
- the attitudes of staff towards students and the perceptions of students about health care professionals relating to accessibility to the VCT service,
- basic knowledge of HIV and AIDS, and perceptions about HIV and AIDS risk and severity and
- the perceptions about the risks and benefits of VCT.

Behavioural patterns were explored. The intention was to check the reliability of answers. Presentation of data was based on the dependent and independent variables (Polit and Beck, 2010:236).

3.2.1 Purpose of the study

The aim of the study was to investigate factors that impact on the utilisation of VCT services in a campus clinic at a higher education institution.

3.3 Study population

The study was conducted in a Higher Education Institution at a wellness centre/campus clinic, at Mangosuthu University of Technology (MUT), which is situated in KwaZulu-Natal, 22 kilometres from the central business district of Durban.

The target population comprised 9853 students who were enrolled at MUT in 2008. The sampling frame included students from the faculties of engineering, management sciences and natural sciences. The students attended the Wellness Clinic and were accessible to the researcher, who is a registered Professional Nurse at the Campus Clinic. Calculation of the sample size was based on the total number of students registered for 2008, which was 9853 in the three faculties. Fifty-one percent were females and forty-nine percent males. The age of students at MUT, according to the student administrative office, ranged from 16-55 years. The student population comprised students who lived in various campus residences and those who commuted daily to the campus (Mangosuthu University of Technology Electronic Records, 2008).

3.3.1 Sampling

Sampling is the selection of a part of the whole population so that it is a true representation thereof (Lobiondo-Wood and Haber, 2010:221). Stratified random sampling was used to select a sample from a target population of 9853 registered students at Mangosuthu University of Technology (MUT) (University records, 2008). The stratified sampling procedure involved the division of students into subgroups or strata (Mouton, 2006:123). The main strata were three faculties (engineering, management sciences and natural sciences). Four levels of study in years (first, second, third and fourth year Bachelor of Tech students) was used to ensure the representativeness of the sample. The register for enrolled students was used to select participants (Lobiondo-Wood and Haber, 2010:221). Each student on the register was allocated a number in order to select a sample. Respondents were selected within each structure using a method of random sampling from a table of random numbers until the required number of respondents was reached (Brink, 2006:138). The respondents selected for the pilot study were excluded from the main study.

3.3.2 Sample size

A statistician was consulted to ensure that the sample was representative of the population. The idea of selecting a sample size that was appropriate to the study population was to ensure the generalisability of the findings. The sample size was 702 respondents as per the statistician's calculation. The statistician used seven percent of the target population because the study was not testing a hypothesis. A research question was used to investigate factors that impact on utilisation of the VCT service in Higher Education Institutions. Stratified sampling ensured that all strata were equally represented (Brink, 2008:141).

The sample size ensured the representativeness of the sample (Brink, 2006:141). The probability error depended on the extent to which the sample represented the student population (De Vos, 2005:191-193). Confidence intervals were 95% and this was confirmed through consultation with the statistician (Polit and Beck, 2006:267-269). Table 1 shows the distribution of the sample.

Table 1 Sample size according to faculties

	Natural Sciences	Management Sciences	Engineering	Total
Frequency	1643	3878	5426	9853
%	15%	35%	50%	100%
Sample Size	108	255	357	702

3.3.3 Development of the instrument

The questionnaire was developed using variables that had been investigated in previous studies based on a similar concept. The variables were adapted to the current study to address the worldwide factors that impact on utilisation of VCT services. Previous studies provided a guideline on the factors that were investigated within the context of the topic of the study. The questionnaire was structured based on variables that had been investigated in previous studies by the Human Science Research Council (2008). The variables were adapted for the current study in order to ensure consistency. The use of available or borrowed questionnaires enables the comparison with previous studies if the target population has similar characteristics (Polit and Beck, 2010:345). The similarity was in the age group of young people of 15-35 years. The assessment of the change in attitude and perception in relation to the extent of exposure to factual information about VCT was enhanced (Mouton, 2006:103). The questionnaire included simple dichotomous questions, rating, ranking, and Likert-scale type questions (Polit and Beck, 2010:344). A combination of the different

types of questions enhanced the reliability and validity of the questionnaires (Mouton, 2006:103).

3.3.4 Variables

Variables are phenomena that can be measured. Variables are described as qualities, properties or characteristics of persons, things or situations that change or vary. The nature of a variable can vary in form or measurement and can take on more than one possible value. For example, gender can take two different values, either male or female. The variable 'age' can take many more values such as below 20 years, 21-30 years or any number between 0-100 (Polit and Beck, 2010:64). The variables 'academic success, stress, pain and satisfaction' can take on more than two values at different times (Polit and Beck, 2010:65).

The different types of variables are dependent, independent, extraneous and demographic (Polit and Beck, 2010:65). As an example of the previous statement, the study investigated the relationship between gender (male/female), which is an independent variable and HIV prevalence, which is a dependent variable based on the outcome of the question, "females/males always use condoms?". The risky behaviour is thus measured against the effectiveness of behaviour change communication programmes and the awareness of high-risk sexual behavioural patterns, for example, 'I do not use a condom because I trust my partner' (Cullim, Ciliska, Haynes and Mark, 2008: 67).

Variables are quantifiable and can be manipulated or controlled. Other variables are identified but not measured (Polit and Beck, 2010:65). Independent variables are aspects that are under the control of the researcher and are not likely to change. Independent variables are perceived as contributing or preceding a particular outcome (Brink, 2006:85). Dependent variables are those aspects that can change because they are influenced by independent variables. The outcome variable, effect or response is assumed to depend on the independent

variable. The dependent and independent variables are used to indicate the direction of an outcome (Polit and Beck, 2010:65).

Variables are classified as nominal, ordinal, interval and ratio. A nominal variable is categorical (for example, yes/ no, left/ right, present/ absent). Other nominal variables are race, gender and age. Ordinal variables are sets of ordered categories that involve rating and are arranged into sets. These categories are used to rate experiences (different levels of agreement or disagreement with a given statement). Ordinal variables are also used to classify stages of diseases (AIDS stages 1, 2, 3, & 4). Interval variables consist of sets of ordered categories which form a series of intervals that are the exactly same size “Last HIV test was less than three months ago or over twelve months ago?” (Polit and Beck, 2010:64).

The questionnaire was developed, and described the following independent variables in the study:

- Demographic data (question 1-8) to understand the participants.
- Knowledge about a VCT clinic at the university, accessibility to VCT services, utilisation of the VCT clinic by students (questions 9-13), and environmental factors such as access to the wellness centre (questions 9-16).

Dependent variables:

- Attitudes of health workers towards students and students’ perceptions of attitudes of health workers towards them as consumers of the wellness centre, (questions 17-21, 23, 25).
- Knowledge factors relating to VCT, HIV, AIDS and STIs (questions 26-44).
- Attitudes towards HIV and AIDS (questions 45-58).
- Students’ behavioural patterns, for example, tested or not tested for HIV (questions 59-71).
- Engagement in unprotected sex, voluntary HIV counselling and testing (questions 69-72).

The measurement scale method was used for the construction of the questionnaire. The statements, to which responses were made varied, ranged from a scale of 1 to 5. The scales were standardised for consistency. Existing scales were used to increase the probability of comparative research and to obtain higher levels of measurement. The grading of measurements enhanced the facilitation of the analysis of differences between respondents (Polit and Beck, 2010:392).

Dichotomous questions for example yes/no, were used to obtain facts. Demographic or attribute variables were used to obtain factual information which was logically arranged into categories like male/female, age group, faculty, year (level or year) of study, marital status, living in or out of campus residences. The respondents were asked to indicate the degree of agreement or disagreement regarding attitudes/perceptions, behavioural patterns and knowledge. The responses were measured as a total score per category, for example, strongly agree, agree, uncertain, disagree, and strongly disagree. Questions were grouped according to variables and arranged logically (Polit and Beck, 2010:65).

Five main variables were used to group questions. Variable one constituted demographic data (questions 1-8). The information explored included the last high school attended, the faculty in which respondent is currently registered, level of study, currently registered resident, age in years, race and marital status. Variable two consisted of questions 9-15, which explored knowledge and perceptions about the availability of the VCT facility and service provision. Variable three explored basic knowledge about HIV, AIDS and VCT (questions 26-68); variable four examined the students perceptions of attitudes of health workers towards students as consumers of the wellness centre and attitudes of staff towards students (questions 16-25); and variable five constituted behaviour change (questions 69-72).

3.3.5 Validity of the instrument

Validity is the ability of a measurement tool to accurately measure what it is intended to measure (Mouton, 2006:102). There are different types of validity but the most important is criterion-related validity. Criterion-related validity requires the comparison of a given measure with a gold standard or best existing measure of the variable (Cullum *et al.*, 2008:69). Validity and reliability measure instrument for bias. Peoples' responses to questions may reflect their desire to under report their socially unfavourable behaviour such as engaging in multiple sexual partnership without using protection (Cullum *et al.*, 2008:69).

A valid questionnaire is a reliable tool for data collection (Mouton, 2006:103). The question content is based on the variables that were selected in this context. Variables on which the questionnaire was based were factual questions which intended to obtain demographic and personal information about the respondent such as gender, age, marital status, living on campus or off, faculty and level of academic programme (Polit and Beck, 2010:378). This information influenced the variables under investigation. Polit and Beck (2010:379) described construct validity as a criterion for measuring the quality of the questions. The content validity was also increased by covering different aspects of a variable (Polit and Beck, 2010:37). Questions on perceptions and attitude described the respondents' perceptions about the VCT service, the attitudes of health professionals towards students and an awareness of availability and accessibility of VCT services. Attitudes and perceptions influenced utilisation of VCT services. Questions investigated factors that influenced lack of utilisation of VCT services. This was influenced by prior knowledge and opinions. Therefore, the sequence of questions was important to ensure a smooth flow. Information questions were intended to determine the respondents' attitudes towards HIV, AIDS and VCT (Polit and Beck, 2010:379). Knowledge of a particular event or phenomenon has the power to influence the attitude of an individual and his/her behavioural pattern (Brink, 2006:106). The questions on behavioural patterns are analysed

on the basis of five dimensions, namely the presence of behaviour related to the VCT, the nature of behaviour, frequency of behaviour and the degree of behaviour on termination and the degree of importance of the behaviour as relating to VCT (Polit and Beck, 2010:379).

The scale method was used for the construction of the questionnaire. Scaling methods are used as statements to which responses are on a scale of 1-5 in this study (Polit and Beck, 2010:371). The advantage of the scaling method is that it enables the measurement of abstract phenomena like knowledge, perceptions, attitudes and behavioural patterns. The measurement was indirect when scales were used to obtain sensitive information. Scales were used to obtain a single measurement where there are related concerns and to increase the reliability and validity of the data. If more responses for one particular variable are obtained, the probability for the respondents' true attitudes is revealed (Polit and Beck, 2010:371). The scales were standardised for consistency and the use of existing scales increased the probability of comparative research. The scales were used to obtain higher levels of measurement. The grading of measurements enabled the analysis of differences between respondents (Polit and Beck, 2010:371).

According to Polit and Beck (2010:377), categories are allocated scores. The responses were measured as a total score per category, for example, strongly agree, agree, uncertain, disagree, and strongly disagree as selected by the respondents. The initial questions were easy, non-threatening and interesting in order to establish a rapport so that respondents were at ease. The sensitive questions were asked in the latter section and the questions were grouped according to variables and arranged logically (Polit and Beck, 2010:377).

3.3.6 Reliability of the instrument

Reliability is the degree or extent to which a measure gives the same results twice or under similar circumstances relating to the measure being used or to the

people using it (Beck, 2010:373). If the results are similar, the measure is reliable (Cullum *et al.*, 2008:69). A questionnaire is an important and reliable tool for data collection (Polit and Beck, 2010:378). Reliability is an important property of measurement (Polit and Beck, 2010:373), for example, “utilising similar age groups 15-25, 26-35, in tertiary institutions, male or female” similar instrument.

3.3.7 Pilot study

A pilot study was carried out to measure and test for the reliability of the instrument. A pilot study is a trial run of a small scale study to test the instrument that was used in a major study from the same population. It is intended to identify feasibility and flaws or unforeseen problems (Polit and Beck, 2006:56). Focus group discussions were held with specialists in the field to review the questionnaire. Each question was examined to assess whether it was valid and would provide reliable answers. The members of the focus group recommended changes to questions or questions which should be removed or added. This process ensured the face and content validity of the questionnaire (Polit and Beck, 2010:55).

Thereafter, the questionnaire was piloted with ten respondents who were not included in the main study. This enabled corrections and the restructuring of the questions where necessary. The sample for the pilot study was selected from the same target student population at the University. The pilot study enabled the identification and/or elimination of bias. The validity and reliability of the questionnaire tested the impact of factors on the utilisation of the VCT programme (Polit and Beck, 2010:55).

3.4 Data collection

Data collection techniques were selected to ensure that high-quality data was collected. Data was collected using a formal, self-administered questionnaire over a period of two weeks (Mouton, 2006:108). Questionnaires were distributed to 702 students and 503 (70%) returned valid questionnaires. The norm for a response rate is 50%-60% and the response rate in this study was 70% (Polit and Beck, 2010:187).

3.4.1 Data collection procedure

The questionnaire bundle consisted of a covering letter to the respondents which clearly explained the research study and ethical implications, a consent form that was required to be signed by the respondents, and proof of permission to collect data from students on campus (De Vos, 2005:123). The consent forms were submitted with completed questionnaires which were coded for research record purposes (Polit and Beck, 2010:76). Data was collected from stipulated strata which consisted of three faculties (Engineering, Natural Sciences and Management Sciences). The sample was representative of sub-strata which was level 1, 2, and 3 and Bachelor of Technology students (level 4) both male and female (Polit and Beck, 2010:314). Sub-strata was utilised to ensure representativeness.

The Faculty Officers were used to distribute and collect of the questionnaires. This was an attempt to prevent coercion because the researcher worked at the Wellness Centre. The completed questionnaires were deposited in boxes that were provided at each faculty office. The completed questionnaires were delivered to the researcher by the Faculty Officers.

3.4.2 Data analysis

The researcher captured data electronically from each questionnaire. Multivariate analysis of variance (MANOVA) was used to analyse data. MANOVA is used to test the significance of differences between the means of two or more groups of dependent variables considered simultaneously (Polit and Beck, 2010:427).

Data analysis involves the synthesis of data into manageable themes, patterns, trends and relationships (Mouton, 2006:108). Data analysis intends to clarify and inspect relationships between concepts and variables, as well as to identify patterns that are common or isolated, thus enhancing data interpretation (Mouton, 2006: 109).

3.4.3 Data processing and statistical analysis

Data was captured on Epi Info and imported to SPSS version 15.0 (SPSS Inc., Illinois, USA) for analysis. This allowed the researcher to break data down into frequencies, categories, relationships and differences to enable data analysis (Mouton, 2006:108-109).

3.4.4 Descriptive statistics

Descriptive statistics are used in human sciences studies that are very large and require sampling and generalisation (Mouton, 2006:109). Generalisability will depend on the true representativeness of the sample (Polit and Beck, 2010:307) and the quantitative description of the sample (Polit and Beck, 2010:392). Inferential statistics are involved in generalising from a sample to make estimates and predictions about a part of a whole, thus providing a means for drawing conclusions about a population. Descriptive and inferential statistics require a

clear distinction between the population and the sample to be studied. Inferential statistics is used 'to make inferences about the population' (Polit and Beck, 2010:392).

Descriptive statistics such as mean and standard deviation were used to summarise quantitative variables, while frequency tables and bar/pie charts were used to show distributions of categorical variables. Associations between factors impacting /affecting the utilisation of the VCT services were shown using cross tabulations. Pearson's Chi-square tests were used to show the statistical significance of the associations (Polit and Beck, 2010:417). The Chi-square test is used to test/measure the summed up differences between frequencies in a cell and the expected frequencies in order to test the hypothesis (Polit and Beck, 2010:417). Knowledge was scored by summing up all the correct responses to the knowledge questions and dividing by the total number of questions. This value was multiplied by 100 to express knowledge scores as a percentage. This was compared between groups using the t-test. The p value<0.05 was considered as statistically significant for all tests (Mouton, 2006:109). The Pearson's p-value is descriptive and inferential, and measures the direction of the relationship between two variables (Polit and Beck, 2010:418).

3.5 Ethical consideration

The Faculty Ethical Research Committee and the Institutional Research Committee of the Durban University of Technology approved the study in writing. The Research Ethics Committee and the Institutional Research Committee of the university under study approved the study and permission was granted by the Vice Chancellor and Principal.

3.5.1 Informed consent

The letter explaining the research study and an informed consent form, together with the questionnaire, was handed to each respondent. The purpose of the study was explained to the respondents and an informed consent form was signed by each respondent.

3.5.2 Harm to respondents

There was no physical risk or emotional discomfort and respondents were free to withdraw at any point in time if they felt uncomfortable or if the questions were invading their privacy (Polit and Beck, 2010:121). There was no discrimination against that individual. The respondents were neither coerced to participate in this study nor discriminated against in any way.

3.5.3 Dissemination of information

The findings of the study would indirectly benefit the institution but would have a direct impact on the National Strategic Plan 2007-2011. The results of the study would help to review the strategies for VCT programmes so that they address the needs of students, benefiting them indirectly (Polit and Beck, 2010:77). The respondents did not receive any remuneration or incentives, nor did the study impose any costs on them (Mouton, 2006:109).

3.5.4 Confidentiality

Confidentiality was ensured by using codes to ensure anonymity (Polit and Beck, 2010:129). The researcher had access to the data and documents. Research documents were stored in a safe place for a period of five years.

3.6 Conclusion

This chapter focused on the outlines of the research methodology, the purpose of the research study, the population, sampling and sample size, the development of the instrument, and the pilot study. The procedures for data collection, data capturing, data analysis and use of descriptive statistics were discussed. Ethical considerations incorporating informed consent, harm to respondents, dissemination of information and confidentiality to ensure the safety of respondents were described.

CHAPTER 4

RESULTS

4.1 Introduction

In this chapter, the results of the study are presented. The demographic information and data analysis for variables under study are included. The objectives of the study are to deduce whether demographic, enabling, environmental, predisposing and behavioural factors impact on the utilisation of the VCT facility at a Higher Education Institution. The key factors that are indicated are elements of the PRECEDE section part of the Model.

4.2 Demographic Results

4.2.1 Last high school attended

A total of 495 (98%) respondents completed the question about the last school attended and two percent chose not to answer the question. Demographic information included the last high school attended, faculty in which they were currently registered, level or year of study, current residence, gender, age in years, race and marital status. Attendance at high schools in rural areas accounted for 41.0% (n=203), in township high schools 34.1% (n=169), high schools in urban areas 23.7% (n=117) and high schools in other locations 1.2% (n=6). Last high school attended is illustrated in Figure 1.

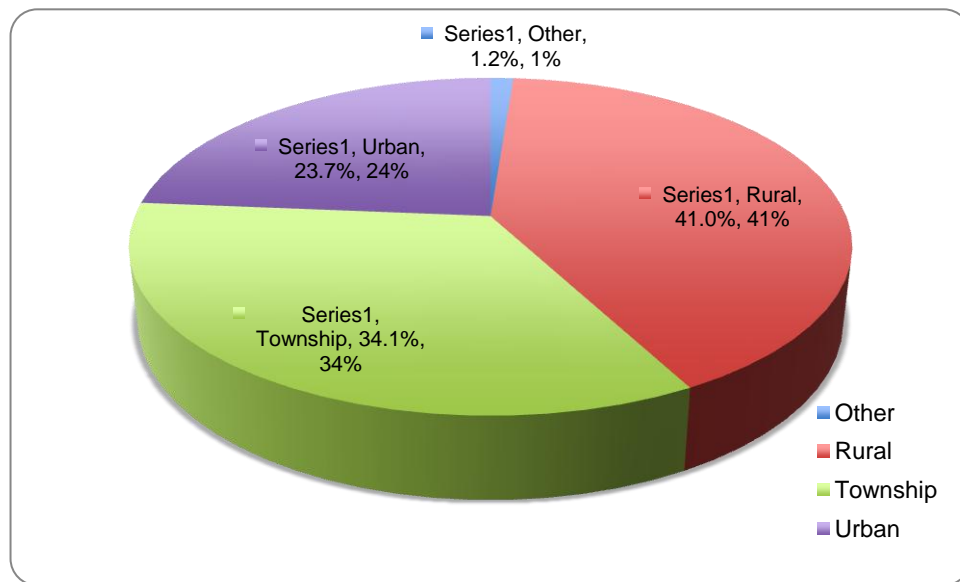


Figure 2: Last high school attended

4.2.2 Faculty in which registered

The objective was to explore the association between the level of study and knowledge about VCT. There were 499 responses to the question on the level of study of currently registered students in the three faculties for three faculties.

- The Engineering faculty had a total of 158 respondents of which level 1 had 52.5% (n=83), level 2 had 31.6% (n=50), level 3 had 10.8% (n=17) and 5.1% (n=8) level 4.
- In Management Sciences there was a total of 247 respondents of which level 1 had 42.1% (n=104), level 2 had 27.1% (n=67), level 3 had 27.1% (n=67) and 3.7% (n=9) level 4.
- In the Natural Sciences there were 94 respondents of which level 1 had 40.4% (n=38), level 2 had 23.4% (n=22), level 3 had 24.5% (n=23) and 11.7% (n=11) level 4.

The respondents that were registered in the three faculties (that is, Engineering had 31.7% (n=158), Management Sciences 49.5% (n=247) and Natural Sciences 18.8% (n=94),) and different levels of study are illustrated in Figure 3.

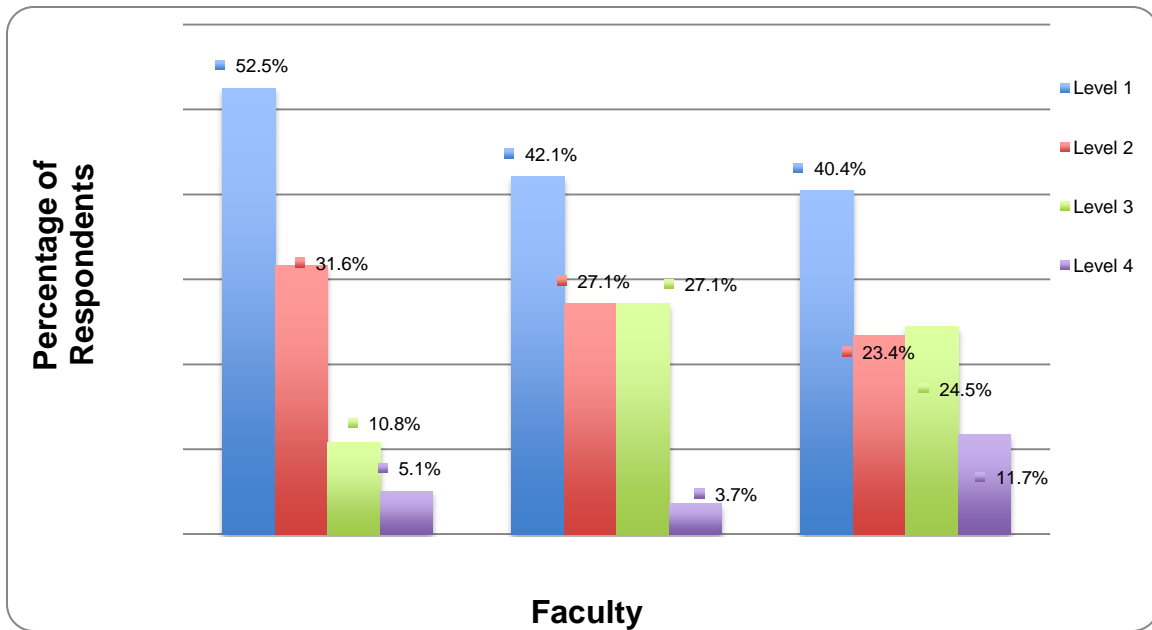


Figure 3: Faculty in which currently registered

4.2.3 Residences

The type and geographic position of residences were explored to determine exposure to knowledge on HIV, AIDS and VCT. A total of 493 respondents answered the question about residences

- 56.4% (n=278) resided at the university residences,
- 24.3% (n=120) at the township residences,
- 15.6% (n=77) at home and 3.7% (n=18) at other unspecified residences.

The majority of respondents resided at the university residences

Figure 3 is a graphical illustration of the students in different types of residences.

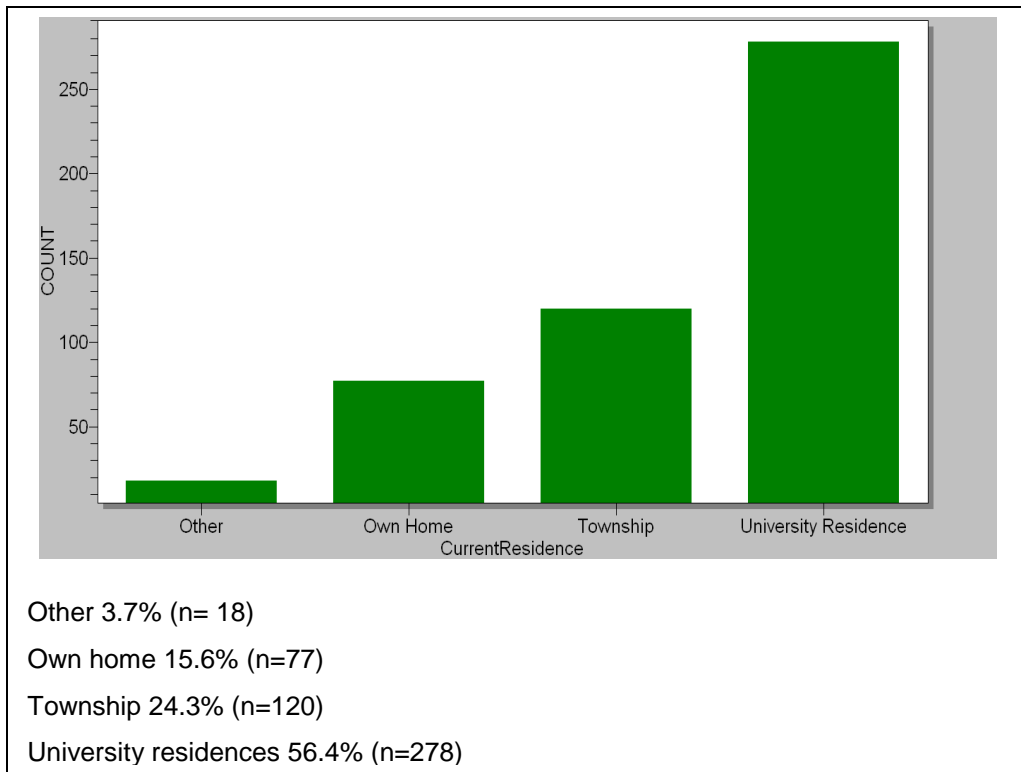


Figure 4: Distribution of students in residences

4.2.4 Gender

The response to the question on gender showed that there were 52.5% (n=264) female and 46.9% (n=236) male respondents. Three (0.6%) respondents chose not to indicate their gender preference. Figure 4 illustrates distribution of gender.

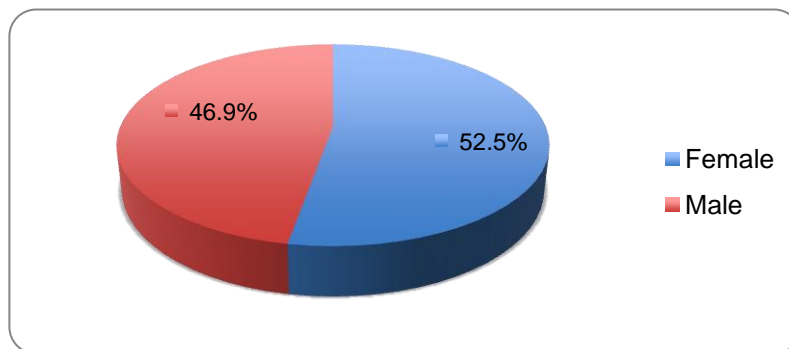


Figure 5: Gender

4.2.5 Age, race and marital status

The age group most affected by the HIV and AIDS epidemic is 15-25 years (National Strategic Plan for HIV, AIDS and Sexually Transmitted Infections, 2007-2011:7) and the majority of students in higher education institutions fall within this bracket. The age distribution illustrated ranges from 16 to 46 years, which is consistent with the reported age distribution of registered students (16-55) years (Mangosuthu University of Technology HEMIS Electronic Records, 2008). The mean age was 20.9 years and the respondents aged 20 years comprised 19% of the sample with a standard deviation of 2.7. The racial diversity of the respondents was limited, with Blacks comprising a significant majority of 99.8 % (n= 502) and Coloureds 0.2 % (n=1). There were no White or Indian respondents. The majority of respondents (n=502) were single and only one respondent was married.

4.3 Enabling factors that impact on the utilisation of VCT services by higher education students

The enabling factors that could impede or facilitate the utilisation of VCT facilities were explored. Factors related to knowledge about the existence of the Campus Clinic and availability of VCT services on campus were identified. Other factors that were explored included attitudes of students towards VCT service, attitudes of staff towards students, whether staff was approachable and the availability and adequacy of VCT reading material at the Campus Clinic. Enabling factors in relation to the availability and accessibility of VCT services was included. Exposure to information about HIV and AIDS is crucial as a preventive and recruitment measure for HIV testing. Table 2 illustrates the responses to the enabling factors.

Table 2: Enabling factors and p-values of their relationship with testing for HIV on campus

Frequencies and p-values for enabling factors	Frequency		p-value
	n (%)		
9. Do you know that there is a Campus clinic available to you?	485 (96.0)		0.85
Yes		458 (94.4%)	
No		27 (5.6%)	
10. Is HIV testing done at the Campus Clinic?	402 (83.0)		0.52
Yes		342 (5.1%) (
No		60 (14.9%)	
11. Do you think HIV testing is readily available to you?	n=408 (81.0)		0.83
Yes		299 (73.3%)	
No		109 (26.7%)	
If it is not readily available: would you come again?	n=150 (29.8)		
Yes		85 (56.7%)	
No		65 (43.3%)	
12. Staff at the Campus Clinic is approachable.	345 (69.0)		0.61
Very good		38 (11.0%)	
Good		91 (26.3%)	
Satisfactory		28 (23.8%))	
Poor		61 (17.7%)	
Very poor		73 (21.2%)	
13. The staff at the Campus Clinic provides clients with individual attention.	324 (64.0)		0.5
Very good		52 (16.0%)	
Good		92 (28.4%)	
Satisfactory		93 (28.7%)	
Poor		45 (13.9%)	
Very poor		42 (13.0%)	
14. Material for reading is available at the Campus Clinic.	353 (70.0)		0.39
Very good		48 (13.6%)	
Good		106 (30.0%)	
Satisfactory		90 (25.5%)	
Poor		55 (15.6%)	
Very poor		54 (15.3%)	

15. The client feels safe to consult the health care professionals.	342 (68.0)		0.46
Very good		45 (13.1%)	
Good		85 (24.9%)	
Satisfactory		86 (25.1%)	
Poor		57 (16.7%)	
Very poor		69 (20.2%)	

4.3.1 Availability and accessibility of VCT services

The majority of the respondents knew about the existence of the campus clinic.

- A total of 485 respondents who answered this question, 94.4% (n=458) were *aware of the existence of the Campus Clinic*, however 5.6% (n=27) were not aware, p-value 0.85.
- A total of 402 respondents who answered this question about *HIV testing is done at the Campus Clinic*, 85.1% (n=342) responded positively, 14.9% (n=60) negatively, p-value 0.52.
- A total of 408 respondents who answered this question about *HIV testing being readily available at the Campus Clinic*, 73.3% (n=299) were affirmative and 26.7% (n=109) negative with a p-value 0.83.
- A total of 150 respondents who answered this question about “*if VCT was not readily available would you come again?*” 56.7% (n=85) responded affirmatively and 43.3% (n=56) negatively. The majority affirmed that if VCT was not readily available they would come again.

4.3.2 Attitudes of staff to students

With regard to *Attitudes of health workers towards students and students’ perceptions of attitudes of health workers towards them as consumers of the wellness centre*, 324 responded answered this question, 16.0% (n=52) said it was very good, 28.4% (n=92) good, 28.7% (n=93) satisfactory, 13.9% (n=45)

poor and 13.0% (42) very poor. The p-value was 0.5. The majority affirmed that staff at the clinic provided individual attention to students.

4.3.3 Approachable health professionals

With regard to *the campus clinic staff being approachable*, 345 respondents answered this question, 11.0% (n=38) was very good, 26.3% (n=91) good, 23.8% (n=82) satisfactory, 17.7% (n=61) poor, and 21.2% (n=73) very poor. The majority said staff was approachable.

4.3.4 Availability or adequacy of VCT reading material

An awareness of the availability of material should be ensured. With regard to the *reading material available at the Campus Clinic*, 353 respondents answered this question, 13.6% (n=48) was very good, 30.0% (n=106) good, 25.5% (n=90) satisfactory, 15.6% (n=55) poor and 15.3% (n=54) very poor. The p-value was 0.39. The majority agreed that the reading material is available at the clinic.

4.3.5 Client feeling safe to consult health professionals

With regard to the *clients are feeling safe to consult health professionals*, 342 respondents answered this question, 13.1% (n=45) was very good, 24.9% (n=85) good, 25.1% (n=86) satisfactory, 16.7% (n=57) poor and 20.2% (n=69) very poor. The results showed that 63.1% of responses were positive whilst 36.9% was negative. Further investigation is needed to identify the cause of the dissatisfaction. The p-value was 0.46.

When the Chi-square test was done to test for the relationship of each measure with the outcome variable of ever testing for HIV on campus, none of the p-values were found to be <0.05. Therefore, the relationships between the

enabling factor measures and the outcome variable were found to be statistically insignificant. The results further showed that participants who knew about the availability of VCT services on campus and thought that HIV testing was more readily available to them, were more likely (respective p-values of 0.008 and 0.002) to have ever tested for HIV. However, as Table 3 indicates, they were more likely to test at facilities other than the campus clinic.

4.4 Environmental factors that impact on the utilisation of VCT services at a Higher Education Institution

In principle, VCT facilities should be accessible and centrally situated for convenience and easy access. Other factors that were explored were safety and storage of VCT records to ensure confidentiality. There was an overlap between the ideas explored by some of the questions pertaining to environmental factors and those pertaining to enabling factors. Questions that aimed at establishing whether the campus clinic was user-friendly overlapped with questions in enabling factors about approachable health professionals and if the counsellors were easy to talk to. The questions explored the respondents' knowledge of the existence and previous use of VCT facilities, and whether they would recommend its services to friends. A comparison of whether the respondents had gone to the campus clinic to have VCT was also established in Table 3.

4.4.1 Accessibility at the Campus Clinic

With regard to the *Voluntary HIV Counselling service* was centrally situated and whether they had gone to the campus clinic to have an HIV test, 352 respondents answered this question, 35.5% (n=125) strongly agreed/agreed, made up of 27.8% (n=98) who did not have HIV tests and 7.7% (n=27) who had HIV tests. The group who disagreed or were not sure was 64.5% (n=227) and made up of 56.8% (n=200) did not have HIV tests and 7.7% (n=27) had HIV tests. The results showed that the campus clinic is centrally situated and

accessible. There was inconsistency between the responses to “*the Campus Clinic is centrally situated*” and of ‘not’ responses, regarding awareness of the availability of the campus clinic.

4.4.2 Safety and storage of VCT records

The clients that attend the Campus Clinic should be assured about the safety of records and the principle of confidentiality in order to allay their fears. With regard to the *safe storage of VCT records at the campus clinic* and respondents who *had HIV tests at the campus clinic*, 349 respondents answered this question, 41.3% (n=144) strongly agreed/agreed, made up of 6.9% (n=24) who had HIV tests at the campus clinic, and 34.4% (n=120) who did not have their HIV test done at the Campus Clinic. A p-value was 0.4. The negative responses showed a lack of trust, due to lacking confidentiality and this acts as a barrier that hinders the utilisation of the VCT facility.

4.4.3 User-friendly nature of the Campus Clinic

With regard to *the user-friendly nature of the campus clinic*, 366 respondents answered this question, 43.4% (n=159) strongly agreed or agreed, made up 6.5% (n=24) who had done HIV tests at the Campus Clinic and of 36.9% (n=135) *who did not have HIV tests at the Campus Clinic*. A p-value was 0.08. The category of strongly disagreed/disagreed/not sure was 56.6% (n=106) made of 7.9% (n=29) who *had done HIV tests at the Campus Clinic* and 48.6% (n=178) *did not have HIV tests at the Campus Clinic*. The negative response is a factor that impacts the utilisation of VCT on campus.

4.4.4 Counsellors are easy to talk to

With regard to the *counsellors being easy to talk to*, 333 respondents answered this question, 42.9% (n=143) strongly agreed or agreed, made up of, 8.4% (n=28) who *had done HIV tests* and 34.5% (n=115) who *did not have HIV tests at the Campus Clinic*. A p-value was 0.04. The category of strongly disagreed/disagreed/not sure 57.1% (n=190) was made up of, 6.6% (n=22) who *had done HIV tests at the clinic* and 50.5% (n=168) who *did not have HIV tests at the Clinic*. The negative response impacts on the utilisation of VCT on campus. If 34.5% did not have HIV tests at the clinic, surely they did not know if counsellors were easy to talk to and this is an inconsistency that needs further investigation. The link between “easy to talk to” and “did not have HIV tests at the campus clinic” was intended to measure the consistency of the responses.

4.4.5 Recommend the Campus Clinic to friends

With regard to the *recommending the campus clinic to friends*, 331 respondents answered this question, 47.7% (n=159) strongly agreed/agreed, 52.3% (n=173) disagreed/ not sure. A comparison of environmental factors such as centrally situated VCT facility, safe keeping of clients’ records, user-friendliness of the campus clinic and counsellors who are easy to talk to at the campus clinic are illustrated in Table 3.

Table3: Environmental factors and HIV testing at the campus clinic

Environmental factors	Have gone to the clinic to have the HIV test?			
	Response		Frequency	p-value
	No	Yes	n (%)	
16. The voluntary counselling and testing service is centrally situated?			n=352	0.02
Agree/strongly agree	27.8% (n=98)	7.7% (n=27)	(n=125)	
Not sure/disagree/strongly disagree	56.8% (n=200)	7.7% (n=27)	64.5% (n=227)	
17. Records of clients are kept safe at the campus clinic			n=349	0.36
Agree/strongly agree	34.4% (n=120)	6.9% (n=24)	(n=144)	
Not sure/disagree/strongly disagree	53.6% (n=187)	5.1% (n=18)	58.7% (n=205)	
18. The campus clinic is user friendly?			n=366	
Agree/strongly agree	36.9% (n=135)	6.5% (n=24)	(n=159)	0.077
Not sure/disagree/strongly disagree	48.6% (n=178)	8.0% (n=29)	(n=207)	
19. The Counsellors are easy to talk to?			n=333	
Agree/strongly agree	34.5% (n=115)	8.4% (n=28)	(n=143)	0.043
Not sure/disagree/strongly disagree	50.5% (n=168)	6.6% (n=22)	(n=190)	
25. I would recommend the Campus Clinic to my friends			n=331	
Agree/strongly agree			47.7% (n=158)	
Not sure/disagree/strongly disagree			52.3% (n=173)	

4.4.6 Basic knowledge about the VCT facility on campus

The knowledge score Mann-Whitney test showed the p-value of 0.57 indicating that there was no statistical significance between basic knowledge and the VCT utilisation on campus. Table 4 shows the respondents' basic knowledge about VCT facility on campus.

Table 4: Basic knowledge about the VCT facility on campus					
Knowledge score: Mann-Whitney test					
VCT	N	Median	Minimum	Maximum	p-value
No	402	705.9	0	100	0.571
Yes	72	73.5	0	100	
Total	474	70.6	0	100	

4.5 Predisposing factors

The predisposing factors used four sub-variables namely, perceived risk of HIV, severity of HIV, benefit of VCT, and perceived risk of VCT. The predisposing factors have major implications for HIV and AIDS preventive behaviours and utilisation of VCT. The lack of basic factual knowledge on HIV and AIDS was an essential barrier to VCT utilisation and behavioural change.

4.5.1 Perceived Risk of HIV and AIDS

Perception of the risk of HIV and AIDS show factual knowledge which enables people to go for VCT, prevent new infections and re-infections which occur when there is an exposure to HIV mutation or to increase the viral load. The information will be used when reviewing strategies for VCT awareness. The responses to the risk of HIV were:

- With regard to the statement *“HIV is a virus that causes AIDS”*, of 453 respondents, 92.5% (n=419) were affirmative, 4.9% (n=22) negative and 2.6% (n=12) not sure.
- With regard to the statement *“HIV is commonly transmitted through unprotected sex”*, of 416 respondents, 87.5% (n=364) responded positively, 7.9% (n=33) negatively and 4.6% (n=19) were not sure.
- With regard to the statement *“HIV is transmitted through semen, vaginal fluid and blood results”*, of 427 respondents, 87.8% (n=375) were affirmative, 4.2% (n=18) negative and 8.0% (n=34) were not sure.
- With regard to the statement *“HIV affects humans only”*, of 314 respondents, 65.3% (n=205) responded affirmatively, 10.2% (n=32) negatively and 24.5% (n=77) not sure.
- With regard to the statement *“HIV does not affect animals”*, that of 204 respondents, 44.6% (n=91) responded affirmatively, 19.6% (n=40) negatively and 35.8% (n=73) not sure.
- With regard to the statement *“HIV is contracted from having sex once without a condom”*, of 478 respondents, 79.9% (n=382) were affirmative, 9.4% (n=45) negative and 10.7% (n=51) not sure.
- With regard to the statement *“the immune system protects the body from infection”*, of 461 respondents, 69.6% (n=321) were affirmative, 5.0% (n=23) negative and 25.4% (n=117) not sure.
- With regard to the statement *“AIDS is a stage when an individual is sick with different diseases”*, of 365 respondents, 77.3% (n=282) responded affirmatively, 4.9% (n=18) negative and 17.8% (n=65) not sure.
- With regard to the statement *“HIV is contracted by sharing hypodermic needles and razor blades”*, of 477 responses, 85.3% (n=407) responded affirmatively, 6.7% (n=32) negative and 8.0% (n=38) not sure.
- With regard to the statement *‘No condom, no sex’ slogan*, of 363 respondents, 77.4% (n=281) responded affirmatively, 13.5% (n=49) negatively and 9.1% (n=33) not sure.

- With regard to the statement “a mother can pass HIV to her baby through breast feeding”, of 316 respondents, 69.0% (n=218) responded affirmatively, 12.0% (n=38) negatively and 19.0% (n=60) not sure.

Table 5 shows perceived risk of HIV and AIDS.

Table 5: Perceived risk of HIV and AIDS

	Yes		Not Sure		No	
	Count	%	Count	%	Count	%
26. HIV is a virus that causes AIDS. (n=45)	419	92,5%	12	2,6%	22	4,9%
29. HIV is commonly transmitted through the practice of unprotected sexual intercourse. (n=416)	364	87,5%	19	4,6%	33	7,9%
30. HIV is transmitted through semen, vaginal fluid and blood. (n=427)	375	87,8%	34	8,0%	18	4,2%
27. HIV affects humans only. (n=314)	205	65,3%	77	24,5%	32	10,2%
28. HIV does not affect animals. (n=204)	91	44,6%	73	35,8%	40	19,6%
31. You can get HIV if you have sex once, without a condom. (n=478)	382	79,9%	51	10,7%	45	9,4%
35. The immune system protects the body from germs (bacteria and viruses). (n=461)	321	69,6%	117	25,4%	23	5,0%
42. 'No condom no sex' is a good rule to protect yourself. (n=363)	281	77,4%	33	9,1%	49	13,5%
34. You can get HIV by sharing needle or razor blades. (n=477)	407	85,3%	38	8,0%	32	6,7%
44. A mother can pass HIV to her baby through breastfeeding. (n=316)	218	69,0%	60	19,0%	38	12,0%

4.5.2 Perceived severity of HIV and AIDS

The perceived severity of AIDS:

- With regard to the statement “*AIDS is a stage when an individual living with HIV is very sick*”, of 365 respondents, 77.3% (n=282) responded affirmatively, 4.9% (n=18) negatively and 17.8% (n=65) not sure.
- With regard to the statement “*one can identify a person infected with HIV by his/her appearance*”, of 473 respondents, 20.7% (n=98) responded affirmatively, 63.4% (n=300) negatively and 15.9% (n=75) not sure.
- With regard to the statement “*it is a waste of money to provide education to someone who is HIV positive*”, of 486 respondents, 8.0% (n=39) responded affirmatively, 84.8% (n=412) negatively and 7.2% (n=35) not sure.
- With regard to the statement “*ARV drugs are toxic and cause people to die*”, of 437 respondents, 11.9% (n=52) responded affirmatively, 59.0% (n=258) negatively and 29.1% (n=127) not sure.
- With regard to the statement “*if my partner tests HIV negative, I do not have to test for HIV*”, of 180 respondents, 19.4% (n=35) responded affirmatively and 80.6% (n=145) negative and 0% (n=0) no response.
- With regard the statement “*antiretroviral (antiretroviral) drugs help individuals to live longer*”, of 473 respondents, 67.4% (n=319) responded affirmatively, 11.9% (n=56) negatively and 20.7% (n=98) not sure.

Table 6 show perceived severity of HIV and AIDS.

Table 6: Perceived severity of HIV and AIDS

	Yes		Not Sure		No	
	Count	%	Count	%	Count	%
36. AIDS is a stage when an individual living with HIV is falling sick with different diseases. (n=365)	282	77,3%	65	17.8%	18	4,9%
41. You can identify a person infected with HIV by his/her appearance. (n=473)	98	20,7%	75	15,9%	300	63,4%
45. It is a waste of money to provide education to someone who is HIV positive. (n=486)	39	8,0%	35	7,2%	412	84,8%
48. ARV drugs are toxic and cause people to die. (n=437)	52	11,9%	127	29,1%	258	59,0%
43. The drugs called antiretroviral can help people with HIV & AIDS to live longer. (n=473)	319	67.4%	98	20.7%	56	11.8%
59. If my partner tests HIV negative, I do not have to test for HIV. (n=360)	180	19.4%	35	0	145	80.6%

4.5.3 Perceived benefits of VCT

This factor relates to factual views about the importance of doing VCT. The perceived knowledge about HIV, AIDS and VCT is:

- With regard to the statement “*VCT is done to test for HIV*”, of 467 respondents, 70.5% (n=329) responded affirmatively, 4.7% (n=22) negatively and 24.8% (n=116) not sure.
- With regard to the statement “*you can only know your HIV status by doing VCT*”, of 480 respondents, 89.0% (n=427) responded affirmatively, 3.3% (n=16) negatively and 7.7% (n=37) sure.
- With regard to the statement “*VCT should be done by all people to know their HIV status*”, of 471 respondents, 78.8% (371) responded affirmatively, 7.9% (n=37) negatively and 13. 3% (n=63) not sure.

Table 7 shows perceived benefits of VCT.

Table 7: Perceived benefits of VCT

	Yes		Not Sure		No	
	Count	%	Count	%	Count	%
37. Voluntary HIV counselling and testing (VCT) is done to test for HIV. (n=467)	329	70.5 %	116	24.8%	22	4.7%
38. You can only know your HIV status by doing an HIV test. (n=480)	427	89.0 %	37	7.7%	16	3.3%
39. VCT should be done by all people to know their HIV status. (n=471)	371	78.8 %	63	13.3	37	7.9%

4.5.4 Perceived risk of VCT

The factors that relate to the perceived risk of VCT are fear, stigmatisation, and attitudes towards people living with HIV, isolation, rejection, domestic violence, blaming and depression.

- With regard to the statement *“it is better not to know my HIV status”*, of 141 respondents, 30.5% (n=43) responded affirmatively, 53. 9% (n=76) negatively and 15. 6% (n=22) not sure.
- With regard to the statement *“I am not interested in getting an HIV test”*, of 430 respondents, 14.9% (n=64) responded affirmatively, 67.7% (n=291) negatively and 17.4% (n=75) not sure.

Table 8 shows perceived risk of VCT.

Table 8: Perceived risk of VCT

	Yes		Not Sure		No	
	Count	%	Count	%	Count	%
47. It is better not to know my HIV status. (n=141)	43	30.5%	22	15.6%	76	53.9%
56. I am not interested in getting tested. (n=430)	64	14.9%	75	17.4%	291	67.7%

4.6 Behavioural factors

The behavioural factors were established based on respondents having HIV tests at the campus clinic. The use of condoms, exchanging money for sex and whether respondents had VCT at other health services were measured as behavioural factors. High-risk behaviours were established by the number of sexual partners an individual had, if condoms were used during the last sexual intercourse, and the availability of the condoms at the campus clinic. To determine if the campus was user-friendly, respondents were asked if they would recommend the service to their friends.

4.6.1 High-risk behaviour intention

The consistent use of condoms is the greatest challenge in the prevention of HIV infection. VCT exposes individuals to knowledge that sensitises them to engage in behaviour change processes to ensure safety from HIV infection or re-infection. Behavioural patterns show the risk of HIV infection and are an indicator for intensive regular behavioural change communication strategies. Some questions were asked to check the consistency with similar previously asked questions relating to VCT. The response to high-risk behaviour was:

- With regard to the statement “*I trust my partner therefore I do not use a condom*”, of 451 respondents, 11.1% (n=50) responded affirmatively, 78.5% (n=354) negatively and 10.4% (n=47) not sure.

- With regard to the statement *“I sleep with one person therefore do not use a condom”*, of 448 respondents, 10.5% (n=47) responded positively, 78.6% (n=352) negatively and 10.9% (n=49) not sure.
- With regard to the statement *“people who are engaged need not use a condom”* of 454 respondents, 34.1% (n=155) responded affirmatively, 52.2% (n=237) negatively and 13.7% (n=62) not sure.
- With regard to the statement *“I do not use a condom with a partner who is a mother or father to my child”*, of 450 respondents, 11.5% (n=52) responded affirmatively, 75.6% (n=340) negatively and 12.9% (n=58) not sure.
- With regard to the statement *“condoms reduce sexual pleasure”*, of 444 respondents, 20.5% (n=91) responded affirmatively, 52.9% (n=235) negatively and 26.6% (n=118) were not sure.
- With regard to the statement *“it is acceptable to have more than one partner”*, of 445 respondents, 14.2% (n=63) responded affirmatively, 76.9% (n=342) negatively and 8.9% (n=40) not sure.
- With regard to the statement *“accept gifts in exchange for sex”*, of 406 respondents, 10.3% (n=42) answered affirmatively and 89.7% (n=364) were negatively.

The high-risk behavioural intentions are illustrated in Table 9.

Table 9: High-risk behavioural intentions

	Yes		Not Sure		No	
	Count	%	Count	%	Count	%
65. I often accept money or gifts in exchange for sex. (n=406)	42	10.3%	0	0	364	89.7%
54. I trust my partner; therefore I do not use a condom. (n=451)	50	11.1%	47	10.4%	354	78.5%
55. I sleep with one person; therefore do not use a condom. (n=448)	47	10.5%	49	10.9%	352	78.6%
49. People who are engaged need not use a condom. (n=454)	155	34.1%	62	13.7%	237	52.2%
52. I do not have to use a condom with a partner who is the mother or father of my child. (n= 450)	52	11.5%	58	12.9%	340	75.6%
53. Condoms reduce sexual pleasure. (n=444)	91	20.5%	118	26.6%	235	52.9%
57. It is acceptable to have more than one partner. (n=445)	63	14.2%	40	8.9%	342	76.9%
59. If my partner tests HIV negative, I do not have to test for HIV. (n=180)	35	19.4%	0	0.0%	145	80.6%

4.6.2 Behavioural factors

- With regard to the question “*have you ever tested for HIV at the Campus Clinic*”, of 444 respondents, 13.3% (n=59) responded affirmatively and 86.7% (n=385) negatively.
- With regard to the question “*have you ever had VCT*”, of 503 respondents, 48.5% (n=244) responded affirmatively and 51.5% (n=259) negatively.

The most recent HIV test explored to view the pattern and frequency of VCT by respondents:

- With regard to the statement *“I had VCT less than three months ago”*, of 305 respondents, 21.0% (n=64) respondents had VCT.
- With regard to the statement *“I had VCT three to six months ago”*, 20.0% (n=61) respondents had VCT.
- In response to the statement *“I always use a condom”*, of 377 respondents, 60.2% (n=227) responded affirmatively and 39.8% (n=150) negatively.
- With regard to the statement *“I used a condom when you last engaged in sex”*, of 380 respondents, 59.2% (n=225) responded affirmatively and 40.0% (n=152) negatively and 0.8% (n=3) no response.
- With regard to the statement *“currently, I have more than one sexual partner”*, of 390 respondents, 31.5% (n=123) responded affirmatively and 67.2% (n=262) negatively and 1.3% (n=5) not sure.
- With regard to the statement *“currently, I have one sexual partner”*, of 416 respondents, 61.3% (n=255) responded affirmatively, 38.0% (n=158) negatively and 0.7% (n=3) no response.
- With regard to the statement *“I have never tested for HIV”*, 34.1% (n=104) responded affirmatively.

There was an inconsistency between this response and the number of respondents who indicated that they had VCT in other VCT services which showed 48.0% of 503 respondents compared to. 34.1% (n=104) who have never tested for HIV. The behavioural factors are illustrated in Table 10.

Table 10: Behavioural factors

	Yes		Not Sure		No	
	Count	%	Count	%	Count	%
68. Have you ever been tested for HIV at the Campus Clinic? (n=444)	59	13.3%	0	0	385	86.7%
69. Have you ever had an HIV test? (n=503)	244	48.5%	0	0	259	51.5%
64. I always use a condom. (n=377)	227	60.2%	0	0	150	39.8%
71. Did you use a condom when you last engaged in sex? (n=380)	225	59.2%	3	0.8%	152	40.0%
67. Currently have one sexual partner. (n=416)	255	61.3%	3	0.7%	158	38.0%
70. Do you currently have more than one sexual partner? (n=390)	123	31.5%	5	1.3%	262	67.2%

4.6.3 VCT behavioural pattern

With regard to *what the respondents would do if VCT was not readily available showed that:*

- Of 244 respondents who answered the question, 56.1% (n=137) stated to *they would come again*, 34.8% (n=85) *they would test elsewhere*, 8.2% (n=20) *they would postpone the test* and 0.9% (n=2) had no response.

Table 11 shows behavioural pattern of willingness to have VCT.

Table 11: VCT pattern

	Frequency	Percent (%)
If VCT is not readily available:		
13. Would Come again	137	56.1%
Get tested elsewhere	85	34.8%
Postpone the test	20	8.2%
No response	2	0.9%
Total	244	100%

4.7 Conclusion

This chapter presented the results of the study. It included demographic information and the background of respondents. The study explored enabling factors such as awareness of the existence of the facility, willingness to test for HIV, environmental factors including availability of the facility for VCT, attitudes of respondents to health professionals and VCT, predisposing factors which included behavioural factors, knowledge, perceptions, attitudes of respondents towards HIV, AIDS and VCT, and awareness of high sexual risk.

Data was presented in the form of tables and figures. Chi-square and Mann-Whitney tests were done to compare and correlate the results. The descriptive statistics used were the mean and standard deviation in order to summarise the quantitative variables. Frequency tables and charts were used to show distributions of categorical variables. Association between factors and the utilisation of VCT were shown using cross tabulation. Pearson's chi-square tests were used to test the statistical significance of the associations. Knowledge was scored by summing up all the correct responses to the knowledge questions and dividing by the total number of questions. This value was multiplied by 100 to express knowledge scores as a percentage. This was compared between groups using the t-test.

The results showed that respondents were knowledgeable about VCT. The respondents did not consider themselves at high-risk and preferred to use alternative VCT facilities rather than the campus facility.

CHAPTER 5

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a discussion of the findings, conclusions, limitations and recommendations of the study. Findings pertinent to the identified variables, namely, enabling, reinforcing, predisposing, behavioural and demographic factors which depict the PRECEDE section part of the Model will be discussed.

5.2 Demographic factors

The demographic data was collected to assess its impact on the utilisation of VCT. Forty one percent of the respondents attended rural high schools and were exposed to HIV, AIDS and VCT education. There was no significant difference in the exposure to HIV, AIDS and VCT education between students who attended schools in rural or township and urban areas. There was also no significant relationship between students who attended high schools in rural or urban areas and VCT utilisation. These findings contradict the findings by Pettifor *et al.* (2005:53) and Njagi and Maharaj (2006:113-127) found that the youth in rural areas were less exposed to HIV, condoms and VCT awareness campaigns. In confirmation of the contradicting findings, Irungu *et al.* (2008:117) also found that 75.3% of respondents who lived in urban areas were aware of the VCT facilities. However, accessibility to VCT facilities in the rural areas needed to be improved through the use of mobile services (Irungu *et al.*, 2008:117).

In this study, 55.3% of the respondents resided at the University residences, 23.9% in the township, 15.3% at home and 3.6% at other unspecified residences. The results showed that there was no relationship between the residential

location and knowledge about VCT. Demographic factors in this study had no significance in decision-making regarding VCT. These findings are supported by Hutchinson *et al.* (2007:491) who found that media and social networking were processes of communication that increased the dissemination of information as they reached a broad area. Kalichman (2007:40) confirmed that progress had been made to disseminate information to the rural areas. Pettifor *et al.* (2005:53) and Njagi and Maharaj (2006:113-127) had found that youth in rural areas were less exposed to HIV, condoms and VCT information campaigns which contradicted these findings.

Of 503 respondents, only one (0.2%) was married. The gender distribution in this study was 52.5% females and 46.9% males and these findings are supported by Irungu *et al.* (2008:111) study in Kenya in which more females than males participated in VCT programmes. In contrast to these findings Otworld *et al.* (2007:4) found that more males than females visited VCT sites for HIV tests. Otworld *et al.* (2007:4) also revealed that more females tested HIV positive compared to males and females were twice as likely to contract HIV as males. This study showed that representation of females was greater than males.

5.3 Reinforcing factors

The reinforcing factors as an element of the PRECEDE section of the Model ensures that the basic infrastructure is available for the implementation of VCT. Community norms is a component of the reinforcing factor which refers to the culture within the university that influences community behavioural patterns which impact on utilisation of VCT. Youth are vulnerable to high-risk behaviour patterns in the institutions of higher education. Shisana *et al.* (2009:68) found that two-thirds of the university students in their study were at high-risk of HIV infection because of behavioural patterns that are risky. The location of the campus clinic and the VCT facility ensures accessibility and availability of VCT

services to the students (South African National AIDS Council, 2007). People are encouraged to have VCT so that they are monitored when diagnosed as HIV positive (Kalichman, 2007:45). The high levels of knowledge and perceptions about risks of HIV and AIDS and VCT do not necessarily sensitise youth to have VCT and this is evidenced by the low percentage (13.3% n=59) of individuals who have had VCT on campus. Otjombe *et al.* (2007:3) found different levels of factors, which act as barriers to utilisation of VCT.

5.4 Predisposing factors

The predisposing factors focused on the perceived risk of HIV, perceived severity of HIV, perceived benefit of VCT, and perceived risk of VCT. The majority of respondents (92.2%, n=419) had adequate knowledge and perceived the risks of HIV and AIDS. These were individual, interpersonal, community and cultural barriers. Stigmatization related to an HIV positive status is another barrier to VCT utilisation in the communities because of the fear of discrimination (Kalichman, 2007:40). Njagi and Maharaj (2006:123) found that fear of rejection also impacted on the utilisation of VCT.

5.4.1 Perceived risks of HIV

Perceived risk of HIV infection showed that 77.4% (n=281) agreed with the slogan 'no condom, no sex'. This study showed that 87.5% (n=364) had knowledge about the risks of unprotected sex and 79.9% (n=382) agreed that individuals could become infected with HIV when having sex even just once without a condom. Pettifor *et al.* (2005:76) found that knowledge about HIV infection does not deter individuals from practicing unprotected sex. Youth do not perceive themselves at high risk of HIV infection. The findings are supported by Irungu *et al.* (2008:117) who found that decisions to practice unprotected sex are based on individual choices and readiness to change behaviour. Venter

(2007:8) proposed that the focus of HIV and AIDS programmes should be on the provision of basic and factual information and should also encourage individuals to test for HIV early. The provision of information will sensitise individuals about the risk of HIV infection. In their survey of national HIV rate and sexual behavior in South Africa, Pettifor *et al.* (2005:1532) found that amongst the youth, females were four times more likely to be infected with HIV than men because women had reported inconsistent use of condoms. In Kenya, however females were only twice as likely to be infected with HIV.

5.4.2 Perceived severity of HIV and AIDS

The perceived severity of HIV and AIDS was aimed at exploring the views on the severity of HIV and AIDS as these might impact on the utilisation of VCT service. The findings showed that individuals did not perceive HIV and AIDS as a fatal disease. Perception about severity of HIV and AIDS showed that 77.3% (n=282) agreed that *AIDS is at a stage when an individual is sick with different opportunistic diseases.* With regard to *you cannot identify an HIV infected person by looking at an individual* 63.4% (n=300) affirmed. Mphaya *et al.* (2008:59) found that factors which motivated youth to have VCT was exposure to unprotected sex and fear of the risk of HIV infection. With regard to the statement *it was a waste of money to provide education to people living with HIV*, the majority of respondents 84.8% (n=412) disagreed with the statement. This response showed that HIV and AIDS were not perceived as a fatal disease. In contradiction Odu *et al.* (2008:90) found that the fear of knowing one's HIV positive status and the fatality of the disease were psychological barriers to VCT. There was relationship between perceived severity of HIV and AIDS and the VCT.

5.4.3 Perceived risks of VCT

The perceived risks of VCT related to fears, stigma, attitudes and perceptions about living with HIV. Knowledge about a phenomenon enhances change of attitudes and perceptions. Shisana *et al.* (2009:68) and Mphaya *et al.* (2008:70) found that fear of association with VCT facilities, confidentiality, and disclosure, were realistic factors that were barriers to VCT. The perceived risks of VCT impacted on the utilisation of VCT service because of the fears of HIV and AIDS stigma, the discrimination and HIV and AIDS being a fatal disease (Kalichman, 2007:44). This study found that 46.1% agreed with the statement that *it was better for individuals not to know their HIV status* whilst 53.9% (n=76) were in favour of knowing their HIV status. Fako (2006:202) found that attitudes towards early detection of HIV impacted on VCT utilisation negatively due to the fear of the unknown. Sixty seven point four percent (n=291) were interested in getting tested for HIV whilst 32.3% agreed with the statement that *they were not interested in getting tested for HIV*. Utilisation of VCT, social and behavioural evidence was influenced by multiple factors such as perceptions of risk by the people, attitudes, stigma and denial (Obermeyer and Osborne, 2007:1774). Reluctance to disclose one's HIV status was caused by fear of rejection by family and community and this risk impacts on utilisation of VCT services (Hutchinson *et al.*, 2007:49). HIV and AIDS are most prevalent within age groups 15 and 24 years (Mphaya *et al.*, 2008:60). Therefore youth is encouraged to have VCT when they are well to maintain a healthy status and quality of health (Pignatelli *et al.*, 2006:350). Another factor that impacts on the perceived risk of VCT was that students who were exposed to unprotected sexual relationships, lacked family support had a greater fear of being infected compared to those who had a supportive family background (Fako, 2006:207). In this study there was no significant relationship between having VCT and the perceived risks of VCT. The results are in contrast with previous studies by Mphaya *et al.* (2008:70), which stated that the perceived risks of VCT include perceived fear, stigma and discrimination.

Condoms are widely distributed at community clinics. Students have access to these clinics and this could be the reason for the low rate of condom distribution on campus. However, Shisana *et al.* (2005:198) found that the behaviours and beliefs of adolescents relating to condom use indicated that inconsistent condom usage was the norm rather than the exception among sexually reproductive adults. Kalina, Geckova, Jarcuska, Orosova, van Dijk and Reijneveld (2009:5) found that this trend is not limited to Sub-Saharan Africa. Amongst sexually experienced Slovak students, inconsistent condom use was the most prevalent risky behaviour in both genders, with 81% of females and 72% of males not using condoms consistently. The assumption would be to expect condom use in the student population to be inconsistent (Kalina *et al.*, 2009:8).

The previously tested adults who knew their HIV status were less likely than their untested counterparts to get infected (Mishra, Hong and Govindasamy, 2008:8). People who have HIV counselling and testing gain factual information which sensitises them to engage in the process of behaviour change. Inconsistency in condom usage decreases in an attempt to prevent HIV infection (Njagi and Maharaj, 2006:123). Most countries have taken initiatives to increase the rates of HIV testing. Botswana has the highest rate of HIV testing, with 210 tests per 1000 population (UNAIDS, 2009:25).

5.4.4 Perceived benefits of VCT

The majority of respondents agreed that VCT is an important strategy for the primary prevention of HIV infection. VCT assists an individual to have knowledge of his or her HIV status, to maintain an HIV negative status and to restore or maintain quality health (Pignatelli *et al.*, 2006:350). The prevention of HIV infections can be achieved through health promotion programmes, monitoring and effective management of opportunistic infections (South African AIDS Council, 2007:60). The majority of 53.9% (n=76) respondents displayed knowledge of the perceived benefits of VCT and also acceptance of people living

with HIV) compared to 30.5% (n=43). The perceived benefits of VCT explored knowledge and the utilisation of the VCT services.

VCT is essential for youth in high schools and tertiary institutions in order to disseminate information about HIV and AIDS and encourage VCT (Odu *et al.*, 2008:9). Maharaj and Njagi (2006:122) found that there was increased awareness about the benefits of VCT amongst the youth. Increasing the number of people who have VCT is an important process for behaviour change and (Shisana, *et al.* 2009:39) supported the findings. Pettifor (2005:35) found that youth were aware of VCT and its benefits but some individuals did not consider themselves at risk of HIV infection even though they were engaging in high-risk behaviour. VCT addresses a high-risk behavioural pattern that exposes individuals to high-risk HIV infection (Hutchinson, *et al.*, 2007:491). The global problem is related to lack of knowledge about HIV and AIDS, stigmatisation, fears and unwillingness to have VCT (South African AIDS Council, 2007:60). It is imperative to educate individuals about the benefits of VCT (Heywood, 2005:17).

5.5 Environmental factors

The environmental factors focused on access to the wellness centre, perceptions of confidentiality, impressions of students about VCT staff and impressions about the VCT facility. The PRECEDE section of a Model depicts environmental factors as availability and accessibility of VCT facility, safety with regards to keeping VCT records and maintaining confidentiality. These factors impact on the students' willingness to utilise the VCT facility. Other related factors are anonymity of individuals, preference to utilise facilities where they are not known by fellow clients and by the health professional, and the fear of VCT related stigma (Francis, 2010:340).

5.5.1 Access to the wellness centre

Accessibility to a VCT service on campus is essential (UNAIDS, 2009:8). Accessibility to a VCT service on campus is essential (UNAIDS, 2009:8). A total of 352 respondents who answered this question about Only 35.5% (n=125), agreed that the VCT services was centrally situated and the majority 64.5% (n=227) disagreed. The results showed that the campus clinic is not centrally situated and therefore not accessible. There was inconsistency between the responses to “*the Campus Clinic is centrally situated*” and of ‘not’ responses, regarding awareness of the availability of the campus clinic.

Eighty five point one percent (n=342) of the respondents know about the availability of VCT service on campus clinic whilst 5.6% had no knowledge of the availability and accessibility. Kalichman (2007:45) and the South African National AIDS Council (2007:64) support the fact that the VCT facilities should be centrally situated to ensure accessibility. There was no statistical significance between access and central location of the campus clinic. Kalichman (2007:45) and the South African National AIDS Council (2007:64) support the fact that the VCT facilities should be centrally situated to ensure accessibility. There was no statistical significance between access and central location of the campus clinic.

5.5.2 Safe storage of records of VCT and Impressions about VCT staff and HIV testing

Safe keeping of VCT records ensures confidentiality. The majority 58.7% (n=205) respondents were not absolutely convinced that confidentiality was maintained in the VCT service at the campus clinic. Mphaya *et al.* (2008:70) found that the VCT services should be user-friendly and must ensure confidentiality.

The user-friendliness of VCT service, attitudes of staff towards students and students' perceptions of attitudes of health workers towards them as consumers of the wellness centre showed that the majority 56.6% stated that the VCT service was not user-friendly and 43.4% affirmed it was user-friendly. Lack of trust due to poor user-friendliness and confidentiality prevented people from having VCT (Mphaya *et al.*, 2008:70) and (Njagi and Maharaj, 2006:127). Kalichman (2007:45) and the South African National AIDS Council (2007:23) recommended that the VCT facility should be user-friendly and staff should be non-judgmental to ensure utilisation by young people. The negative response to the user-friendly nature of the campus clinic was indicative of a lack of confidentiality and trust in the staff at the campus clinic. This accounts for the decrease in HIV tests and the utilisation of the VCT services.

5.6 Enabling factors

Enabling factor is an element of the PRECEDE section of the Model, involving communication strategies that are used in the processes of dissemination of information to raise VCT awareness (Pettifor *et al.*, 2005:35). There is a strong relationship between knowledge and HIV, AIDS and VCT because it influences individuals' perceptions and attitudes, which sensitises them to change their high-risk behaviour. Information in relation to the factors that influence voluntary HIV counselling and testing was reviewed by Moule and Goodman (2009:137) and these factors include knowledge about HIV and AIDS, prevention of HIV infection or transmission, attitudes (denial and stigmatisation) towards people living with HIV and AIDS, behavioural practices and attitudes to early detection of HIV, and accessibility to health care facilities for VCT (Fako, 2006:202). VCT is a strategy, which promotes processes of behaviour change, early diagnosis of HIV, factual information relating to prevention of HIV infection and living with HIV Goodman (2009:137).

In response to the availability of material for reading at the campus clinic, 69.1% (n=292) agreed that there was a good supply of reading material whilst 30.9% (n=109) disagreed. The enabling factors also pertain to the availability of basic infrastructure that makes it possible for the provision of VCT services (Higher Education HIV and AIDS Programme, 2010:5a). The enabling factors overlap with the reinforcing factors, which ensure availability of the infrastructure and facility (Stanhope and Lancaster, 2007:271). Communication strategies were used successfully in other countries like Ghana, Zimbabwe and the USA. South Africa has adopted some of these models of communication (Kalichman, 2007:45).

The majority 94.4% (n=458) of respondents were aware of the availability of the campus clinic whilst 5.6% (n=27) who said they were not aware. The inconsistency was evident between knowing that the campus clinic is available and that the VCT service is centrally situated.

5.7 Behavioural factors that impact on VCT

VCT is described as a core strategy that impacts on behavioural patterns which influence the utilisation of VCT (Stanhope and Lancaster, 2000:271). Behavioural factors are not measureable. VCT is the main strategy that can sensitise individuals to engage in behaviour change processes through media communication (Hutchinson *et al.*, 2007:491). Investigation on the pattern of sexual engagement was addressed to identify the extent of exposure to multiple relationships, consistency in the use of condoms and the VCT utilisation. This study found that of the 377 respondents who answered this question 60.5% used protection and 39.5% responded negatively.

5.7.1 Utilising Voluntary HIV counselling and testing

There was also no association between demographic information and the

utilisation of VCT. Fako (2006:59) stated that lack of exposure to factual information impacted on the utilisation of VCT. Open communication is therefore an essential strategy for breaking down the barriers in the promotion of VCT (Pettifor *et al.*, 2005:53; Hutchinson *et al.*, 2007:491).

The campus VCT facility was less utilized. This study found that there was no significant relationship between knowledge of VCT and the utilisation of VCT. Thirteen point three percent (n=59) of the respondents had utilised VCT service at the campus clinic whilst 86.7% (n=385) stated that had not accessed these services. Further exploration of whether respondents had ever done HIV test showed that 48.5% (n=244) responded positively including 13.3% who had VCT at the campus whilst 51.5% (n=259) stated they had never tested for HIV. This could mean that respondents preferred to use a VCT facility where they are not known (Francis, 2010: 337). VCT is accessible in urban areas but people do not utilise these services (Irungu *et al.*, 2008:53).

This study showed no significant difference between students from rural areas and urban areas in their exposure to information about HIV and AIDS and the use of VCT services. The findings in the study contradicts the argument in the study by Irungu *et al.* (2008:53) who found that respondents who were most likely to access VCT services were from urban areas, had secondary education, access to clinics, and would change their behaviour if they were HIV positive. Irungu *et al.* (2008:53) found that of their 280 (78.2%) participants were willing to have VCT. This study showed that some individuals preferred to have VCT where they were not identified because of the fear of stigmatisation.

Sub-Saharan African countries have focused on increasing the number of people testing for HIV and providing easy access to user-friendly VCT services (UNAIDS, 2009:25). Rehle *et al.* (2007:98) found that the highest incidence of recent HIV infections in South Africa was amongst the youth in the 15-24 years age group and females accounted for 90.0% of these. VCT services were

established on campuses to provide accessibility by students (HEAIDS, 2003-2004:48).

5.7.2 Use of condoms

In this study, 60.2% (n=377) of respondents always used condoms during sexual intercourse and 59.2% (n=225) had used a condom on their last sexual engagement and 40.0% (n=152) were negative and 0.8% (3) were not sure. The findings concur with a study done by Pettifor *et al.* (2005:1532) in which 50% of youth reported condom usage in their last sexual intercourse, though it lacked consistency. According to the majority of youth, students used protection but the greatest concern is inconsistency which seemed to be the norm amongst youth (Shisana *et al.*, 2005:198). Kalina *et al.* (2009:8) concurred that inconsistent use of condoms was high in both genders with 81.0% females and 72% males using condoms inconsistently. Njagi and Maharaj (2006:123) found that people who had tested for HIV gained factual information on the benefits of VCT which sensitises them to engage in behaviour change in terms of the consistent use of condoms.

5.7.3 High risk behavioural patterns

This study found that showed that 61.3% (n=255) respondents said they had one sexual partner while 38.0% (n=158) said no. Thirty one point five percent (n=123) responded positively to having multiple sexual partners, 67.2% (n=262) negatively. Rehle *et al.* (2007:98) concurred with this when they found that the group that was at most risk was the single youth who had more than one sexual partner in the past twelve months of their study. Results of respondents who currently had more than one sexual partner showed that of 390 respondents 31.5% affirmed and 67.2% were negative and the remaining 1.3% was not sure. This concurred with the national statistics that continue to reflect youth as at high risk of HIV infection. Youth in the institutions of higher education are within the

17-35 years age group which places them at high risk (Higher Education HIV and AIDS Programme 2010:Vla).

In the study only 10.3% exchanged sex for gifts thereby exposing themselves to the risk of HIV infections while 89.7% (n=364) did not exchange sex for gifts. This behavioural pattern puts youth at risk of HIV infection and disempowers them from making their own decisions with regards to protection. Khobotle *et al.* (2009:65) argued that other contributing factors to high incidents of infection and behavioural patterns was caused by heterosexual exposure, also by socio-economic disadvantages and other legal implications that confront women. The findings of this study concurred with previous studies such as Pettifor *et al.* (2005:53) and the Higher Education HIV and AIDS Programme Prevalence study (2010:1), which found that young people exchanged sex for gifts and engaged in trans-generation relationships with older men. Youth do not consider themselves at high-risk of infection even when they use condoms inconsistently as evidenced in the Opt *et al.* (2007:165) study.

The fear of accessing VCT was also the most common factor for individuals who practiced high-risk behaviour. In the current study, 67% of the respondents agreed that antiretroviral treatment can help people with HIV/AIDS to live longer. Individuals should take responsibility to ensure that they are protected from HIV. Seventy percent of the respondents agreed with the statement 'VCT is done to test for HIV'. The findings of this study concur with the Njagi and Maharaj (2006:127) study in which findings confirmed that it was important for an individual to know their HIV status. The knowledge about antiretroviral drugs and their benefits gives hope for a prolonged life, thereby encouraging individuals to test for HIV. Knowledge about antiretroviral treatment can give hope to individuals who engage in VCT (Njagi and Maharaj, 2006:127). Eighty nine percent of the respondents agreed that knowledge of HIV status can be confirmed by having an HIV test (Venter, 2008:10).

5.8 Conclusion

The PRECEDE section of the Model was used as a framework for the study. Elements of the model that were used as a framework for the study were demographic factors which established the factual background of the respondents and their impact on utilisation of VCT.

Findings in this study showed that demographic factors did not impact on the utilisation of VCT services at the university. There was no significant relationship between students who attended high school in the urban, township and rural areas and utilisation of VCT. The findings were in contrast to the findings of Pettifor *et al.* (2005:53), Njagi and Maharaj (2006:113-127) who found that youth in rural areas were less exposed to HIV and AIDS awareness campaigns because VCT services were not accessible. Fako (2006:203) found that the degree of exposure to VCT information was affected by the geographic location. There was poor access to VCT facilities particularly in the rural areas. In the study the majority of the respondents 99.8% (n=502) were single while one (0.2%) married. Racial diversity was limited to 99.8% (n=502) blacks and 0.2% (n=1). Coloureds, Whites and Indians were not represented. Gender distribution accounted for 52.5% (n=264) females and 46.9% (n=236) males while 0.6% (n=3) chose not to answer the question. Age distribution of the student population was between 15-55 years.

Environmental factors showed that of 94.4% (n=458) agreed that the campus clinic is available on campus. The majority 85.1% (n=342) knew that an HIV testing facility is available on campus and these were likely to have used the facility and have positive attitudes and perceptions about it. The results showed that the campus clinic is not centrally situated and therefore accessibility was problematic. The majority of the respondents disagreed that the clients' records were kept safely. This showed a lack of trust and confidentiality, impacting negatively on VCT utilisation. The lack of confidentiality issue was also used as

a reason for not having VCT for fear of discrimination and stigmatisation (Kalichman, 2007:40). The respondents who showed a positive attitude towards the Campus Clinic were those who had knowledge about its existence and about the availability of VCT. The lack of VCT utilisation was common in other Sub-Saharan African countries. Stigmatization and fear of rejection by partners discouraged youth from using utilize VCT services (Kalichman, 2007:40) (Njagi and Maharaj, 2006:123).

It was concluded that the health workers/staff are approachable and easy to consult but that the majority thought that the counsellors were not easy to talk to. The majority showed that the counsellors are not easy to talk to. VCT service should be user-friendly to youth without health workers being judgmental of them (Kalichman, 2007:40). There was a positive response to the question about staff being approachable.

Predisposing factors investigated were based on the elements of the PRECEDE section of the Model. Predisposing factors included perceived risk of HIV, perceived risk of severity of HIV, perceived benefits of VCT and perceived risks of VCT. The majority of respondents affirmed their awareness. The response to the question about the perceived risk of HIV showed that the majority (79.9%, n=382) of respondents had factual knowledge about HIV, AIDS and VCT. A small percentage of respondents who did not know or were not sure are an essential concern in formulation of strategies to combat HIV and AIDS. Lack of basic information predisposes people to negative perceptions about the risk of HIV, unwillingness to have VCT because of fear and stigmatisation (Pettifor *et al.*, 2005:1532). The majority (92.2%) of respondents showed that they are aware of the risks of HIV and AIDS.

Responses to the question about the perceived risk severity of HIV, the majority (63.4%, n=300) of respondents knew the facts that an HIV infected person cannot be identified by appearance, the description of AIDS and benefits of

antiretroviral treatment. A concerning small percentage showed negative attitudes.

The conclusion showed that the majority of respondents know the benefits of VCT. Perceptions about the benefits of VCT showed that the majority (467, 70.5%) knew that VCT is done to diagnose HIV. The majority (78.8%, n=371) also agreed that all people should know their HIV status. Mphaya *et al.* (2008:59) concur with the findings. Badenhorst *et al.* (2008:27) found that youth had been exposed to knowledge about HIV and AIDs and VCT. This finding was supported by Njagi and Maharaj (2006:127). The fear of stigma and isolation after disclosing one's HIV-positive status was not a barrier to VCT because the majority of respondents agreed that all individuals were to have VCT to know their HIV status (Njagi and Maharaj, 2006:113).

This study concluded that people are reluctant to have HIV testing because of the fear and related stigmatisation. The conclusion drawn from this study was that 48.5% (n=244) had been tested for HIV tests while 51.5% had not tested for. Fako, (2006:206), Irungu *et al.* (2008:117) and Odu *et al.* (2008:90) had similar the findings in their studies.

VCT is the core behavioural pattern in the PRECEDE section of the Model and the factors that impede its utilisation are established. The majority of respondents had attended rural high schools and showed that they had basic knowledge about VCT. The results showed that the majority of the respondents had factual knowledge and agreed that all individuals should have VCT but this did not deter them from engaging in high-risk behavior. Despite the high-risk behaviour the respondents supported the slogan 'no condom, no sex'. This finding was supported by Pettifor *et al.* (2005:76). The prevention of HIV infection is based on an individual's choice to use or not to use a condom consistently. In the study by Pettifor *et al.* (2005:53), consistency of condom use is the key factor in the prevention of HIV infection. Njagi and Maharaj (2006:113-

127) drew conclusions that respondents do not perceive themselves at high risk of HIV infection and this leads to inconsistent use of condoms.

The degree of exposure to HIV and AIDS information also plays a critical role in influencing the willingness to have VCT. Though the majority of respondents showed that they had factual knowledge about VCT, there is an essential concern about respondents who did not know about the existence of the VCT service on campus. It was concluded that the majority of respondents preferred to utilise other service providers and respondents had HIV tests at VCT services other than the Campus facility. This could be related to their fear of being associated with VCT services which might cause stigmatisation. The conclusion was that there was lack of utilisation of the university's VCT service. The focus was to review strategies to improve awareness and benefits of VCT on Campus, and to address negativity through a strategic behaviour change process on campus. Knowledge about HIV and AIDS influences people's willingness to have VCT, to maintain a negative HIV status or to avoid spreading the infection if they discovered they were HIV positive (Kalichman, 2007:40).

VCT is a strategy for the promotion of behaviour change. Behavioural pattern is used by international countries as HIV and AIDS preventive strategy (Stanhope and Lancaster, 2007:270). Knowledge of HIV status is a key entry point for HIV and AIDS management worldwide. The levels of knowledge about HIV and AIDS and VCT among respondents did not impact on the utilisation of VCT (Shisana *et al.*, 2008:4). The results showed that the majority of respondents had positive attitudes towards people living with HIV and AIDS.

Findings in this study are already known as evidenced in previous studies. These findings will be used to review the VCT strategic plans, to improve the attitudes of staff towards students and to increase the number of people who test for HIV. VCT is identified as an international strategy for health promotion and the prevention of HIV transmission (Njagi and Maharaj, 2006:113). Strategies

for the process of behaviour change communication will also be addressed within the context and environment in which respondents live. VCT exposes individuals to personalised information as opposed to general information and it encourages individuals to engage in behaviour change processes and healthy behavioural choices (Kalichman, 2007:45).

5.9 Limitations

The limitations of this study were racial limitations that are caused by the geographic location of the university and therefore less than five percent whites, indian and coloureds. Other universities have racial representativeness of all racial groups because the urban location.

The study did not target only the group of students that are already utilising the VCT service for care, support and monitoring so as to investigate their experiences.

The attitudes of students who were benefiting from the VCT service, including those who are living with HIV and AIDS was not investigated.

Reinforcing factors of PRECEDE of the Model was not measured in this study.

5.10 Recommendations

The findings in this study had been explored in previous studies in different settings. The following recommendations were made to improve and strengthen the utilisation of VCT at the campus, improve accessibility and enhance user-friendliness of VCT service.

- Strategy for different models of VCT activities should be reviewed and strengthened to mobilise students to have VCT.

- Skills development should engage a situational analysis for staff so that areas of strengths and weakness are identified. The finding will enable planning for skills development and regular update including training on customer care. This exercise will improve staff's attitudes towards young people.
- It is recommended that a health promotion programme should target all students. This is in line with the National Strategic Plan for HIV, AIDS and sexually transmitted infections (2007-2011:36). Inclusion of HIV, AIDS and VCT in the curriculum should be addressed to engage the curriculum development process that includes HIV and AIDS modules that are credited, to fast track the approach to communication and information dissemination strategies to ensure that factual information is accessible to students.
- Behaviour change communication is a strategic plan that requires an implementation, monitoring and evaluation framework to improve the utilisation of VCT. HIV and AIDS modules should be introduced at all levels of study and shall earn the student a credit towards academic achievement. Consistency in HIV and AIDS communication and VCT will address the behaviour change process towards healthy and safe choices (HEAIDS, 2010:13).
- VCT should reach all individuals on campus because it addresses individual perceived benefits of VCT behavioural patterns and choices. New students should be targeted for VCT and there should be continuous monitoring to evaluate the effectiveness of this activity by analysing the number of individuals who might contract HIV positive during the years of study (National Strategic Plan for HIV and AIDS, 2007-2011:64).
- A qualitative study to be needed explore the factors that impact on utilisation of VCT further.

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ANNEXURE 1

ETHICS CLEARANCE CERTIFICATE

Faculty of Health Sciences		D U R B A N		UNIVERSITY of TECHNOLOGY	
		ETHICS CLEARANCE CERTIFICATE			

Student Name	Ms M A Buthelezi	Student No	20606725
Ethics Reference Number	FHSEC 001/09	Date of FRC Approval	16 February 2009
Research Title:	The factors that impact on utilisation of voluntary HIV counselling and testing services at a wellness centre in a higher education institution.		

In terms of the ethical considerations for the conduct of research in the Faculty of Health Sciences, Durban University of Technology, this proposal meets with Institutional requirements and confirms the following ethical obligations:

- The researcher has read and understood the research ethics policy and procedures as endorsed by the Durban University of Technology, has sufficiently answered all questions pertaining to ethics in the DUT 186 and agrees to comply with them.
- The researcher will report any serious adverse events pertaining to the research to the Faculty of Health Sciences Research Ethics Committee.
- The researcher will submit any major additions or changes to the research proposal after approval has been granted to the Faculty of Health Sciences Research Committee for consideration.
- The researcher, with the supervisor and co-researchers will take full responsibility in ensuring that the protocol is adhered to.
- The following section must be completed if the research involves human participants:

	YES	NO	N/A
❖ Provision has been made to obtain informed consent of the participants	✓		
❖ Potential psychological and physical risks have been considered and minimised			N/A
❖ Provision has been made to avoid undue intrusion with regard to participants and community	✓		
❖ Rights of participants will be safe-guarded in relation to:	✓		
- Measures for the protection of anonymity and the maintenance of Confidentiality.			
- Access to research information and findings.	✓		
- Termination of involvement without compromise	✓		
- Misleading promises regarding benefits of the research	✓		

SIGNATURE OF STUDENT/RESEARCHER

2009.03.20
DATE

SIGNATURE OF SUPERVISOR/S

20-03-2009.
DATE

SIGNATURE OF HEAD OF DEPARTMENT

23/03/09
DATE

SIGNATURE: CHAIRPERSON OF RESEARCH ETHICS COMMITTEE

30/3/2009.
DATE

FACULTY OF HEALTH SCIENCES/ETHICS CLEARANCE CERTIFICATE/ 08-2007 Faculty Approved Document

ANNEXURE 2

PERMISSION TO UNDERTAKE A RESEARCH STUDY

MANGOSUTHU UNIVERSITY OF TECHNOLOGY

P.O. BOX 12363

JACOBS 4026

14 APRIL 2009

THE ACTING VICE-CHANCELLOR AND PRINCIPAL

MANGOSUTHU UNIVERSITY OF TECHNOLOGY

P.O. BOX 12363

JACOBS

4026

Dear Sir

RE: PERMISSION TO UNDERTAKE A RESEARCH STUDY

Title of the research study: The factors that impact on utilisation of voluntary HIV counselling and testing services at a wellness centre in a higher education institution.

I hereby request for permission to undertake a research study at Mangosuthu University of Technology (MUT). I am currently registered for a degree in Masters Technology: Nursing at the Durban University of Technology. The research proposal was approved by the faculty of health sciences research committee at Durban University of Technology on the 18 February 2009. It will be reviewed by the higher degree committee at a meeting on 12 May 2009. Refer to the attached document that confirms the approval.

The target population is students currently registered in three faculties of Engineering, Natural Sciences and Management Sciences. The study will commence after approval of the proposal by the Higher Degrees Committee at the Durban University of Technology. The results of the study will be communicated to the University and participants.

Your approval in this research undertaking is greatly appreciated.


Yours faithfully

M.A. Buthelezi

Student Health Services: MUT

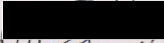
ANNEXURE 3

PERMISSION TO CONDUCT THE STUDY



Mangosuthu University of Technology

Memorandum

11/ August 2009
Submission approved.

Dr M-Kgaphola
Administrator

RESEARCH DEPT.
2009-08-11
RECEIVED

To: Dr. M. Kgaphola
Administrator

From: Dr. Anette Mienie
Director: Research

Date: 20 July, 2009


Re: Application for the registration of a Research Project – Sr. Martha Buthelezi

Dear Dr. Kgaphola

It is currently our practice that the Vice- Chancellor and Principal makes the decision on all research projects involving staff and students from MUT. Sr. Martha A. Buthelezi has applied for the registration of a research project titled: "The factors that impact on utilisation of voluntary HIV counselling and testing at a wellness centre in a higher education institution". She envisages doing her survey using a sample of MUT students.

The Research Ethics Committee considered ethical issues while the Administration Research Committee considered technical issues (minutes of both meetings attached). Both committees recommend that we grant permission to the applicants.

Yours sincerely,



Dr. Anette Mienie

ANNEXURE 4

LETTER OF INFORMATION AND CONSENT

Title of the Research Study: The factors that impact on utilisation of voluntary HIV counselling and testing (VCT) services at a wellness centre in a higher education institution.

Principle investigator/s: Ms. M.A. Buthelezi

Supervisor: Mrs. A. Razak

Co-supervisor: Dr. R. Bhagwan

Brief introduction of the study: The study intends to investigate factors that impact on utilisation of voluntary HIV counselling and testing services at a wellness centre in higher education institution. Factors that hinder utilisation of VCT services will be identified, for example, policy and procedures, knowledge about VCT programme, perceptions, attitudes, behavioural pattern relating to HIV and AIDS, and environmental factors. The information obtained will be used to develop a strategy that addresses the needs and problems of students. The results will be used to improve accessibility and to increase the number of students who engage in VCT at the University. The benefit will be to increase accessibility to antiretroviral treatment and thus prolong life and improve the quality of health of students.

Outline of procedures: A structured questionnaire will be answered by choosing an appropriate answer and making a tick (✓) in a box.

Risks or discomforts to the subjects: There will be no physical risk or emotional discomfort. You will be free to withdraw from participation at any point in time should you feel uncomfortable. There will be no discrimination against you. You will not be coerced to participate in this study.

Benefits: The benefits are indirect. The study will benefit the institution by reviewing the strategies for VCT programme to address the needs of students. The students will benefit indirectly. There will be no financial payment for participation in the study.

Reason/s why subjects may withdraw from the study: If/when the respondent is uncomfortable with the questionnaire. The question is intruding into the participant's privacy.

Remuneration: No incentive will be issued to respondents.

Cost of the study: The study will not impose any cost to the respondents.

Confidentiality: Codes will be used to insure anonymity. The researcher only, will have access to the data and documents. Research documents will be stored in a secure place.

Research-related injury: There will be no risk of injury, physical or psychologically, to the respondents during the study.

Persons to contact in the event of any problems or enquiries:

Mrs. A. Razak: Supervisor and

Mr. M. Kgwere: Head of Department

Statement of agreement to participate in the research study: I, _____
ID number _____, have read this document in its entirety and understood its contents. Where I have had any questions or queries, these have been explained to me by _____ to my satisfaction. Furthermore, I fully understand that I may withdraw from this study at any stage without any adverse consequences and any future health care will not be compromised. I, therefore, voluntarily agree to participate in this study.

Subject's name (print): _____ Subject's signature: _____

Date: _____

Researcher's name: M.A. Buthelezi Researcher's signature: _____

Date: _____

Witness name (print): _____ Witness's signature: _____

Date: _____

ANNEXURE 5

RESEARCH QUESTIONNAIRE

Dear Respondent

You are requested to complete the questionnaire by making a tick (✓) in an appropriate box

				Annexure 5			
				Respondent			
				Rec. #			
Demographic Data							
1. Indicate last secondary school attended in:		Urban	Rural	Township	Other		
If "Other" Specify _____							
2. In which faculty are you currently registered?		Engineering	Management Sciences	Natural Sciences			
3. In which level of study are you?		Level 1	Level 2	Level 3	Level 4		
4. Indicate your current resident		University Residence	Own Home	Township	Other		
If "Other" Specify _____							
5. Gender				Male	Female		
6. How old are you (years)?					<u>years</u>		
7. What is your race		African	White	Indian	Coloured	Other	
If "Other" Specify _____							
8. What is your marital status?		Single	Married	Widowed	Living with spouse	Divorced	Other
If "Other" Specify _____							

Environmental factors						
You are requested to complete the following questions by making a (√) in an appropriate box.						
There are no right and wrong answers						
The University provides these services at the Campus Clinic:	Yes	No				
9. Do you know that there is a Campus clinic available to you?						
10. Is HIV testing done at the Campus Clinic?						
11. Do you think HIV testing is readily available to you?						
12. Have gone to the Campus Clinic to do the HIV test?						
In case HIV testing is not readily available would you:	Yes	No				
13. Come again?						
14. Get tested for HIV elsewhere?						
15. Postpone the HIV test?						
16. Other (specify)?						
Indicate the level in which you agree or disagree with the statements listed below.						
	Very Poor	Poor	Satisfactory	Good	Very Good	
17. Staff at the Campus Clinic was approachable.						
18. The staff at the Campus Clinic provide clients with individual attention.						
19. Material for reading is available at the Campus Clinic.						
20. The client feels safe to consult the health professionals.						
You are requested to complete the following questions by making a (√) in an appropriate box.						
Indicate the level in which you agree or disagree with the statement listed below.	Strongly disagree	Disagree	Not sure	Agree	Strongly Agree	
21. The voluntary counselling and testing service is centrally situated						
22. Records of clients are kept safe at the wellness centre.						
23. The Campus Clinic is user friendly.						
24. The counsellors are easy to talk to.						
25. I would recommend the Campus Clinic to my friends.						

Knowledge about HIV, AIDS and VCT

You are requested to complete the following questions by making a (✓) in an appropriate box.

Indicate the level in which you agree or disagree with the statements below.	Strongly disagree	Disagree	Not sure	Agree	Strongly Agree	
26. HIV is a virus that causes AIDS.						
27. HIV affects humans only.						
28. HIV does not affect animals.						
29. HIV is commonly transmitted through practice of unprotected sexual intercourse.						
30. HIV is transmitted through semen, vaginal fluid and blood.						
31. You can get HIV if you have sex once, without a condom.						
32. HIV is contracted by mosquito bite.						
33. You can get HIV by sharing utensils.						
34. You can get HIV by sharing needles/razor blades.						
35. The immune system protects the body from germs (bacteria and viruses).						
36. AIDS is a stage when an individual living with HIV is falling sick with different diseases.						
37. Voluntary counselling and testing (VCT) is done to test for HIV.						
38. You can only know an HIV status by doing an HIV test.						
39. VCT should be done by all people to know their HIV status.						
40. It is a good thing to know your HIV status.						
41. You can identify a person infected with HIV by his/her appearance.						
42. "No condom, no sex" is a good rule to protect yourself.						
43. The drugs called antiretroviral can help people with HIV/AIDS to live longer.						
44. I have one partner; therefore I need not use a condom.						
44. A mother can pass HIV to her baby through breastfeeding.						

Attitude related to HIV, AIDS and VCT	Strongly disagree	Disagree	Not sure	Agree	Strongly Agree	
45. It is a waste of money to provide education to someone who is HIV positive.						
46. If I told my friends in this institution that I have HIV, most of them would support me.						
Indicate the level in which you agree or disagree with the statements below.						
47. It is better not to know my HIV status.						
48. ARV drugs are toxic and cause people to die.						
49. People who are engaged need not use a condom.						
50. Blisters/ sore/ warts on the vagina or penis are signs of sexually transmitted infection (STIs)						
51. Pain or burning when passing urine is a sign of sexually transmitted infection.						
52. I do not have to use a condom with a partner who is the mother or father of my child.						
53. Condoms reduce sexual pleasure.						
54. I trust my partner therefore I do not use a condom.						
55. I sleep with one person therefore do not use a condom.						
56. I am not interested in getting tested.						
57. It is acceptable to have more than one partner.						
58. I believe that my most recent sexual partner also has other sexual partners.						
Behaviour						
59. If my partner tests HIV negative, I do not have to test for HIV.						
60. I have obtained free condoms from the wellness centre.						
61. Someone I know personally died of AIDS.						
62. I know a student at this institution who died of AIDS.						
63. I have provided care to an HIV positive child or adult in my household.						

Answer yes or no by making a tick (✓) in an appropriate box.				
	Yes	No		
64. I always use a condom.				
65. I often expect money or gifts in exchange for sex				
66. How many times have you had HIV test in the past year? Indicate _____				
67. When? Indicate _____				
68. Have you ever been tested for HIV at the Campus Clinic?				
69. Did you use a condom when you last engaged in sex?				
70. Do you currently have more than one sexual partner?				
71. Do you currently have one sexual partner?				
	Less than 3 months ago	Between 3 and 6 months ago	More than 6 months ago	I have never tested
72. If yes to question 69, when was your most recent HIV test?				

THANK YOU