Factors contributing to low HIV Testing Services (HTS) uptake among Health Sciences students at the selected University in Limpopo Province

By

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DECLARATION

I, Makuya Takalani (Student No. 11621818), hereby declare that this study, factors contributing to low HIV Testing Services (HTS) uptake among Health Sciences students at the University of Venda is my own work, and has not been submitted in whole, or in part, for another degree in any other institution. I declare that the information cited from published and unpublished works by others has been acknowledged in text and a reference list has been provided.

Makuya Takalani

Signature: .....

Date: 03/09/2020

DEDICATION

This work is dedicated to my daughter Rudzani, whom I hope this work will inspire.

To my late mother, Mavis Makuya, for her support and encouragement.

To my siblings, Avhakholwi, Livhuani and Hulisani for believing in me.

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ABSTRACT

The main entry point for the HIV/AIDS prevention, care and treatment is through HIV Testing Services (HTS). Despite undeniable benefits and increased availability of HIV Testing Services, uptake remains low among students. The aim of this study was to investigate factors contributing to low HIV Testing Services (HTS) among Health Sciences students. Quantitative research method was used to conduct this study. Descriptive quantitative research design was employed. 306 respondents determined by the sample formula were selected through Probability, Systematic sampling technique. Structured questionnaires were used to collect data from respondents. Validity was ensured through content and face validity. Reliability in the form of test-retest reliability were ensured through pre-testing the instrument using 31 respondents from the target population. Data collected was analysed using SPSS version 24. Ethical considerations were ensured throughout the study.

The findings of the study showed that out of 306 respondents, 44,1% (n=135) of respondents, comprising 30,7% (n=94) of females and 13,4% (n=41) of males had gone for HIV testing. Respondents had adequate knowledge about HIV Testing Services (HTS) and their attitude towards HIV Testing Services (HTS) was favourable. HIV/AIDS-related stigma, fear of potential HIV positive diagnosis, low perception of HIV infection risk and negative attitude of healthcare service providers were attributed to low uptake of HIV Testing Services (HTS) among respondents. There were recommendations for HIV Testing Services (HTS) workshops, education and awareness campaigns emphasizing the benefits and importance of HIV Testing Services (HTS). The use of various forms of media including campus radio and newsletters to promote the uptake of HIV Testing Services (HTS) among university students was also recommended.

Keywords: Acquired Immunodeficiency Syndrome, Human Immunodeficiency Virus, HIVTesting, Stigma, University students, Uptake.

LIST OF ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
HEAIDS	Higher Education HIV and AIDS Programme
HIV	Human Immunodeficiency Virus
HTS	HIV Testing Services
NGO	Non-governmental Organisation
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNICEF	The United Nations Children's Fund
WHO	World Health Organization

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CHAPTER 1: INTRODUCTION AND BACKGROUND

1.1 Introduction and background to the study

In 2016, approximately 36, 7 million people worldwide were living with HIV/AIDS and an estimated 2, 1 million people were becoming newly infected globally (AIDS.gov, 2017). According to World Health Organization (WHO) (2016), the percentage of people who know their HIV status is currently 60%. The remaining 40%, which is over 14 million people, still need to access HIV testing services. The burden of HIV/AIDS necessitates the implementation of various prevention strategies. From these strategies, HIV Testing Services (HTS) has been introduced in many settings to help individuals become aware of their HIV status.

HTS has become an entry point for HIV prevention and control, care, treatment and support services. It has become an integral part of the global response to the epidemic of HIV/AIDS. HIV Testing Services refer to the full range of services that are provided with HIV testing such as Pre-test and post-test counselling, co-ordination with laboratory services to support quality assurance and the delivery of correct results, and linkage to appropriate HIV prevention, treatment and care services as well as other clinical and support services (Department of Health, 2015).

HTS is globally accepted as both a primary and secondary prevention strategy. As a primary prevention strategy, it helps individuals who are HIV negative to adopt healthy lifestyles that reduce risk for HIV infection such as safe sex. As a secondary strategy for prevention, HTS helps individuals who have tested positive to adopt healthy sexual behaviours to prevent reinfections. It also helps those who have tested positive to access treatment and related services (WHO, 2016). Furthermore, HIV and Testing services have been identified as one of the best strategies for educating individuals about HIV and AIDS related issues. HST not only gives individuals an opportunity to test for HIV and subsequently know their status, it also gives the individual an opportunity to obtain knowledge on how they can make healthier sex choices.

Individuals who do not go for HIV and Testing services may come to learn of their HIV positive status when they are already sick and they are more likely to experience all sorts of psychological and emotional responses such as anger, denial, aggressiveness, depression and social withdrawal. These responses may adversely affect the student's studies as one would be in a process of adjusting to a new life with HIV infection.

Other students may even engage in riskier behaviours such as deliberately infecting others with the disease so that they will not "die alone''. In addition, other students who discover that

they are infected with the virus when they have become sick may experience low self-esteem and believe that they would no longer achieve their academic goals.

HTS is available in public health facilities and also through non-medical sites and the private sector, however, its uptake in South Africa and globally is low, mainly due to social stigma and attitude associated with HIV/AIDS (Fikadie, Bedimo & Alamrew 2014). Various studies on HIV Testing Services among university students indicate that despite high level of knowledge about HIV Testing Services among tertiary students, its utilization is minimal. A study done by Khawcharoen, Chunloy and Asiparnthanarak (2016), in the Asian country of Thailand, showed that the majority of students are not going for HIV Testing Services and are therefore not aware of their HIV serostatus.

In a study done in Georgia, university students acknowledged the significance of utilization of HIV Testing Services. The attitude towards HTS is generally positive, however, it does not automatically translate to HTS uptake. Common reasons for non-utilization of such services include stigma associated with HIV and low risk perception among students (Djibuti, Zurashvili, Kasrashvili & Berg, 2015).

In African countries such as Ethiopia, Nigeria, Zimbabwe and South Africa, only a few of the university students have reported to have gone for HIV Testing Services. Although most students have knowledge about HTS and its benefits in the prevention and control of HIV/AIDS spread, research done among university students in Uganda and Zambia revealed that utilization of HIV Testing Services was 10%, 14% and 34,5% respectively (Fikadie et al., 2014

According to HEAIDS (2010), by end of the year 2015, 74% of higher education institutions in South Africa had established HIV Testing Services, with 69% of these institutions offering these services for free. However, HST uptake remains low. A study done at the University of KwaZulu-Natal indicated that students have knowledge about HIV Testing Services and the main source of information is the media such as radio and television. Fear of positive results and assuming that one is not infected with or exposed to the virus were some of the factors that influenced the uptake of HIV Testing Services among students (Venugopala, 2012).

Another study done at the University of Limpopo by Jali, Tladi, Malema and Thopola (2014) also indicated that a lot of students generally have information about HIV Testing Services but only few of them make use of such services. The low rate of HIV Testing Services utilization is linked to various factors such as stigma associated with being HIV positive, fear of living with HIV, lack of adequate information regarding HIV Testing Services, confidentiality fears surrounding HIV/AIDS testing as well as belief that one is not and cannot be infected with HIV (Fikadie et al., 2014).

1.2 STATEMENT OF THE PROBLEM

HIV/AIDS is a global epidemic that threatens the lives of individuals, including university students. Lack of relevant information and attitudinal problems towards HIV/AIDS contribute to the prevalence of HIV/AIDS. HIV Testing Services (HTS) comes in as an important strategy in helping individuals know their HIV status.

The researcher has observed risky behaviours associated with HIV/AIDS such as alcohol consumption and reckless lifestyles by students. A concern is that only a few students choose to go for HIV/AIDS testing services. Furthermore, when the researcher worked in the university HIV/AIDS mobile testing campaigns she observed that students from the School of Health Sciences had a low turn-up for testing services. In 2016, only 58 out of 1382 enrolled students went for the HIV Testing campaign. In 2017, the total number of enrolled students in the school of health was 1385 and 41 of them turned up for the HIV testing campaign. For 2018 HIV Testing campaign, the uptake remains low with only 54 out of 1310 enrolled students having utilized the HIV Testing services. Health Sciences students specifically learn about health issues, including HIV testing, and as such are expected to be at the forefront of leading exemplary lifestyles when it comes to HIV Testing Services. Moreover, Health Sciences students are the healthcare providers of tomorrow who will be entrusted with the responsibility of promoting healthy choices and behaviours in the society.

Students who are not going for HIV Testing Services may not know whether they are infected or not, and as such they are at risk of acquiring the virus or transmitting the virus to other people. Furthermore, they are also at risk of living with the virus until they become symptomatic. At this stage, it may be too late to manage the disease. This may result in students experiencing disruptions in their studies due to possible hospital admissions. Other students may end up dropping out of university as a result of being chronically sick.

Below is a table indicating the uptake of HTS services during HIV testing campaigns offered by the university's Campus Health Services.

	NUMBER OF STUDENTS TESTED		
	YEAR, MONTH AND DURATION OF HIV TESTING CAMPAIGN		
NAME OF SCHOOL	**11-18 MARCH 2016**	**13-17 FEBRUARY 2017**	**16-20 APRIL 2018**
School of Agriculture	53	48	59
School of Education	210	154	200
School of Environmental Sciences	54	68	70
School of Health Sciences	58	41	54
School of Human and Social Sciences	173	108	113
School of Law	64	51	79
School of Management Sciences	104	90	98
School of Mathematical and Natural Sciences	114	101	120
TOTAL	**830**	**661**	**793**

Figure 1: HIV Testing campaign uptake from University of Venda Campus health

1.3 RATIONALE FOR THE STUDY

HIV/AIDS currently has no cure. The only way an individual can know his or her status is through testing for HIV. HIV Testing Services provides an opportunity for individuals to know their HIV status and to access information about HIV/AIDS. Moreover, knowing one's HIV

status is an important step in making healthy sexual choices. It is observed that the uptake of HIV Testing Services among students is low; therefore, it is necessary to conduct a study of this nature to investigate those factors that contribute to low HIV Testing Services (HTS) uptake among students. In South Africa, studies conducted on HTS services focused mainly on knowledge, perceptions and attitude of university students regarding its uptake. Considering this, the researcher sought to focus on those factors that contribute to low HTS uptake among university students.

1.4 SIGNIFICANCE OF THE STUDY

The study on factors contributing to low HIV Testing Services (HTS) uptake among Health Sciences students is important as the findings may benefit the government, policy makers as well as the university community and the students in particular.

Government and policy makers

The findings of the study may assist policy makers and the government to come up with strategies that improve accessibility and maximum utilization HIV Testing Services.

University and students

The university may use the findings of the study to plan effectively for HIV Testing Services to increase its optimum utilization by students. This may subsequently lead to more students knowing about their status and obtaining essential information on how they could maintain a negative status if not already infected by the virus as well as how to access treatment, care and support by those who would be already infected. In light of this, the university may achieve high throughput rates as students would not drop out or get hospitalized and have their academic work negatively affected.

This study may also significantly contribute to the body of knowledge on the topic and potentially bridge the gap between what has been researched and what has not been researched on HIV Testing Services.

1.5 AIM OF THE STUDY

The aim of this study was to investigate factors that contribute to low HIV Testing Services (HTS) uptake among Health Sciences undergraduate and postgraduate students at the University of Venda.

1.6 OBJECTIVES OF THE STUDY

The objectives of the study were as follows:

- To assess the knowledge of Health Sciences students towards HIV Testing Services.
- To assess the attitude of Health Sciences students towards HIV Testing Services.
- To determine personal-related factors that contribute to low HTS uptake among Health Sciences students.
- To determine health service-related factors that contribute to low HTS uptake among students.

1.7 OPERATIONAL AND CONCEPTUAL DEFINITION OF KEY TERMS

- **HTS** is an acronym for HIV Testing Services and it is used to indicate the full range of services that should be provided with HIV testing. (World Health Organization, 2016).
- **Prevention** in this study refers to practices that are done to prevent the spread of HIV/AIDS.
- **HIV** is a Human Immunodeficiency Virus that attacks the immune system of an individual (Center for Disease Control & Prevention, 2017).
- **AIDS** is an acronym for Acquired Immunodeficiency Syndrome. It is a potentially lifethreatening condition that is caused by HIV (Centers for Disease Control & Prevention 2017)
- **HIV-testing** refers to the actual administration of an HIV test to determine whether the individual is infected or not.
- **Uptake** in the study refers to the use of HIV Testing Services by students.
- **University students** in this study refers to students who have enrolled and are studying at the university.
- **Stigma** refers to negative beliefs, attitudes and feelings associated with HIV/AIDS.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

Literature review is a systematic and extensive process of searching for relevant literature related to the study. This section reviews literature related to the study about factors contributing to low HIV Testing Services (HTS) uptake among students. The section is arranged in two parts: Data- based literature and conceptual-based literature. Data-based literature will cover the process of HTS including its components, service delivery approaches of HIV Testing Services, knowledge, perceptions and attitudes of students towards HIV Testing Services, factors contributing to low HTS uptake among students, factors contributing to increased HTS uptake, as well as ways to promote utilization of HIV Testing Services. The conceptual-based literature will be based on the Health Belief Model (HBM).

2.2 Data based literature

One of the greatest challenges the students of today are facing is the risk of HIV/AIDS. In South Africa, approximately 20% of university students and 25% of technikon students are infected with HIV (HEAIDS, 2004). HIV Testing Services (HTS) has become an important strategy for curbing the spread of HIV worldwide. According to Risenga and Davhana-Maselesele (2013), the South African government is committed to increasing and promoting HTS accessibility to people countrywide. A policy framework has been established to increase uptake of HIV Testing Services.

2.2.1. HTS as a gateway for HIV prevention and care

According to the Department of Health (2015), HIV Counselling and Testing (HCT) now referred to as HTS is a process whereby an individual undergoes HIV counselling to enable him or her to make an informed decision about being tested for HIV and to know the implications thereof. The 5 C's which are the foundation of effective HTS are counselling, confidentiality, consent, correct and connection. Counselling in the form of pre-test and post-test if offered in HIV Testing services. The entire process of HTS is confidential in nature. The healthcare provider is not allowed to divulge the information and results of clients without their permission. In addition, quality assurance mechanisms are put in place to ensure that individuals receive the correct diagnosis. The connection allows for the linkage to prevention, treatment and care services as well as effective and appropriate follow-up. Furthermore, HIV Testing Services is more than just testing the individual for HIV. It also helps individuals to

make healthier sex choices and it also serves as an entry point for HIV prevention and care, amongst other things (Fishers, 2005).

2.2.2 Components of HIV Testing Services

HST has 3 components or phases, namely; pre-test counselling, HIV testing and post-test counselling (Fishers, 2005).

2.2.2.1 Pre-test counselling

Pre-test counselling is the first phase of HTS whereby counselling is provided to an individual prior to HIV testing. It is during this phase where the healthcare provider or counsellor establishes rapport and discusses issues of confidentiality with the client. The counsellor also finds out the reasons for the client's volunteering for HIV counselling and testing. In addition, the counsellor evaluates HIV infection risk for the client, by enquiring about the client's past and current sexual behaviour, use of drugs and substances, and helps with coming up with strategies for risk reduction. In this phase, the counsellor discusses with the client the possible testing outcomes and implication of a positive test and how the individual can cope if results are positive. Informed consent is required before HIV testing. It is unethical for the healthcare provider to conduct the HIV test without the client's informed consent, even though the client would have made a conscious decision to go for HIV Testing Services (Department of Health, 2015)

2.2.2.2 HIV testing

The HIV test is administered at this phase. Some testing centres make use of ELISA (Enzyme Linked Immunosorbent Assay) HIV test and others make use of Rapid HIV test. With ELISA HIV test, a blood sample is drawn from a vein in the arm and taken to the laboratory for analysis. The client can receive their test results within a period of one and two weeks. If the Rapid test is used, the required amount of blood is squeezed out from the fingertip by pricking it with a special needle. The drawn blood is put on the test strip and thereafter drops of special fluid is added to indicate whether the individual is HIV infected or not. Results are ready within a very short space of time. In 15 minutes, the client can know their HIV status (CDC, 2017).

Furthermore, the healthcare provider must administer a second test if the first test showed positive results, to confirm the results. If the test shows two different results, the blood sample must be sent to the laboratory for ELISA test. In the case of negative results, no further tests can be done, however, the healthcare provider should strongly advice the client to test again after 3 months, because it may happen that the individual is in a window period (CDC, 2017).According to the Department of Health (2015), the window period is usually between

three to four weeks and it is period in which detectable HIV antibodies are not yet present in the blood although the virus is already present. It is therefore advisable to do another test after three months.

2.2.2.3 Post-test counselling

In post-test counselling, the healthcare provider gives the client the test results. The test results should be given to the client personally. In this phase, the healthcare provider opens a platform for individuals to express their feelings about the test results, whether negative or positive results. If results are negative, the healthcare provider discusses strategies to reduce chances of infection so that the individual can remain negative and make healthier choices about HIV related issues. The healthcare provider can even give the client free condoms and give him or her information on where to get them. If test results are positive, the healthcare provider discusses ways of coping with new positive status and about available resources and support for the client. The healthcare provider also discusses about safer sex practices to avoid reinfection. In addition, information about living positively and healthily with HIV is also given to individuals at this point. They are also encouraged to involve their partners to go for testing as well and to join ongoing HIV-counselling for emotional and psychological support (Department of Health, 2015).

Counselling for HIV and testing plays an important role as a measure of HIV prevention. It helps to promote healthy lifestyles and provides individuals with emotional and psychological support WHO, 2016).

2.2.3 Service delivery approaches of HIV Testing Services (HTS)

There are different models HIV Testing Service delivery, depending on factors such as distance, accessibility, cost and availability of transport. These models are also specifically designed to target specific groups and to achieve specific goals. There are service delivery approaches of HIV Testing Services in community settings and in health facilities.

2.2.3.1 Service delivery approaches of HTS in community setting

(i) Stand-alone sites

These are also called free-standing sites. These models of HTS delivery are located outside health facilities. There are no other services offered other than counselling and testing services. They are situated in places where there is a high rate of HIV infection, although other specific groups can also be targeted. Non-Governmental Organisations (NGOs) generally operate these services and clients are usually self-referred. Opening times for these services

are flexible and it is much simpler to ensure that quality control is maintained according to both national and international standards for HIV testing. However, there can be HIV/AIDS related stigma as these services only provide HIV testing services. It may also be difficult to get funding to keep the services going (HIV/AIDS Working Group, 2006).

(ii) Mobile and outreach HTS units

Mobile and outreach HTS models are often used for a specified target population that may not have access to health services. It may be people in remote areas. Services are taken to communities. Counselling and HIV testing services are provided from private vans or at designated areas in the community. The services are brought to beneficiaries and there is a great deal of anonymity and improved accessibility. However, these services may require more financial and human resources. There is also limited post-test and follow-up counselling (HIV/AIDS Working Group, 2006).

(iii) HTS in schools and tertiary institutions

HIV testing in school-based setting provides access to sexually active youth who are at least 12 years old. Higher-education based HTS are continually offered to students attending higher education institutions, as well as to staff members who are employed at these institutions. HIV Testing Services providers should ensure that as many young people as possible are voluntary tested as they are a high risk group. Higher education institutions are also a target for outreach services (Department of Health, 2015).

(iv) Self-testing

HIV self-testing (HIVST) is a process in which an individual who wants to know their HIV status collect a specimen, administer the test and interpret the result by themselves, often in private. HIVST is a pre-screening test and does not provide a definitive diagnosis and it does not replace the need for the screening and confirmatory HIV test (Department of Health, 2015).

(v) HTS home-based testing models

These models are also known as family HTS services. Testing for HIV is done at home of individuals by healthcare providers. These services allow for testing at the comfort of the client's home. HTS home-based testing services offer privacy and are accessible to high-risk population. They are cost effective for the healthcare system. They help in addressing the

entire family needs at once and they allow for an open platform for family to discuss HIV/AIDS related issues. However, these models are time-consuming because the healthcare provider has to cater for one family at a time, and there may be more pressure among family members to share test results. There is limited follow-up and support for those who test positive (Glanz, Marcus & Rimer, 2007).

2.2.3.2 HIV Testing Services (HTS) in health facilities

(i) Client-initiated counselling and testing (CICT)

CICT is provided by the health-care providers to clients who actively seek these services within the health-care facilities. Clients may decide to go for CICT as an individual, couple or family (UNICEF, 2018).

(ii) Provider-initiated counselling and testing (PICT)

Provider-initiated counselling and testing refers to HIV counselling and testing which is recommended by healthcare providers to patients attending healthcare facilities as a standard component of medical care. It enables for specific medical decisions to be made that would not have been possible without knowledge of the individual's HIV status (WHO, 2007).

2.2.4 Knowledge and perceptions of students towards HIV Testing Services (HTS).

The level of knowledge of students towards HIV Testing Services may vary with students since university students come from diverse social and cultural backgrounds (Reddy & Frantz, 2011).

A study done in Ethiopia by Gatta and Tsweneagae (2012) indicated that the majority of students are aware of HIV Testing Services (HTS), and they had utilized the services. The findings also indicated that most students had knowledge about different modes of HIV transmission such as engaging in unsafe sexual intercourse with an infected person, use of drug needles among drug users and mother to child transmission. For many students, mass media such as television and radio were the main source of HTS information. In addition, students are also aware about the importance of going for HIV testing to know one's status, and they generally have positive perceptions towards HIV Testing Services. They generally view HTS as beneficial to those who either test positive or negative, although there are others who perceive such services as only of value to one who has tested positive.

In another study done in Ghana to assess attitudes of youth towards HST, findings revealed most respondents stated that every individual should get tested for HIV, irrespective of their age or

gender. Only a small number of respondents indicated that only those who are high risk such as casual sex workers needed to be tested. Although, most respondents were aware that they needed to be tested for HIV; only a few of them knew about HIV Testing Services and had been to the HTS sites. Furthermore, the majority of respondents generally had a negative attitude towards HIV Testing Services, due to fear of positive results or disclosure of confidential information by healthcare providers (Gadegbeku, 2013).

In a study done in Nigeria, findings indicated that the majority of students had knowledge about HIV Testing Services and the main sources of information about HIV Testing Services were mass media and churches. Most students, however did not know where they could go to for HIV Testing Services, although they had heard about such services. Only few respondents had gone for an HIV test only once. Furthermore, most of respondents attested to the necessity of counselling before going for the actual HIV testing, the majority of respondents in the study were actually ready to receive positive results in a good way. Generally, the majority of respondents indicated willingness to go for HIV Testing Services and those who indicated that they were not willing stated that they were sure they did not have the virus (Ikechebelu, Udigwe & Imoh, 2006).

In South Africa, Jail, Tladi, Malema and Thopola (2014) conducted a study at the University of Limpopo to assess attitudes and practices of students towards HIV Testing Services, findings showed that many students were not aware of the benefits of HIV Testing Services. Some students had knowledge about HTS, but they were reluctant to utilize those services. The majority of students indicated that they did not have adequate information about what the entire process entails and as such they did not go for HIV Testing Services. However, there are other students who understood what the process entails but they did not utilize those services. Students stated various reasons for not going for HIV Testing Services. Some stated that it was because they were not engaging in any sexual activities and others stated that they were practising safe sex.

2.2.5 Factors that contribute to low HIV Testing Services (HTS) uptake among students

According to Akhiwu (2013), various factors contribute to the low uptake of HIV Testing Services among students. There are individual related and health service related factors that influence the uptake of HIV Testing Services by students. Individual-related factors include lack of knowledge, fear of positive results, fear of HIV/AIDS related stigma and inaccurate perception of risk. Health service related factors include confidentiality issues, accessibility

and availability of HTS sites, attitude of healthcare workers, quality of service offered as well as affordability of the service.

2.2.5.1 Lack of knowledge

Lack of adequate knowledge about HIV Testing Services, their purposes and intent can be a great barrier for students to seek HTS. Some students have heard about HIV Testing Services, but they do not know what these services offer. Other students think that HIV Testing Services are for diagnostic purposes only and that they are only for those that have increased risk for HIV infection or those who are promiscuous (Boswell & baggaley, 2002).

2.2.5.2 Fear of positive results

According to Ndzombane (2012), students may be reluctant to utilize HIV Testing Services due to fear of testing positive for HIV and being unable to cope with an HIV positive diagnosis. Some individuals still view an HIV infection as a death sentence and they may feel that if they have been diagnosed with HIV they can no longer continue with their lives and achieve their goals. Some may also think that being diagnosed can mean that they may not have families of their own or secure stable jobs.

2.2.5.3 Fear of HIV/AIDS related stigma

Fear of stigma associated with HIV/AIDS can hinder students from taking up HIV Testing Services. Students may think that if they test positive and other people know about it, they may isolate them or stigmatize them (Akhiwu, 2013).

2.2.5.4 Inaccurate perception of risk

Students who perceive themselves as low risks may not utilize HIV Testing Services. Studies show that most young people do not perceive themselves as being as risk for HIV infection due to reasons such as having only one partner, abstaining from sexual activities and practising safer sex. This perception of low risk is influenced by belief that HTS is solely for diagnostic purpose, and that only those who are sick and suspect to be infected with HIV are high-risk. Others still hold beliefs that they cannot get infected, it cannot happen to them even though they may not be practising safe sex (Gatta & Tsweneagae, 2011).

2.2.5.5 Confidentiality issues

Fear surrounding lack of confidentiality is one of the major concerns for students. Some students may be reluctant to go for HIV Testing Services because they fear that their information will not be kept confidential. Other students feel that they might be assisted by

someone who knows their parents and they may disclose their confidential information to other people (Jones, 2017).

2.2.5.6 Accessibility and Availability of Voluntary Counselling and HIV-Testing sites

The unavailability of HIV Testing Services sites can greatly contribute to low uptake of HIV Testing Services. If these services are not easily accessible and available, individuals are less likely to utilize the services. If individuals have to travel long distances or incur high travelling costs in order to get to the nearest site, they may not seek for and utilize the services (Ndzombane, 2012). In addition, students who reside in rural areas are less likely to utilize HIV Testing Services than those from urban areas. It may be due to less access of information in print and digital media as these may be less available in rural than urban areas.

2.2.5.7 Attitude of healthcare workers

As stated by Njagi and Maharaj (2006), the attitude of healthcare workers can influence HIV Testing Services uptake among students. If healthcare workers are generally friendly and they show a non-judgemental attitude towards students; students can feel free and therefore seek the services of HIV Testing. In addition, students are more likely to go for HIV Testing Services if the healthcare providers adhere to ethical guidelines of privacy and confidentiality, however, if the attitude of healthcare providers is perceived as poor and judgemental, students are less likely to utilize the services.

2.2.5.8 Quality of services offered

According to Njagi and Maharaj (2006), the kind of services offered can relate to whether an individual will utilize HIV Testing Services for HIV/AIDS or not. Several studies have indicated that a high uptake of HIV Testing Services is more prevalent in urban areas than in rural areas. In urban areas, HTS sites are adequately equipped than in rural areas. In addition, HTS sites that are linked with other healthcare services have high uptake than do those without linked services such as monitoring, support and ongoing counselling for individuals who have tested positive. Furthermore, if the services offered are of poor quality and not serving the needs of individuals optimally, the services are less likely to be utilized.

2.2.5.9 Affordability

Affordability of HIV Testing Services offered has been shown to greatly influence the utilization of HIV Testing Services. Cost effective and affordable services are more likely to be utilized than services that are expensive. Individuals prefer affordability (Jones, 2017)

2.2.6 Factors that contribute to an increased uptake of HIV Testing Services (HTS) among students.

2.2.6.1 Knowledge and attitude of students towards Voluntary Counselling and HIVTesting (VCT) services

Students who have adequate knowledge about HIV/AIDS, the purpose, importance and benefits of HIV Testing Services are more likely to utilize such services. In addition, students who generally have a positive attitude towards HIV Testing Services have been shown to utilize such services. However, adequate knowledge of and a positive attitude towards HIV Testing Services may not necessarily lead to increased uptake (Boswell & Baggaley, 2002).

2.2.6.2 Level of education

Education level can influence utilization of HIV Testing Services. Individuals with tertiary education are more likely to be knowledgeable about HIV/AIDS and Testing services, and may be more likely to utilize services offered in HIV Testing. According to a study done to determine factors influencing HIV Testing Services uptake, fourth year students were more likely to go for HIV Testing Services than those in second year (Gadegbeku, 2013). This may be because, students in fourth year may have gained more information on HIV/AIDS related issues and they may have had increased exposure to sexual interactions (Gadegbeku, 2013).

2.2.6.3 Age

Age is an individual factor that can relate to utilization of HIV Testing Services. Studies have shown that individuals aged between 25 and 35 years are more likely to accept and utilize HIV Testing Services than those who are less than 25 years of age. This may be linked to an increased risk perception of HIV/AIDS among individuals and having established long-term relationships and planning for the future with their partners (Sanga & Mwangi, 2015).

2.2.6.4 Gender

Gender can influence uptake of HIV Testing Services among students. Females may be more likely to utilize HTS that men. According to studies done in Tanzania, Zimbabwe and Kenya, it was mainly females who utilized HIV Testing Services (Sanga & Mwangi, 2015).

2.2.6.5 Desire to know one's HIV status

Individuals may utilize HIV Testing Services simply to know their HIV status. This has been shown to be one of the most influencing factors for seeking and utilizing HIV Testing Services. Some students have been shown to seek to know their HIV status while healthy and being ill was rarely a reason for them to want to know their status of HIV (Ndzombane, 2012).

2.2.7 Ways of promoting HIV Testing Services uptake among students

HIV Testing Services uptake can be promoted among students by making use of youth friendly services, awareness campaigns and peer counsellors.

2.2.7.1 Student friendly services

Student friendly services can be used to promote uptake of HIV Testing Services among students. Studies show that students feel that HIV Testing Services and other healthcare services should be rendered by healthcare professionals who are trained and experienced in working with young people who can relate to them and accommodate their perspectives without showing a judgemental attitude (Glanz, Marcus & Rimer, 2007).

2.2.7.2 HIV Testing Services awareness campaigns

Campaigns can help to raise awareness about HIV Testing Services and their importance to students. Mass media campaigns can help to promote awareness so that students can have adequate knowledge regarding these services. Mass media campaigns are very important in HIV/AIDS prevention, care and treatment and in facilitating behaviour change geared towards more positive healthy choices regarding HIV/AIDS related issues (UNAIDS, 2002).

2.2.7.3 Peer counsellors

Studies have shown that most young people prefer to discuss sensitive issues such as HIV/AIDS with their peers, although they do acknowledge that healthcare professionals have more knowledge. Having peer counsellors as part of the HIV Testing Services can greatly promote the utilization of HIV Testing Services among students (Fishers, 2005).

2.3 Conceptual-based literature

Conceptual-based literature is based on the Health Belief Model (HBM)

The Health Belief Model was designed in the 1950s by social psychologists Hochbaum, Rosenstock and Kegels who were working in the United States' Public Health Services. This

model attempts to explain and predict behaviour, specifically health behaviour. The Health Belief Model is widely used and for the past years, it has been successfully used in the promotion of health behaviours such as condom use, health screening and medical compliance amongst other things. This model is a commonly used conceptual framework to motivate individuals in taking positive health actions and to avoid negative health outcome or consequence. This is the key aspect of the Health Belief Model (Marriner & Raile, 2005).

As stated by Glanz, Marcus and Rimer (1997), there are six key concepts of the Health Belief Model, namely; perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action and enabling factors.

2.2.1 Perceived susceptibility

This refers to the individual's perception about the risk of acquiring a disease or how behaviour they engage in can result in negative consequence. When relating this to the study, this may refer to the students' perception that engaging in unsafe sex can put them at risk of getting infected with HIV/AIDS and that not knowing one's HIV status can make one to be in an increased risk of acquiring or spreading the disease.

2.2.2 Perceived severity

This is the individual's perception about the severity of the disease or how potentially serious the disease can be and its consequences. Students may perceive HIV/AIDS as potentially serious and accompanied by negatives consequences such as stigma and disruption of their future goals such as starting their own families and settling down.

2.2.3 Perceived benefits

This is when individuals perceive benefits that are associated with taking a particular preventative action to reduce the risk of acquiring a disease or to avoid a negative impact associated with the disease. Students may perceive that utilizing HIV Testing Services can help them know their status and encourage them to make healthier choices to reduce infection risk.

2.2.4 Perceived barrier

This refers to an individual's belief about barriers associated with taking an action of prevention. These barriers may be tangible or intangible. Students may perceive the possibility of testing positive and stigma associated with HIV testing as barriers that hinder them from taking a preventative action.

2.2.5 Cues to action

These are ways to make an individual feel ready to take actions of prevention. Awareness campaigns including print media and slogans that relate with students can help to remind students to go for HIV Testing Services

2.2.6 Enabling factors

These refer to factors that enable individuals to take action. Distributing pamphlets on where students can go for HIV Testing Services can make them take action.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

This section provides a description of the research methodology to be used in the study. According Swartz, De La Rey, Duncan and Townsend (2011), research methodology is a systematic procedure used by the researcher to conduct a study. The following aspects are discussed in this section: Research approach and design of the study, setting of the study, the population, sample and sampling procedure, instrument for data collection, method of data analysis, ethical considerations and submission of report.

3.2 Research approach and design of the study

The researcher employed quantitative research approach for this study. Robson (2002) defines quantitative research as a type of research approach that collects quantitative data that are analysed using statistical-based methods to describe, explain or predict phenomenon. The quantitative approach was appropriate for this study because it allowed for a systematic and objective collection of data on factors contributing to low uptake of HIV Testing Services among students.

Furthermore, the researcher employed a cross-sectional descriptive research design. Babbie and Mouton (2001) define a research design as a blueprint or plan of how the researcher intends to conduct a study. Descriptive research designs are used to give a description of the phenomenon being studied. They are aimed at shedding light on issues through a data collection process (Fox & Bayat, 2007). The selected research design enabled the researcher to collect data that provided an accurate depiction of the participants' condition and views regarding low HIV Testing Services uptake.

3.3 Setting of the study

The setting of the study refers to the specific place where the research study will be conducted (Robson, 2011). The researcher conducted the study at the University of Venda (UNIVEN). It is a higher education institution situated in Vhembe District, Thulamela Municipality in the Limpopo Province of South Africa. The University of Venda has only one campus in Thohoyandou, approximately 70 km east of Louis Trichardt and approximately 1.03 km and 3.5 km off Khoroni Hotel and Tshilidzini Hospital respectively. The campus has 9 official student residences. The University has eight schools offering more than 80 courses. The campus has a primary healthcare facility offering services such as HIV Counselling and Testing, support groups for HIV positive individuals, assessment and referral for mental healthcare issues, amongst other services.

The focus of this study is in the School of Health Sciences which comprises 5 departments, namely: Advanced Nursing Science, Centre for Biokinetics, Recreation and Sports Science, Nutrition, Psychology and Public Health. The school has a total number of 1310 enrolled students for the 2018 academic year.

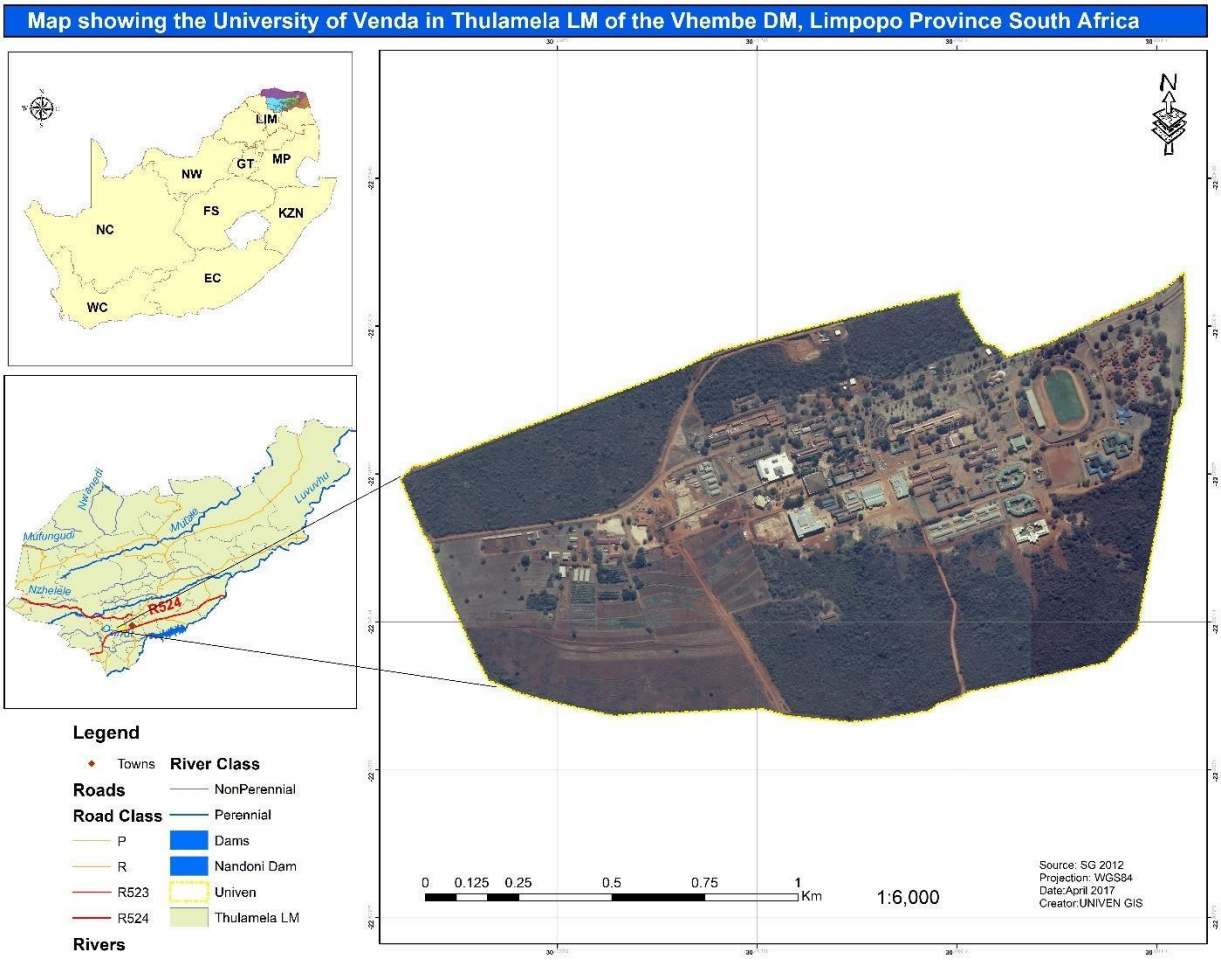


Figure 2: University of Venda map adopted from University of Venda's GIS Resource Centre.

3.4 The population, sample and sampling procedure

3.4.1 The population of study

According to Welman, Kruger and Mitchell (2005), the population encompasses all units of analysis which the researcher is interested in for the study. The population of this study includes all enrolled students in the School of Health Sciences at the University of Venda for the 2018 academic year. The researcher conveniently selected the School of Health Sciences as the researcher has observed that the uptake of HIV Testing Services is low and the

researcher thought to investigate factors that are contributing to the low uptake as students in Health Sciences deal with health issues including HIV testing services.

There are five (5) departments in the School of Health Sciences at the University of Venda. The total number of enrolled students in the School of Health Sciences is 1310 of which 606 are in the Department of Advanced Nursing, 423 are in the Centre for Biokinetics, Recreation & Sports Science, 119 are in the Department of Nutrition, 64 are in Department of Psychology and 98 are in the Department of Public Health.

Departments in the school of Health Sciences	**Total number of enrolled students**	**Percentage (%)**
Advanced Nursing Science	606	46,3%
Centre for Biokinetics, Recreation and Sports Science	423	32,3%
Nutrition	119	9,1%
Psychology	64	4,9%
Public Health	98	7,4%
TOTAL	1310	**100%**

Table 1: Population frame

3.4.1.1 Inclusion criteria

Salkind (2010) defines inclusion criteria as predefined characteristics that individuals in the target population should possess to be included for participation in the study. The criteria for inclusion in this study were as follows:

- Prospective respondents should be registered for the 2018 academic year in the School of Health Sciences at University of Venda
- Prospective participants should be willing to participate in the study

3.4.1.2 Exclusion criteria

Exclusion criteria refer to a set of predefined characteristics that identify individuals in the target population who will be excluded from participation in the study (Salkind, 2010). The exclusion criteria in this study are as follows:

- University staff who are registered in the School of Health Sciences
- Students who are enrolled in other schools for the 2018 academic year.

3.4.2 Sample

A sample is a representative number of the target population of the study (Creswell, 2014). The sample size for this study was determined using the sample size formula and taking into consideration available resources and required time to complete the study. The sampling size was calculated using Slovin's (1960) formula cited in Guilford & Frucher (1973). The sample size is given by: n = N

$$\frac{}{[1+N\,(e)^2]}$$

Where n= sample size N= Total number of

population e= margin of error, which is 0.05

in this study n = N

$$\frac{}{[1+\,N\,(e)^2]}$$

$= 1310/\,[1+\,1310 \times (0.05)^2$

$=1310/\,[1+\,1310(0.0025)$

$=1310/\,(1+\,3.28)$

$=1310/4.28$

=**306**

Departments in the School of Health Sciences	Total number of sample in each department	Percentage
Advanced Nursing Science	306/1310x606= 141	46%
Centre for Biokinetics, Recreation and Sports Science	306/1310x423= 98	32%
Nutrition	306/1310x119= 27	8,8%
Psychology	306/1310x64= 15	5%
Public Health	306/1310x98= 23	8%
TOTAL	**306**	**100%**

Table 2: Sampling frame

3.4.3 Sampling procedure

A sampling procedure is a process whereby the researcher selects research participants who will be the target population's representatives. The researcher used probability sampling that allows for every unit of analysis in the study population to have an equal chance of being selected. Systematic sampling was employed to select a study sample. In systematic sampling, the researcher systematically selects every nth element from a population of N elements (N being a total number of units of analysis). The first element is selected at random to avoid any human bias. Systematic sampling method is more practical and requires less time (Babbie & Mouton, 2001).

The following steps as highlighted by Latham (2007) were followed when employing a Systematic sampling method:

- **Defining the population of interest**

In this study, the researcher defined the population of interest as all 1310 enrolled students in the School of Health Sciences for the 2018 academic year.

- **Choosing the sample size**

The researcher used Slovin's formula for sample size calculation to determine the sample size which was 306 for this study.

- **Listing the defined population**

The researcher requested for enrolled students records for the purpose of listing the defined population.

- **Assigning numbers to units**

The researcher then assigned a consecutive number from the list provided i.e. from 1 to 1310.

- **Calculating the interval size**

The researcher calculated the interval size which is given by the sample size (n) divided by the population size (N). The interval size in this study was 4.

- **Selecting the first unit at random**

The researcher used a random table number to select the first unit.

- **Selecting the sample at predetermined interval until sample size number is reached**

Upon selecting the first unit at random, the researcher used the predetermined interval to select other units until the sample size number was reached.

3.5 Instrument for data collection

A structured questionnaire was used as an instrument for data collection. A structured questionnaire is a type of questionnaire that has closed-ended questions (Fox & Bayat, 2007). The questionnaire provides greater anonymity to respondents as their names are not required. In addition, it requires less time to administer and it offers less opportunity for bias.

The questionnaire was made up of five sections which were constructed as follows: Section A covered demographic details of participants, section B comprised questions about the knowledge of students towards HIV Testing Services, section C consisted of questions about the attitude of students towards HIV Testing Services, section D covered personal-related factors that contribute to low HIV Testing Services uptake among students, section E consisted of health-service related factors contributing to low HIV Testing Services uptake among students.

The questionnaire was constructed in English as university students use English as a medium of instruction and because students at the University of Venda come from diverse backgrounds. When it comes to their first languages, it was virtually impractical to translate the questionnaire into each of their mother languages.

3.5.1 Pre-testing the research instrument

A pre-test is defined as a trial administration of the research instrument on a small sample from the target population to detect any challenges that respondents may encounter when the research instrument is administered. Pretesting the research instrument provides the researcher with an opportunity to make necessary alterations and improvements before the actual administration of the instrument is done (Hilton, 2017).

The researcher pre-tested the questionnaire on 31 respondents from the target population who were not part of the study sample to determine whether they were able to understand the questions clearly and to determine if respondents would understand what would be required of them. This also helped the researcher to determine if respondents would experience challenges in completing the questionnaire and to determine how long it would take to complete the questionnaires as well as to check if sections of the questionnaire were not ambiguous.

3.5.2 Reliability

Welman, Kruger and Mitchell (2005) define reliability as the degree to which a research instrument produces consistent results each time it is administered. To ensure reliability, the researcher will use test-retest reliability. In test-retest reliability, the same research instrument is administered to the same group of respondents between two points in time to determine consistency of the responses.

Furthermore, the degree of reliability between two sets of scores is described by the test-retest reliability coefficient or the coefficient of stability. A Coefficient of stability of 1 indicates perfect reliability. The coefficient of stability of 0.9 and greater indicates excellent reliability. The coefficient of stability between 0.9 and 0.8 indicates good reliability. The coefficient of stability between 0.8 and 0.7 indicates acceptable reliability, the coefficient of stability between 0.7 and 0.6 indicates questionable reliability. The coefficient of stability between 0.6 and 0.5 indicates poor reliability and the coefficient of stability which is less than 0.5 indicates unacceptable reliability. The coefficient of stability which is 0 indicates no reliability (Shuttleworth, 2009).

The researcher administered the questionnaire twice, one week apart, to the same group of 31 respondents from the target population who were not part of the study sample. The

Correlation coefficient was calculated using the Pearson Correlation Coefficient to determine reliability of the research instrument. The coefficient of stability was found to be 0.8 which indicate that the instrument has good reliability. The research instrument was not changed, following the pre-test.

3.5.3 Validity

The ability of a research instrument to measure what it is intended to measure is referred to as validity (Welman, Kruger & Mitchell, 2005). Face validity is defined as the superficial, subjective assessment of whether the research instrument appears to measure what it is intended to measure. To ensure face validity, the researcher presented the questionnaire to the supervisors to assess whether the items on the questionnaire seemed to measure what they were supposed to measure.

The researcher also ensured content validity. Trochim (2006) defines content validity as the extent to which the items within the research instrument represent aspects of the specific construct to be measured. The researcher constructed the questionnaire after consulting relevant literature and other research instruments used in similar studies. Furthermore, the researcher was also guided by the research objectives when constructing the questionnaire to avoid asking unrelated questions that did not serve the objectives of the study.

3.6 Method for data collection

Upon obtaining ethical clearance, the researcher scheduled an appointment with the heads of departments to inform them about the details of the study to be conducted and to request them to communicate with the lecturers and the students so that they would be aware of the study that would be conducted in their school. In addition, the researcher requested a list of all enrolled students from the heads of departments for systematic sampling procedure. The systematically selected respondents were approached by the researcher in their respective classes of attendance. All respondents agreed to voluntarily participate in the study.

Quantitative data was collected using self-administered structured questionnaires. Lavrakas (2008) defines a self-administered questionnaire as a questionnaire that has been specifically designed to be completed by respondents without the researcher's intervention. The researcher provided respondents with pens to complete the questionnaire. The researcher ensured that questionnaires were fully completed before they were submitted back. The questionnaire hard copies of the respondents were kept in the locker accessible to the researcher at the researcher's place of residence. The soft copy data of the respondents were

stored in the storage device (USB) accessible to the researcher only. Furthermore, the file in question is password protected.

Prior to completing the questionnaire, respondents were encouraged to complete all applicable questions in full and also to complete the questionnaires independently, without assisting each other. The completion of questionnaires took place at a spacious hall where seating arrangements made it possible for respondents to sit far apart from each other to avoid copying each other's responses.

3.7 Method of data analysis

Data analysis is a systematic process of transforming raw data to bring useful information (De Vos, 2005). Upon collecting data from respondents; the researcher made use of SPSS software version 24 for data analysis. The researcher started by cleaning the data, followed by coding variables, entering the data into excel and transferring it to SPSS software and generating frequencies. Descriptive statistics was used to summarise data and data presentation was done using graphical statistics and narratives.

3.8 Ethical considerations

Ethics are guidelines that guide the researcher in conducting the study (Robson, 2011). The researcher was guided by the following ethical guidelines and principles: obtaining ethical clearance, permission to conduct research study, informed consent, confidentiality and anonymity, principles of justice, respect for human dignity, non-discrimination, beneficence and non-malfeasance.

3.8.1 Obtaining ethical clearance

Prior to conducting the study, the researcher first sought for and obtained ethical clearance. The research proposal was presented in the School of Health Sciences and submitted to the University's Higher Degrees committee for quality assurance, followed by an application for ethical clearance from the University's Research Ethics Committee.

3.8.2 Permission to conduct the study

The researcher sought for permission to conduct the study at the University of Venda. The researcher sent a request for permission letter with the ethical clearance letter attached to the university's Director of Students' Affairs indicating the study to be conducted and all the relevant information.

3.8.3 Informed consent

Informed consent entails giving the research participants sufficient information about the study to be conducted, so that prospective respondents can make an informed decision on their possible participation in the study (Social Research Association, 2013). Prior to collecting data, the researcher obtained written informed consent by thoroughly and truthfully informing respondents about the nature of the study, the purpose, the objectives of the study as well as the procedure for collecting data and the approximate time it would require them to complete the questionnaire. Furthermore, respondents were also informed about the voluntary nature of their participation as well as their right to withdraw from the study anytime they wished to, without being forced or coerced to continue.

3.8.4 Confidentiality and Anonymity

As stated by Economic & Social Research Council (2010), confidentiality involves safeguarding information of respondents and not divulging it to other parties without the respondent's permission to do so. The researcher ensured that confidentiality and anonymity were maintained throughout the course of the study. In cases where the respondent's information might be shared with the supervisor, the researcher let the respondents know beforehand. To maintain anonymity, the researcher ensured that the identity and location of respondents were not revealed, and the researcher referred to respondents as respondent 1, 2, 3 and so forth.

3.8.5 Justice

This principle requires the researcher to treat respondents with fairness and equity throughout the study (Social Research Association, 2013). The researcher maintained justice by treating all respondents equally and fairly. No respondent received special treatment or privileges.

3.8.6 Respect for human dignity

The principle of respect for human dignity involves respect for the respondents' selfdetermination (Economic & Social Research Council, 2010). The researcher maintained this principle by respecting the respondents' choices and values, without embarrassing them or making them feel less human

3.8.7 Non-discrimination

Swartz, De La Rey, Duncan and Townsend (2011) state that non-discrimination requires the researcher to avoid discriminating respondents. The researcher did not discriminate respondents based on their sex, age, ethnicity, religion or any other category.

3.8.8 Beneficence and non-malfeasance

This principle is fundamental in conducting research. It requires the researcher to maximise the benefits of research and avoid harm to respondents (Babbie & Mouton, 2001). The researcher upheld the principle of beneficence by providing adequate information to respondents about the aim and objectives of the study as well as the potential benefits of the study. Psychological harm was avoided by structuring questions in a way that did not cause psychological distress. Financial harm was avoided by not asking respondents to use their own financial means for something that was specifically meant for the research study. Physical harm was avoided by ensuring that the setting where data was conducted did not pose a threat to the physical well-being of the respondents.

3.9 Dissemination of study findings

The research findings will be presented at national and international conferences as well as published in peer reviewed journals. A copy of the dissertation will be bound and presented to the University library in both soft and hard copies.

CHAPTER 4: RESULTS

4.1 Introduction

This chapter presents the results of the study and describes the demographic profile of the respondents as well as the frequencies of the responses. The questionnaire was used to collect data from 306 respondents. The questionnaire was divided into five sections; section A covered the demographic characteristics of respondents. Section B assessed the knowledge of respondents regarding HIV Testing Services. Section C assessed the attitude of respondents towards HIV Testing Services. Section D determined personal-related factors contributing to low HIV Testing Services uptake and Section E determined health-service related contributing to low HIV Testing Services among Health Sciences students.

4.2 Demographic profile of respondents

4.2.1 The age range of respondents

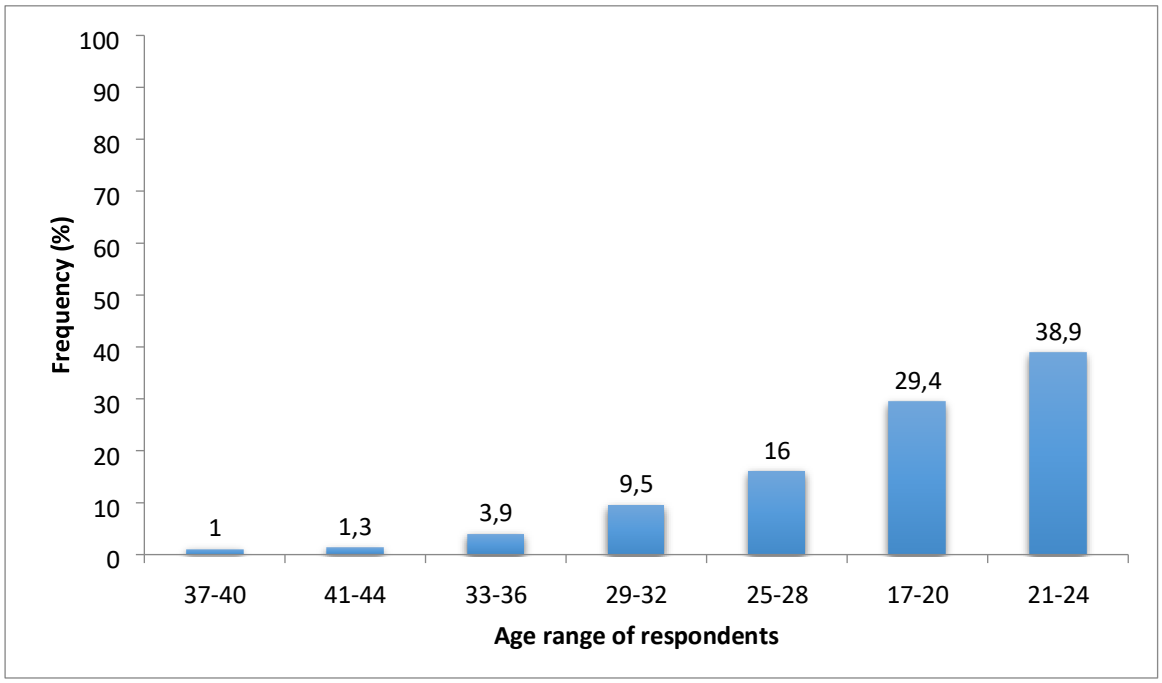


Figure 2: Age range of respondents

The age of respondents was ranging from 17 years to 44 years. The majority of respondents were in the age range of 21-24 years and they constituted 38.9%, followed by 29,4% of respondents in the age range of 17-20 years. The age ranges of 37-40 years and 41-44 years constituted 1% and 1,3% of respondents, respectively.

4.2.2 Gender of respondents

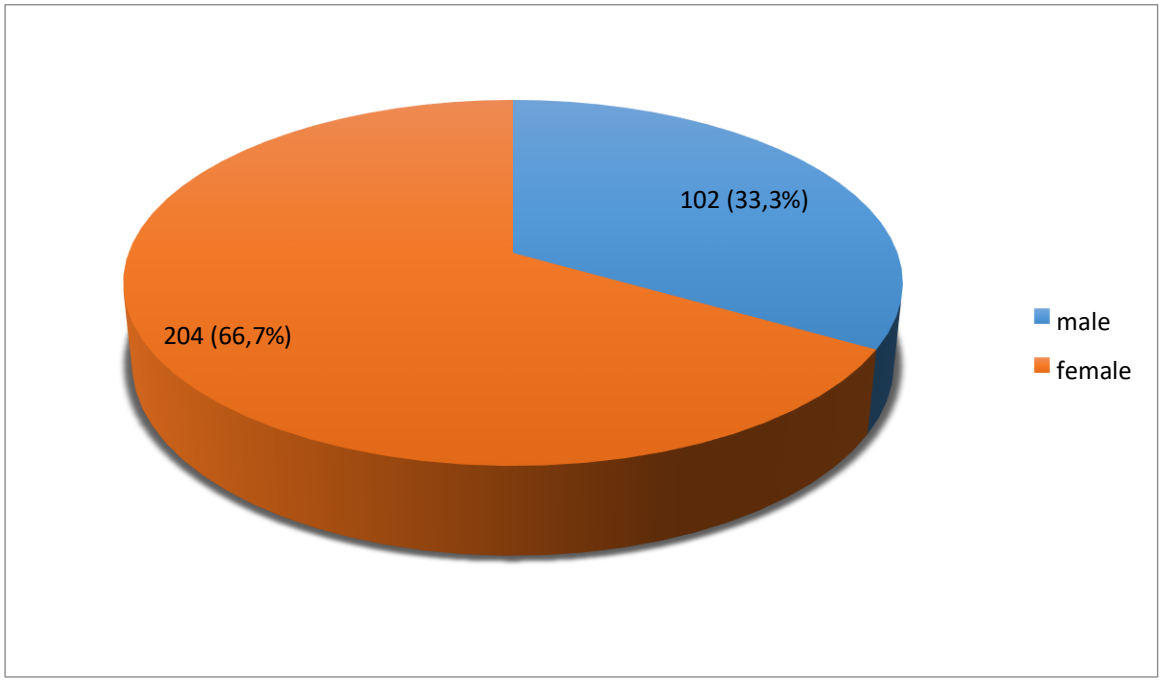


Figure 3: Gender of respondents

There were 102 (33,3%) males and 204 (66,7%) males participating in the study.

4.2.3 Level of study of respondents

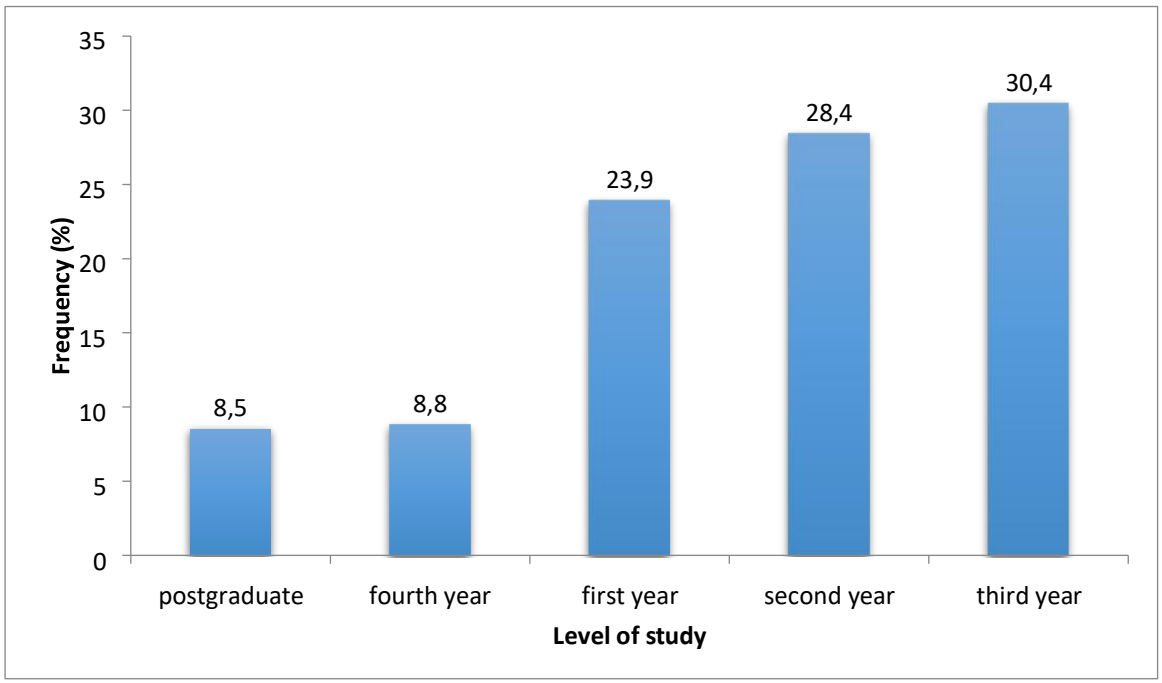


Figure 4: Level of study of respondents

The majority of respondents were in the third level of study. Respondents in first and second year constituted 23,9% and 28,4% respectively. Respondents in the postgraduate constituted 8,5%,

4.2.4 Marital status of respondents

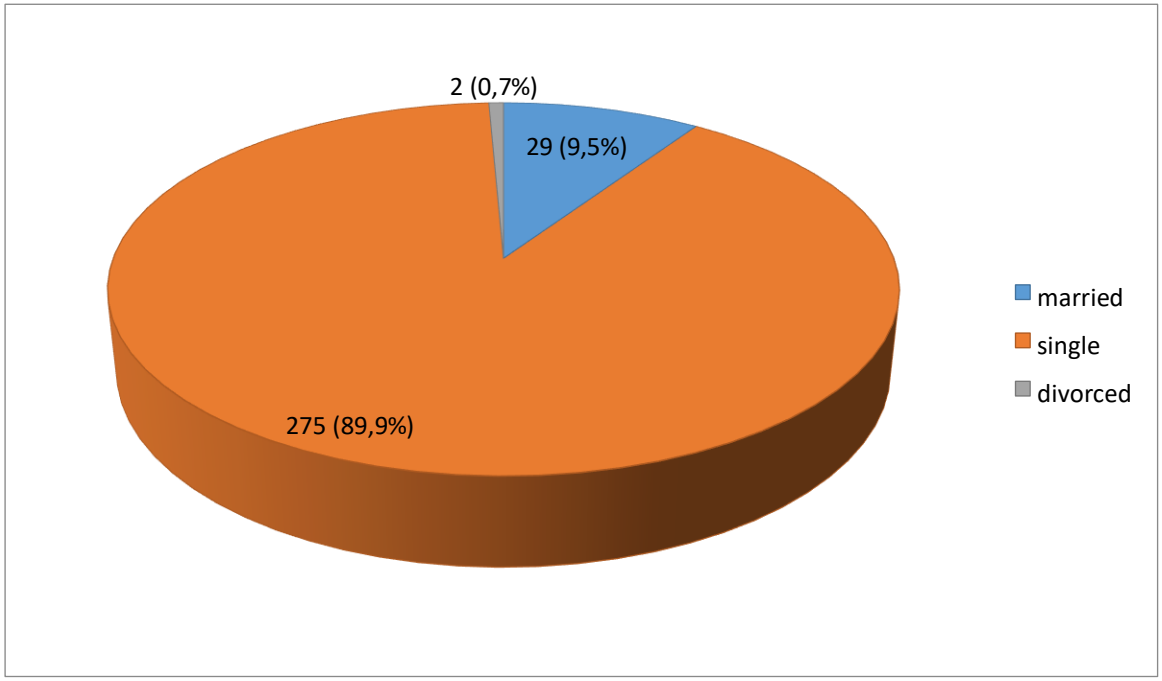


Figure 5: Marital status of respondents

In this study, 89,9% of respondents were single while 9,5% of respondents were married. Only 2 respondents indicated that they were divorced.

4.2.5 Religion of respondents

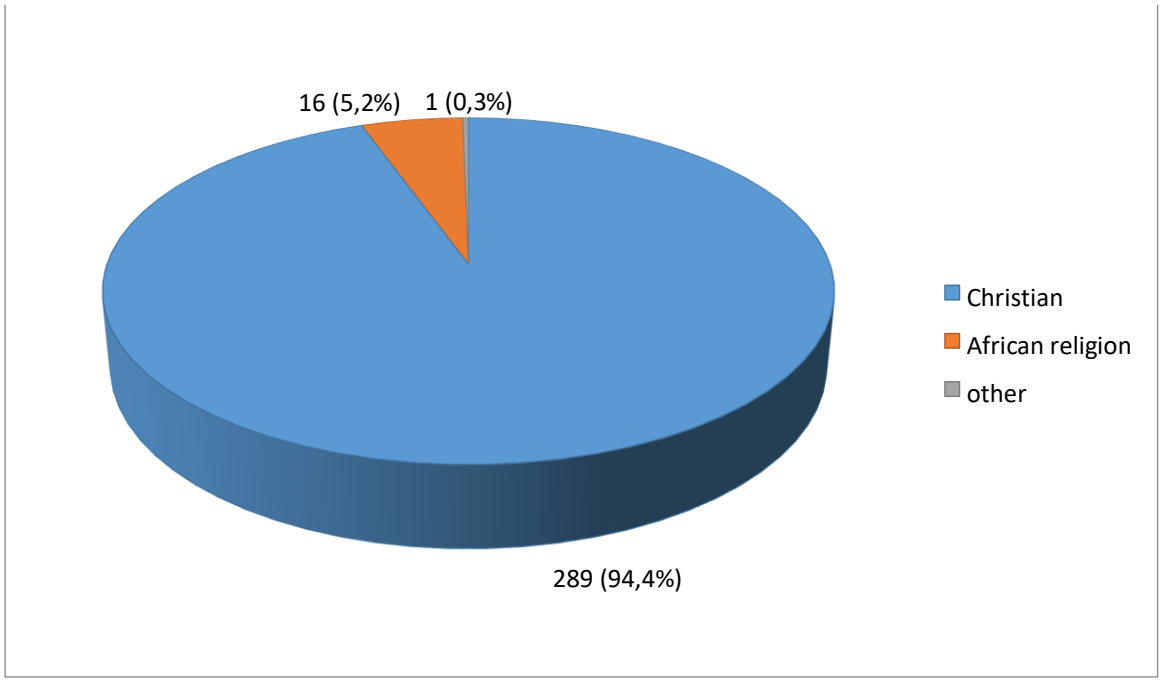


Figure 6: Religion of respondents

The majority of respondents were Christians and they constituted 94.4%, followed by 5,2% of respondents who indicated that they practise African religion and only 1 respondent from the study was of other religion.

4.2.6 Ethnic group of respondents

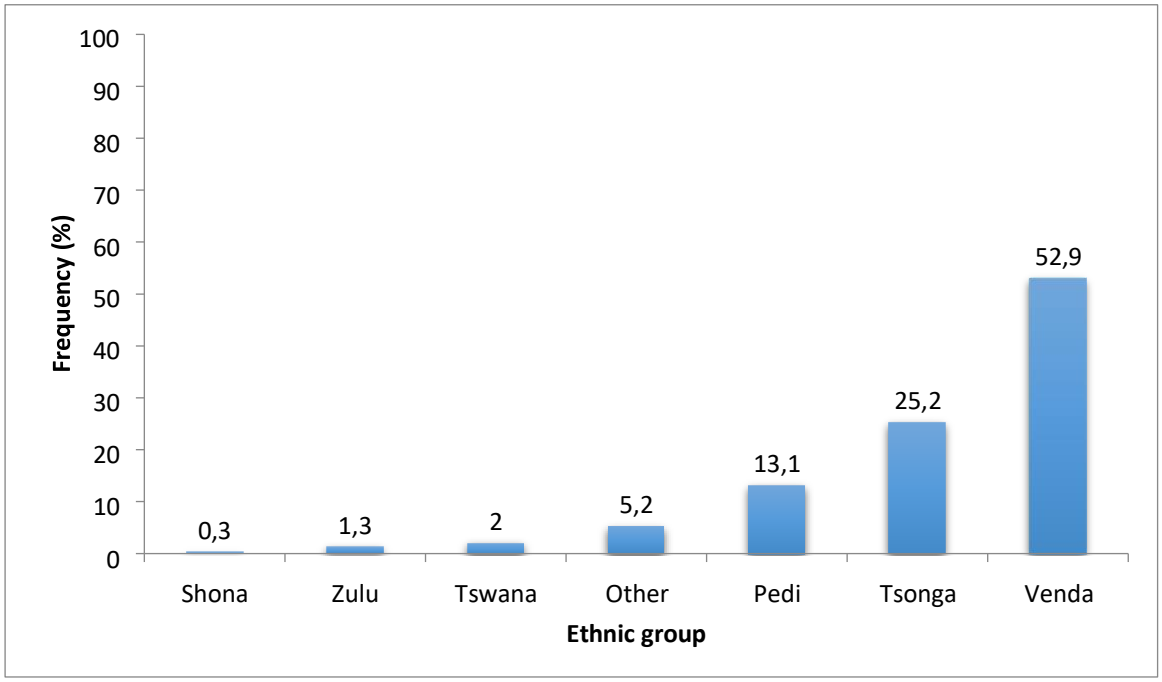


Figure 7: Ethnic group of respondents

In this study, 52,9% of respondents were Venda, followed by 25,2% of Tsonga ethnic group. Respondents that were of Pedi ethnic group constituted 13,1% while Zulu and Tswana were 1,3% and 2% respectively. Respondents who were of other ethnic group were 5,2% and only 1 respondent indicated that they were Shona.

4.2.7 Demographic Factors associated with HIV Testing

Variable	Tested (Yes)		Tested (No)	
Age	**Frequency**	**Percentage (%)**	**Frequency**	**Percentage (%)**
17-20	36	11,8%	54	17,6%
21-24	53	17,3%	66	21,6%
25-28	20	6,5%	29	9,5%
29-32	14	4,5%	15	4,9%
33-36	09	2,9%	03	0,9%
37-40	02	0,7%	01	0,3%
41-44	01	0,3%	03	0,9%
Gender				
Male	41	13,4%	61	19,9%
Female	94	30,7%	110	35,9%
Level of study				
First year	24	7,8%	49	16%
Second year	39	12,7%	48	15,7%
Third year	42	13,7%	51	16,7%
Fourth year	15	4,9%	12	3,9%
Postgraduate	15	4,9%	11	3,6%

Table 4: Demographic factors associated with HIV Testing

The above table shows three (3) variables, namely: Age, gender and level of education, associated with HIV Testing Services.

Findings from table 1 indicate that more than half of respondents who had tested for HIV were in the age range of 21-24, followed by those in the age range of 17-20. The least number of respondents who had tested were in the age range of 41-44. Furthermore, females more than males had been tested for HIV. With regards to the level of education, it can also be seen that majority of respondents who had utilised HIV Testing Services were in the third level of study, followed by respondents in the second year of study. The fourth level of study and the postgraduate level had equal number of respondents who had tested for HIV.

4.3 Knowledge of respondents regarding HIV Testing Services (HTS)

4.3.1 Common mode of HIV transmission

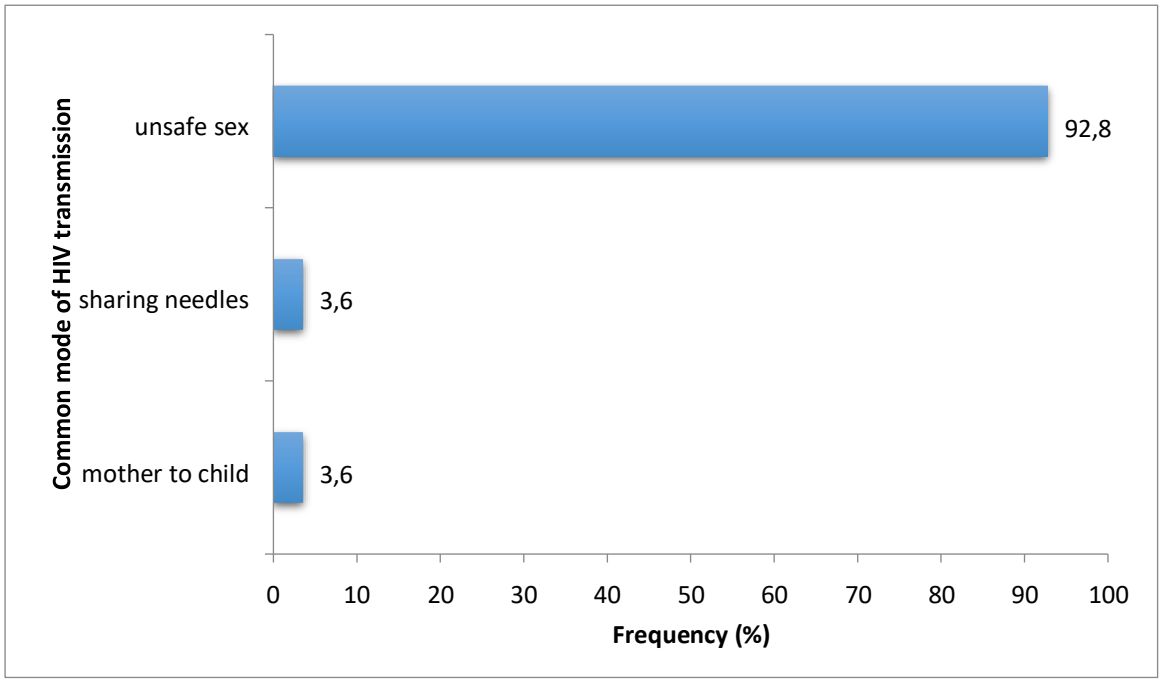


Figure 8: Common mode of HIV transmission

The majority of respondents (n=284, 92,8%) indicated that the common mode of HIV transmission is unsafe sex while 3,6% of respondents indicated that the common mode of HIV transmission is through mother to child and another 3,6% indicated that sharing needles is the common mode of HIV transmission.

4.3.2 Ways of finding out if one is infected with HIV

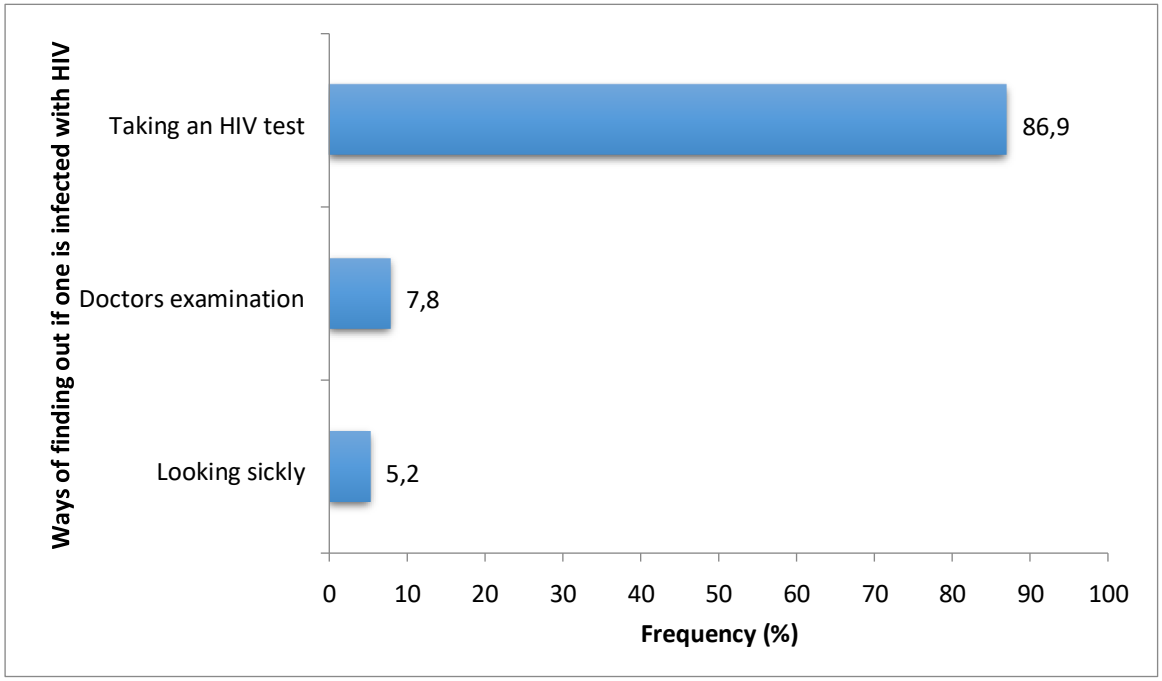


Figure 9: Ways of finding out if one is infected with HIV

From the above figure, it can be seen that the majority of respondents regard taking an HIV test as the main way of finding out if one is infected with HIV. Furthermore, 7.8% of respondents indicated that one can find out if one is infected with HIV through the doctor's examination while 5,2% of respondents indicated that looking sickly is a way of finding out if one is infected with HIV.

4.3.3 Have you ever heard of HIV Testing Services

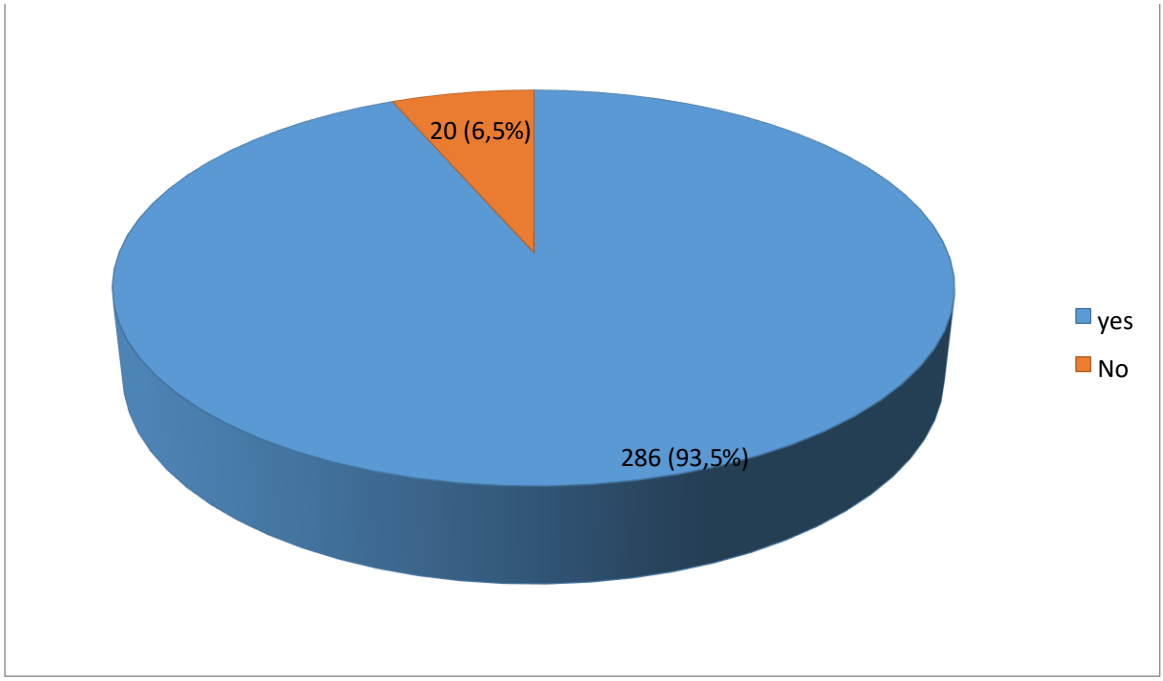


Figure 10: Hearing about HIV Testing Services

When respondents were asked if they had ever heard of HIV Testing Services, 93.5% of respondents reported that they had heard about HIV Testing Services, while 6,5% of respondents had not heard about HIV Testing Services.

4.3.4 Source of information for HIV Testing Services

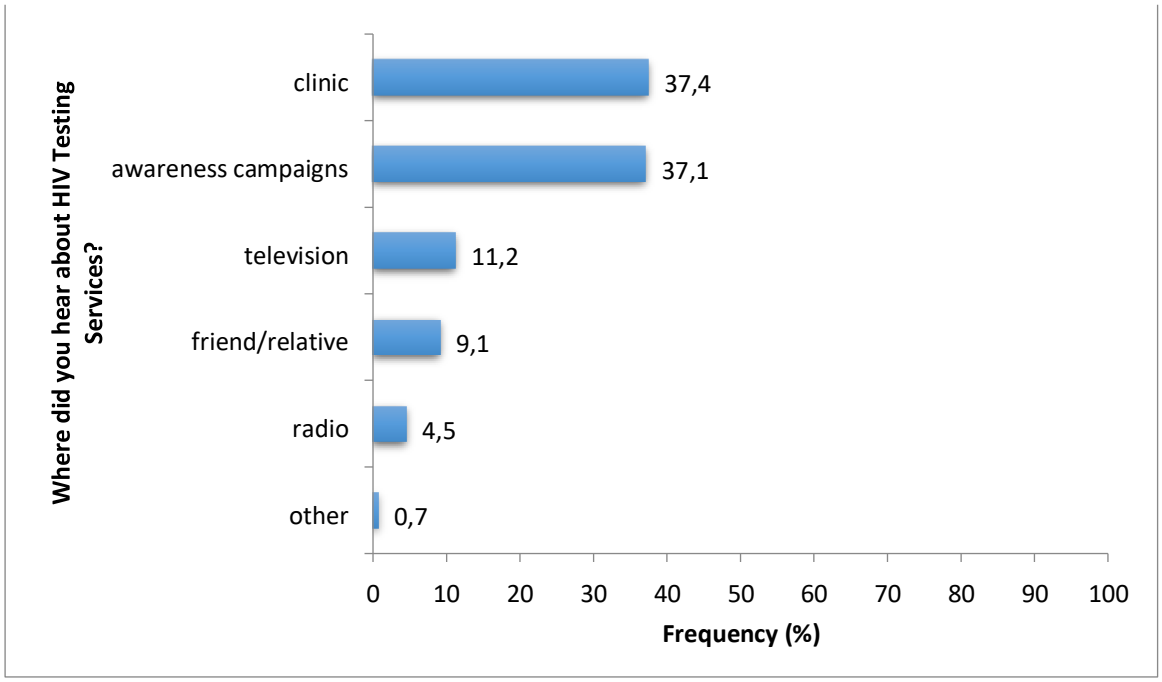


Figure 11: Source of information for HIV Testing Services

From the above figure, it can be seen that clinic and awareness campaigns are the prime source of information regarding HIV Testing Services. Respondents who indicated television and radio as their source of information regarding HIV Testing Services were 11,2% and 4,5%, respectively. Furthermore, 9,1% of respondents reported that their source of information about HIV Testing Services was a friend or relative. There is one respondent who indicated social media as other sources of information for HIV Testing Services.

4.3.5 Knowledge of a place offering HIV Testing Services

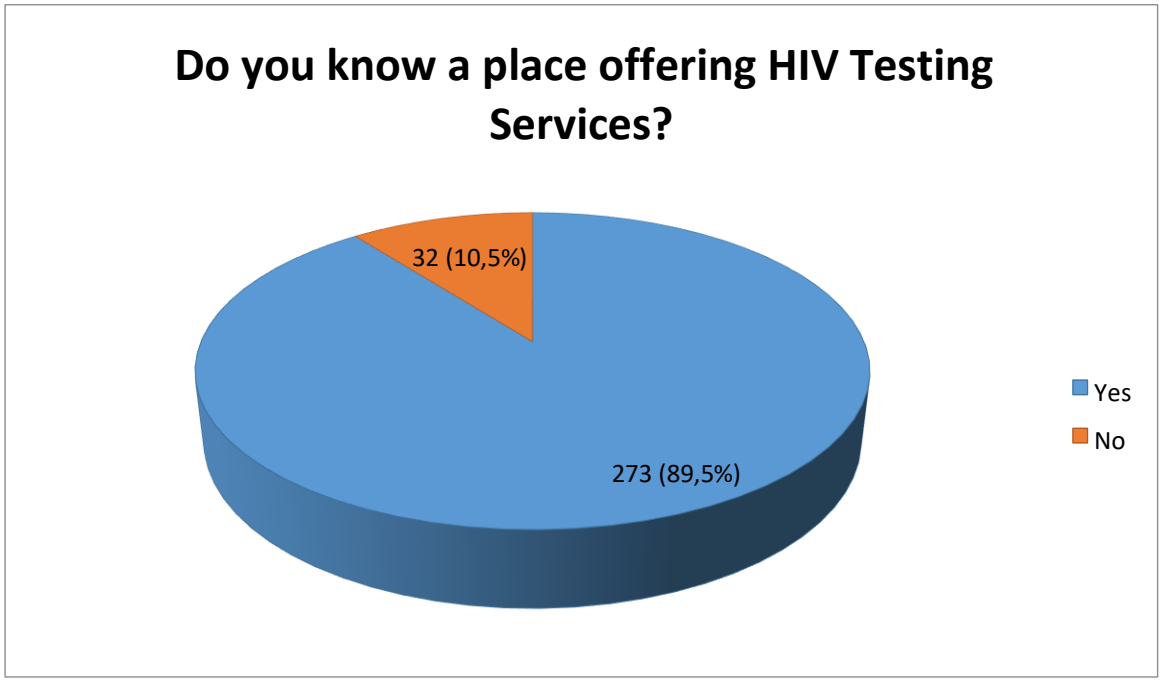


Figure 12: Knowledge of a place offering HIV Testing Services

When respondents were asked if they knew of a place offering HIV Testing Services, 89,5% of respondents reported that they did and 10,5% of respondents did not know of a place offering HIV Testing Services.

4.3.6 Importance of HIV Testing Services

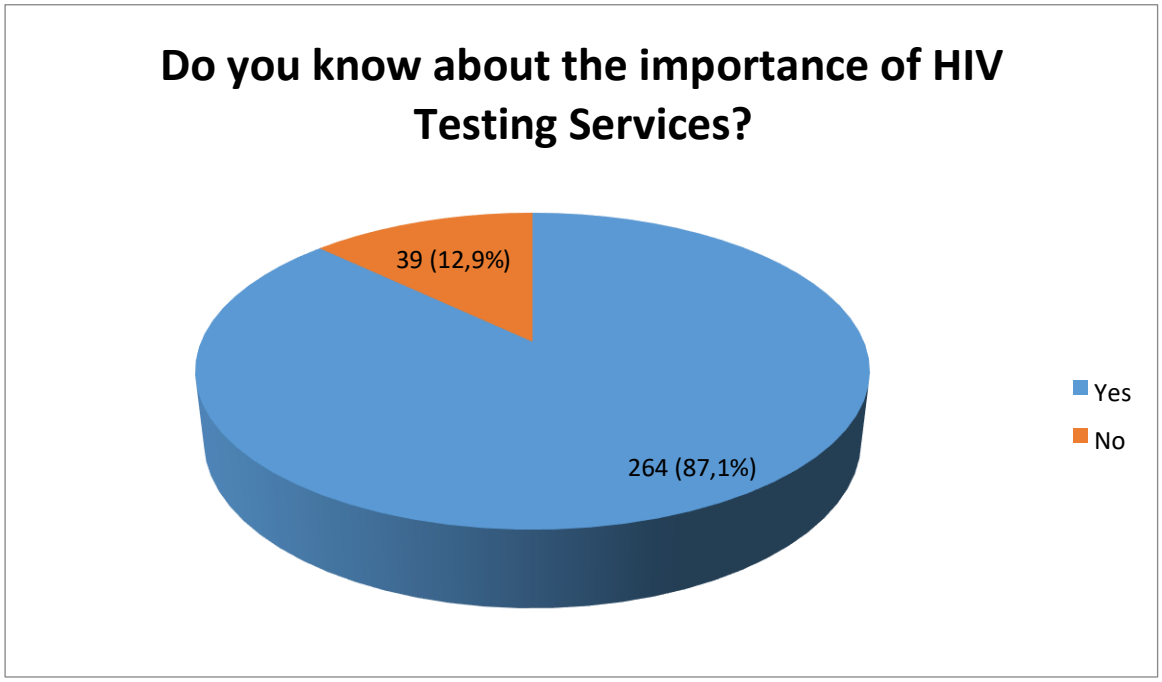


Figure 13: Importance of HIV Testing Services

The above table indicates that the majority of respondents (87,1%) know about the importance of HIV Testing Services.

4.3.7 Importance of HIV Testing services

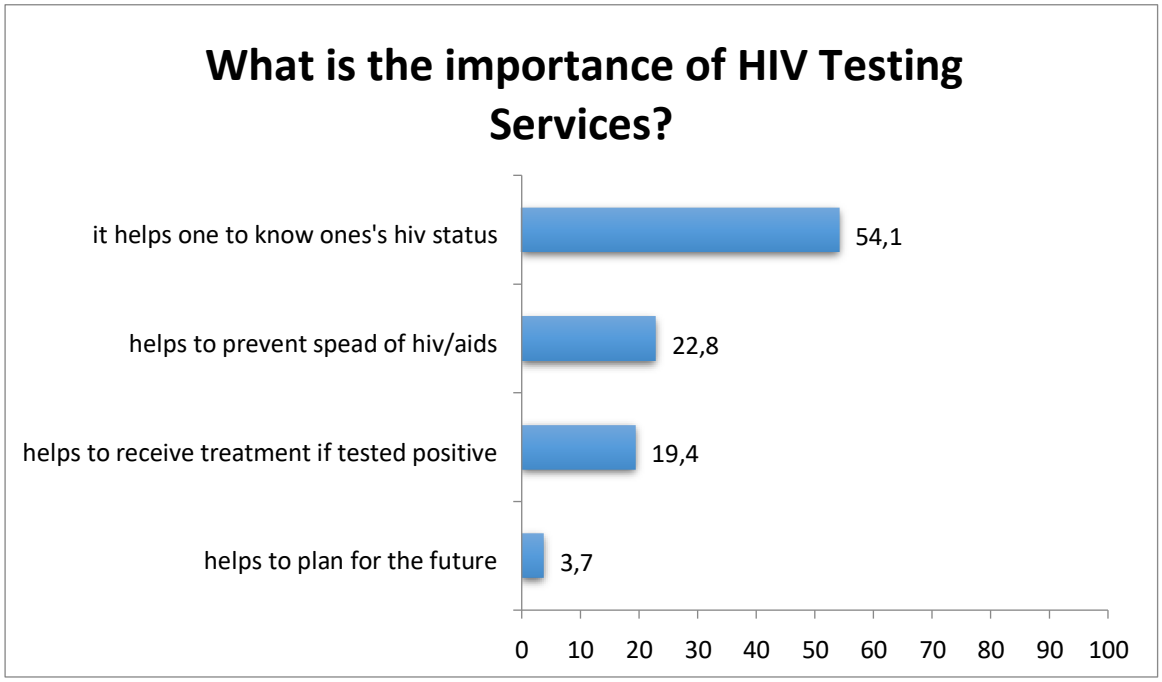


Figure 14: The importance of HIV Testing Services

With regards to the importance of HIV Testing Services, 54,1% of respondents indicated that HIV Testing Services help one to know their HIV status. Moreover, 22,8% of respondents indicated that HIV Testing Services help to prevent the spread of HIV/AIDS while 19,4% reported that HIV Testing services help one to receive treatment if tested positive. Few respondents (3,7%) reported that HIV Testing Services help one to plan for the future.

4.4 The attitude of respondents towards HIV Testing Services

4.4.1 The necessity to go for HIV Testing Services

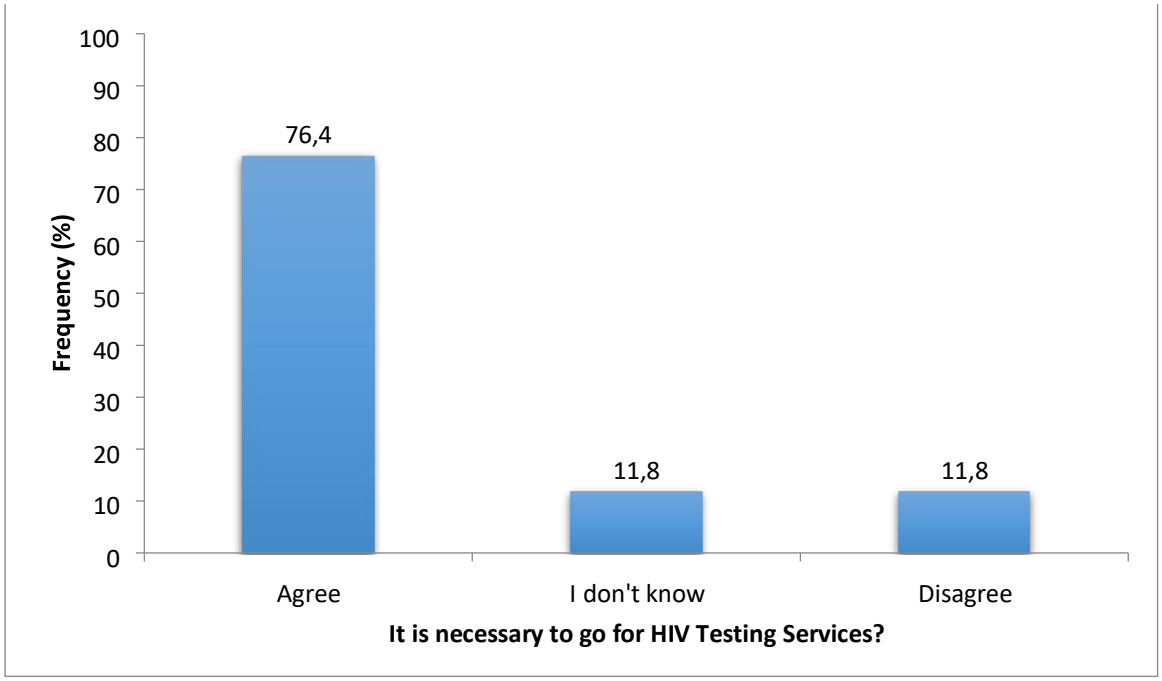


Figure 15: The necessity to go for HIV Testing Services

Respondents were asked to indicate whether they “agree”, “disagree” or “don’t know” if it is necessary to go for HIV Testing Services; 76,4% of respondents agreed that going for HIV Testing Services was necessary and 11,8% of respondents disagreed that going for HIV Testing was necessary while another 11,8% did not know if going for HIV Testing Services was necessary.

4.4.2 The necessity to go for HIV Testing Services if one is faithful to one partner

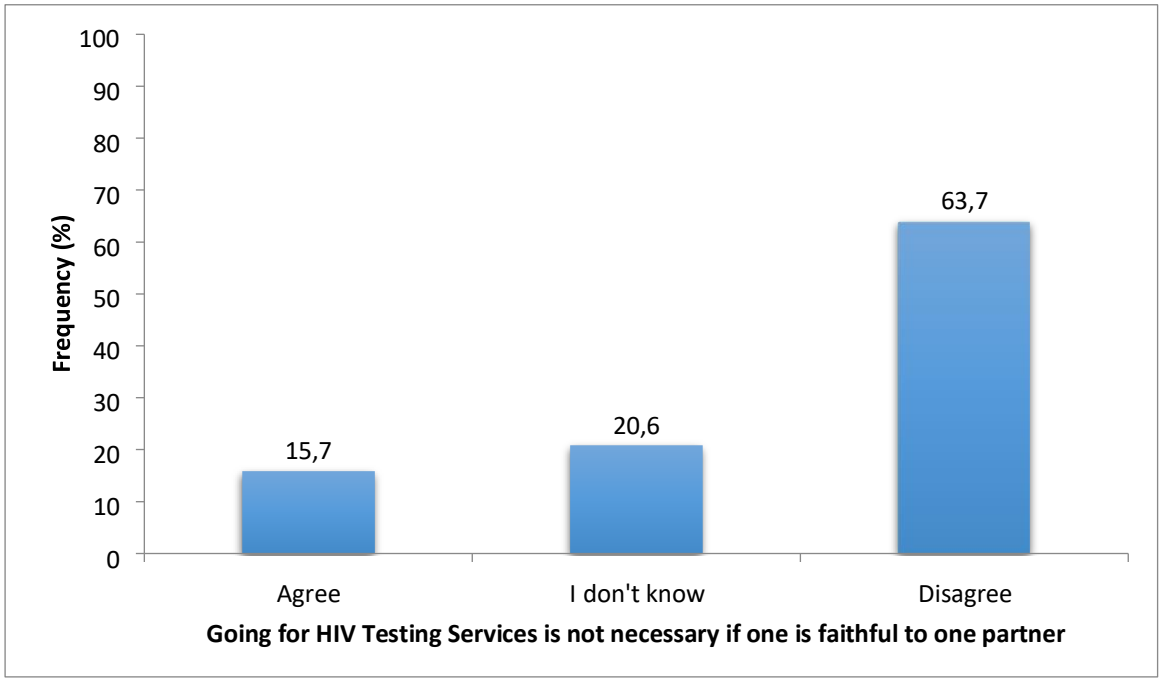


Figure 16: The necessity to go for HIV Testing Services if one is faithful to one partner

From the above figure, it can be seen that more than half of the respondents disagreed that going for HIV Testing services is not necessary if one is faithful to one partner. Respondents who constituted 15,7% agreed that it was not necessary to go for HIV Testing services if one is faithful to one partner.

4.4.3: Intention to go for HIV Testing Services

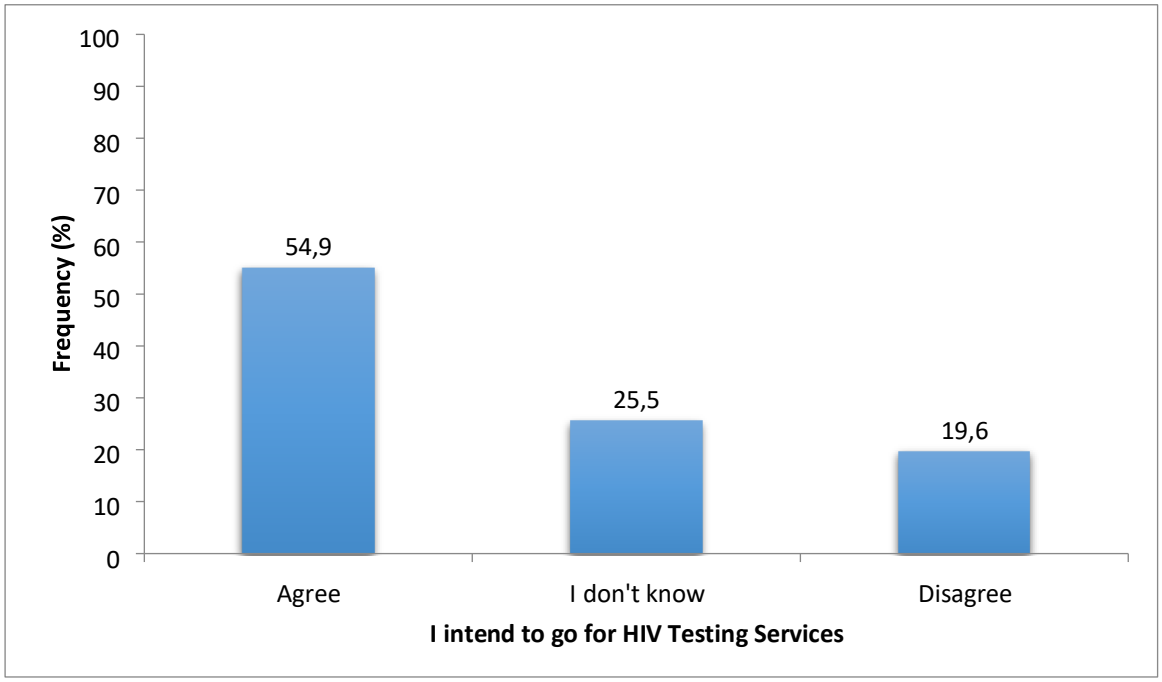


Figure 17: Intention to go for HIV Testing Services

When respondents were asked to indicate whether they "agreed", "disagreed" or "don't know" if they intended to go for HIV Testing Services; (n=168, 54.9%) respondents agreed that they were intending to go for HIV Testing Services anytime soon. Furthermore, 19,6% of respondents disagreed while 25,5% did not know if they would go for HIV Testing services anytime soon.

4.4.4 The intention to not go for HIV Testing Services

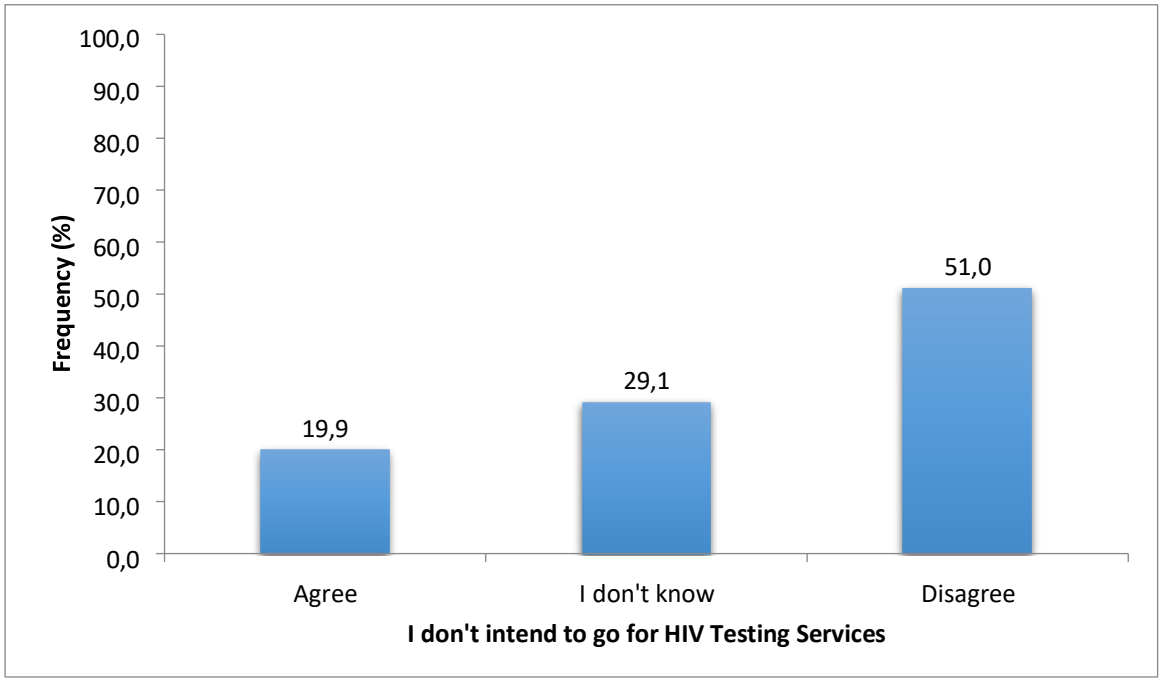


Figure 18: The intention to not go for HIV Testing Services

From the above figure, it can be seen that half of the respondents disagreed that they did not intend to go for HIV Testing Services anytime soon while 19,9% agreed that they did not intend going for HIV Testing Services.

4.4.5 Going for HIV testing services if one is sick

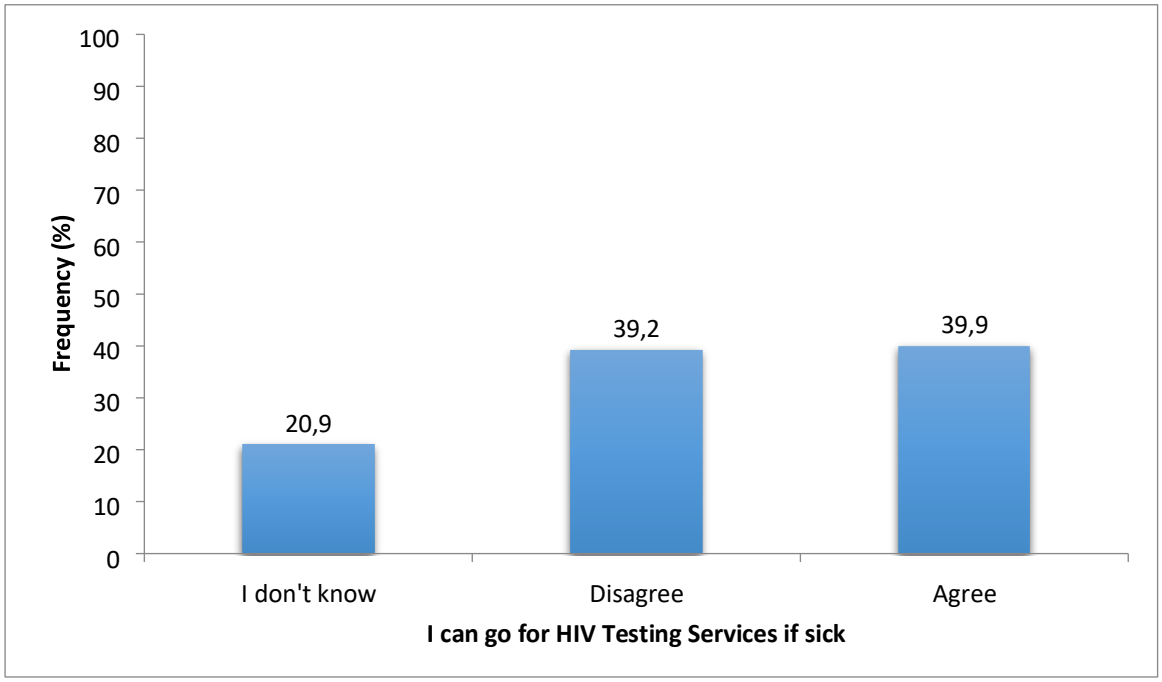
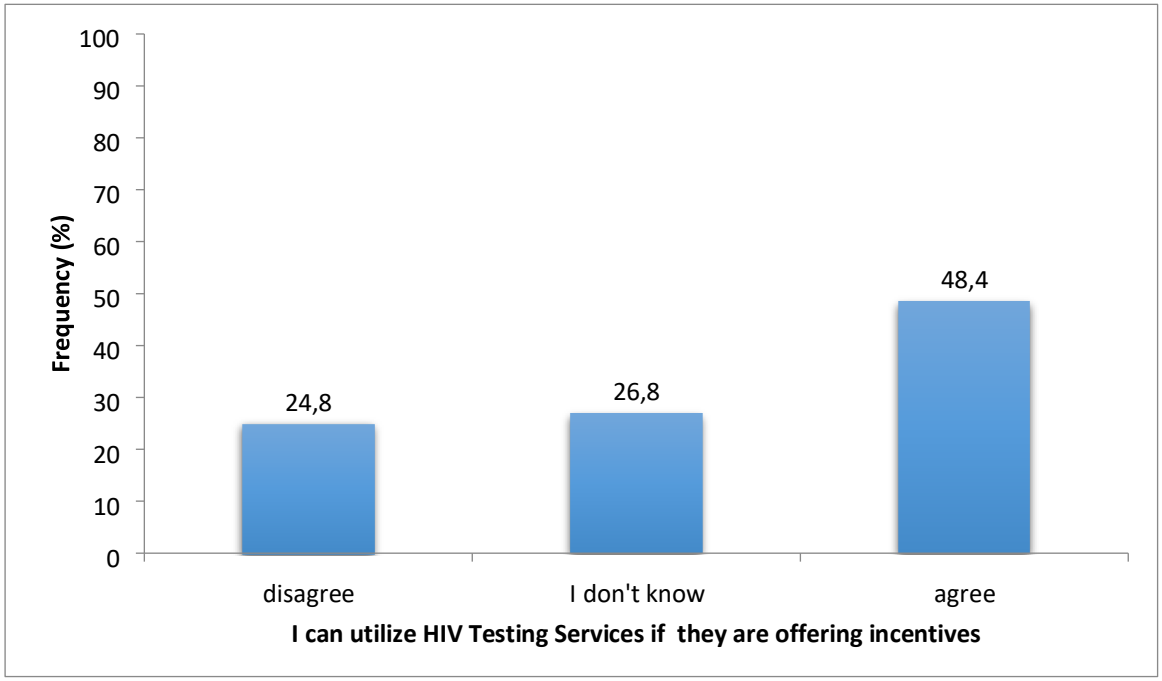


Figure 19: Going for HIV Testing Services if one is sick

In this study, 39, 9% of respondents agreed that they would go for HIV Testing Services if they were sick while 39,2% disagreed. Furthermore, 20,9% of respondents reported that they did not know if they could go for HIV Testing Services if they were sick.

4.4.6 Going for HIV Testing Services if incentives were offered



4.5 Personal-related factors contributing to low HIV Testing Services (HTS) uptake

4.5.1 Testing for HIV

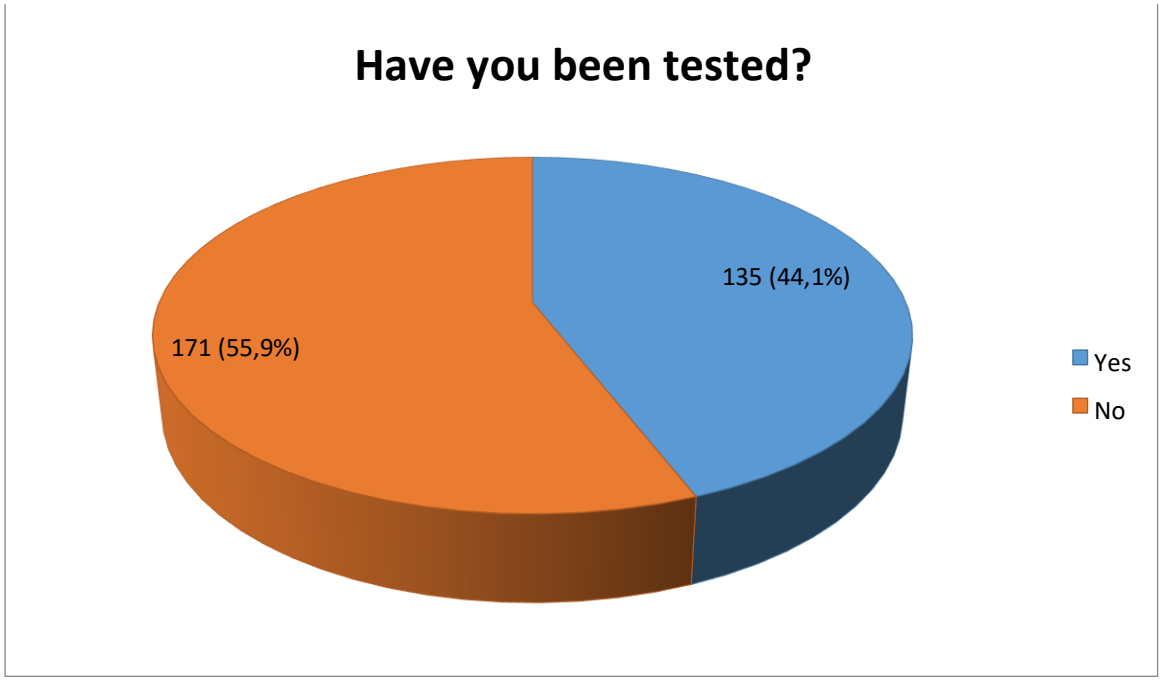


Figure 21: Testing for HIV

When respondents were asked if they had been tested for HIV, 55,9% indicated that they had not been tested for HIV while 44,1 indicated that they had been tested for HIV.

4.5.2 Number of times respondents have tested

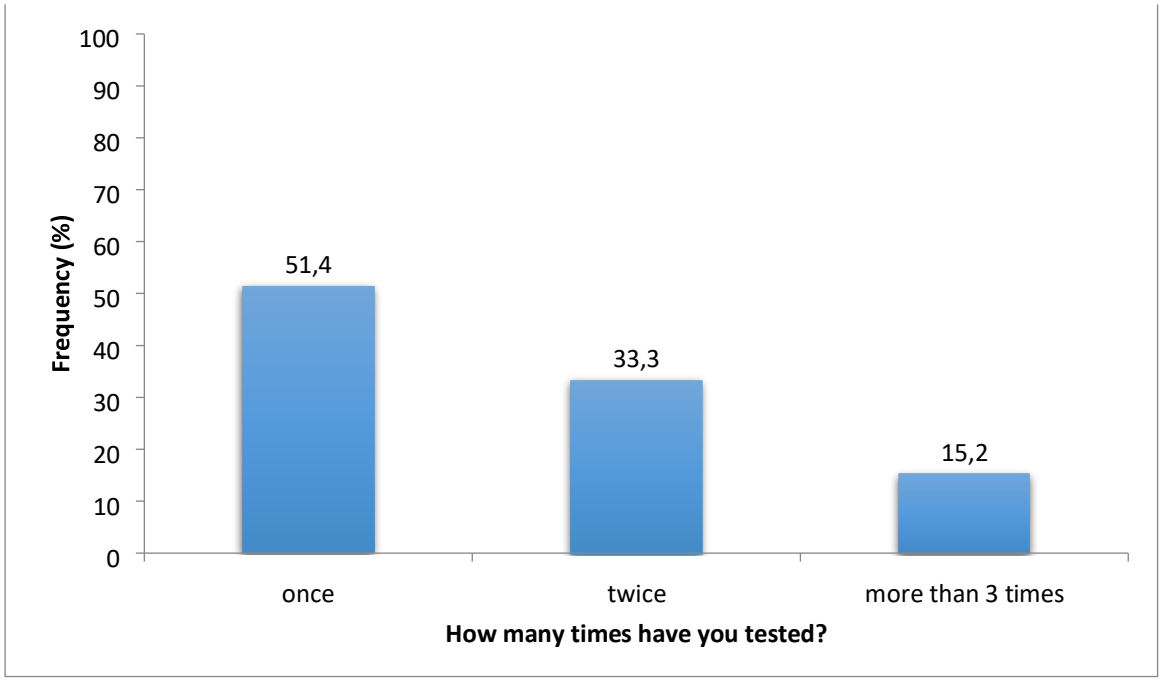


Figure 22: Number of times respondents have tested

From the above graph, it can be seen that just over a half of respondents have tested for HIV only once. Moreover, 33% of respondents have tested for HIV two times and the remaining 15,2% have gone for HIV testing more than 3 times.

4.5.3 Reason for testing

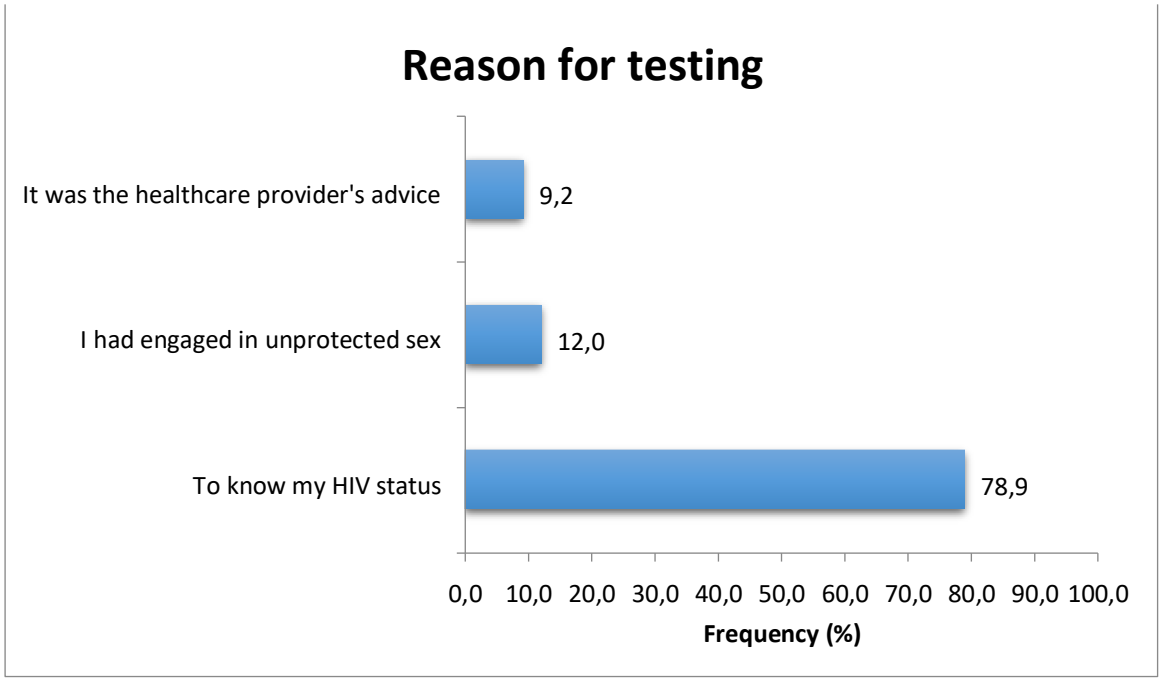


Figure 23: Reason for testing

Majority of respondents (78,9%) reported that their reason for testing for HIV was to know their status. Twelve percent of respondents reported that they had engaged in unprotected sex and 9,2% indicated that it was the healthcare provider's advice to get tested.

4.5.4 Stigma regarding HIV Testing Services uptake

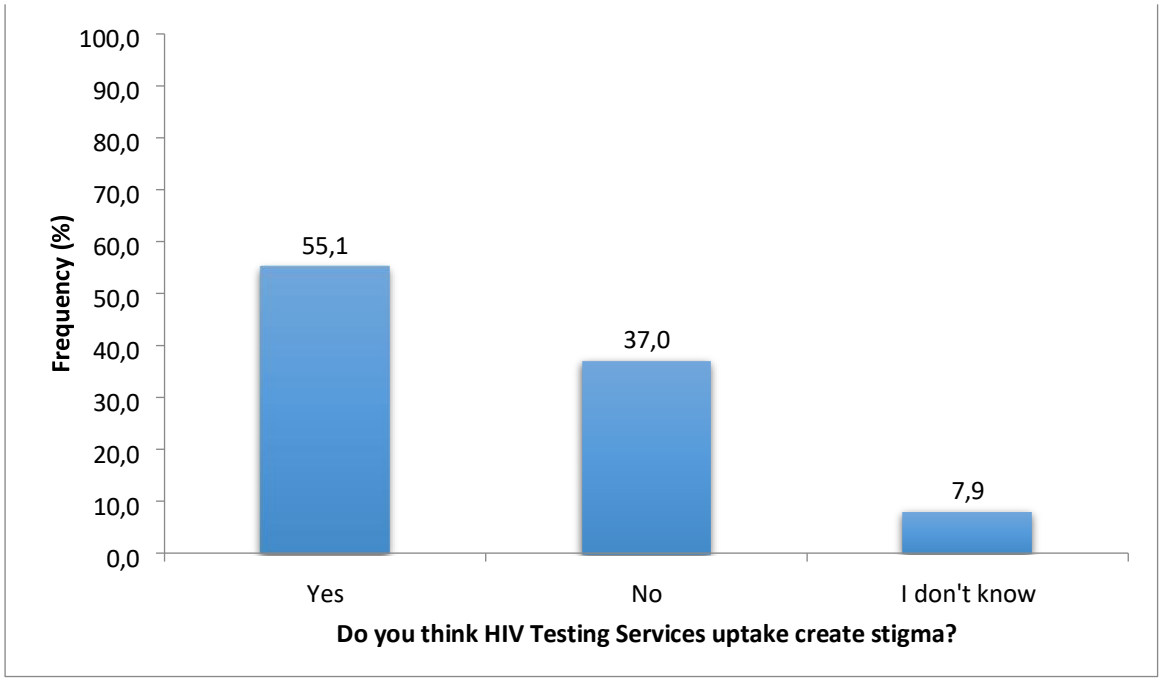


Figure 24: Stigma regarding HIV Testing Services uptake

More than half of respondents indicated that the utilisation of HIV Testing Services create stigma.

4.5.5 Fear of positive results

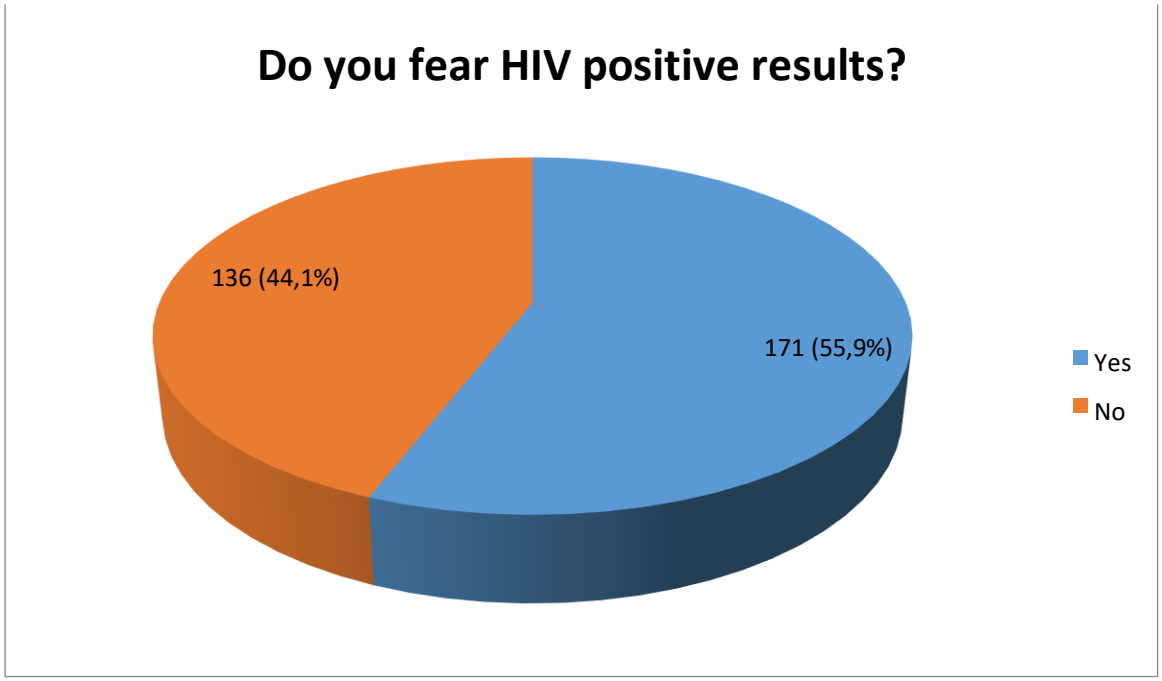


Figure 25: Fear of HIV positive results

When respondents were asked if they fear HIV positive results; 55,9% of respondents indicated that they feared positive results while 44,1% of respondents did not fear HIV positive results.

4.5.6 Perceived risk of HIV infection

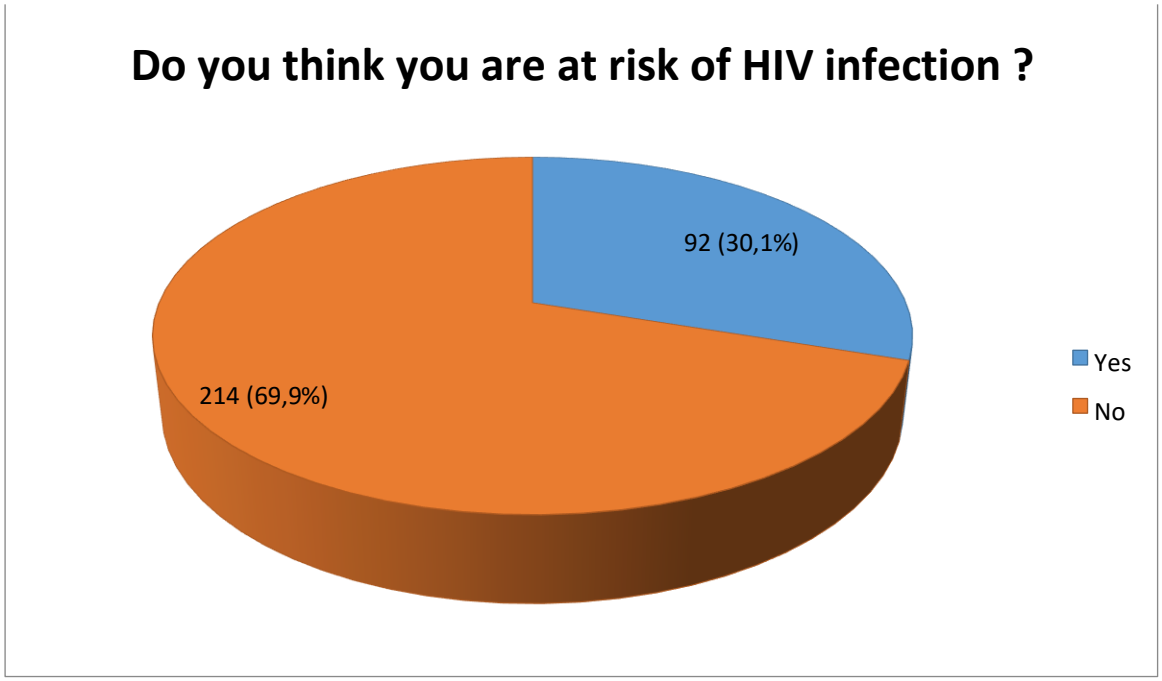


Figure 26: Perceived risk of HIV infection

From the above figure, majority of respondents (69,9%) do not think that they are at risk of being infected with HIV.

4.5.7 Reason for perceived risk or lack thereof of HIV infection

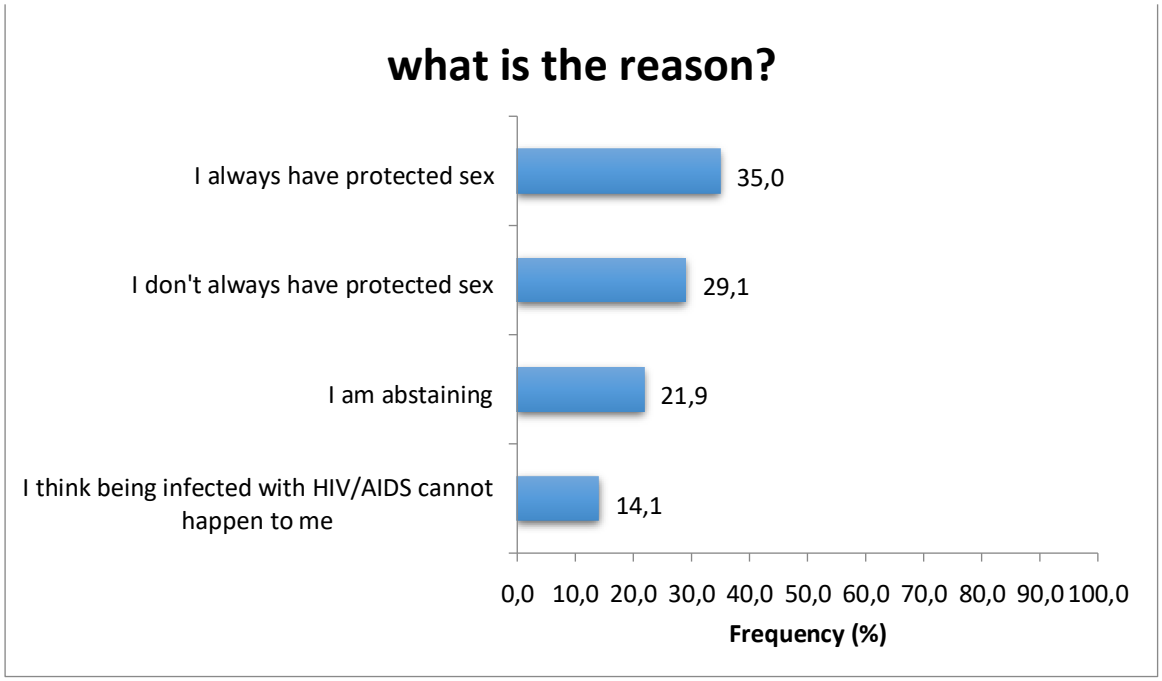


Figure 27: Reason for perceived risk or lack of perceived risk of HIV infection

This study found that 35% of respondents who did not think they were at risk of being infected with HIV indicated that they always have protected sex while 21,9% indicated that they were abstaining from sex. 14,1% of respondents felt that being infected with HIV cannot happen to them. Respondents who thought they were at risk of being infected with HIV because they don't always have protected sex constituted 29,1% of the study respondents.

4.6 Health-service related factors contributing to low HIV Testing Services (HTS) uptake among respondents.

4.6.1 Attitude of healthcare providers

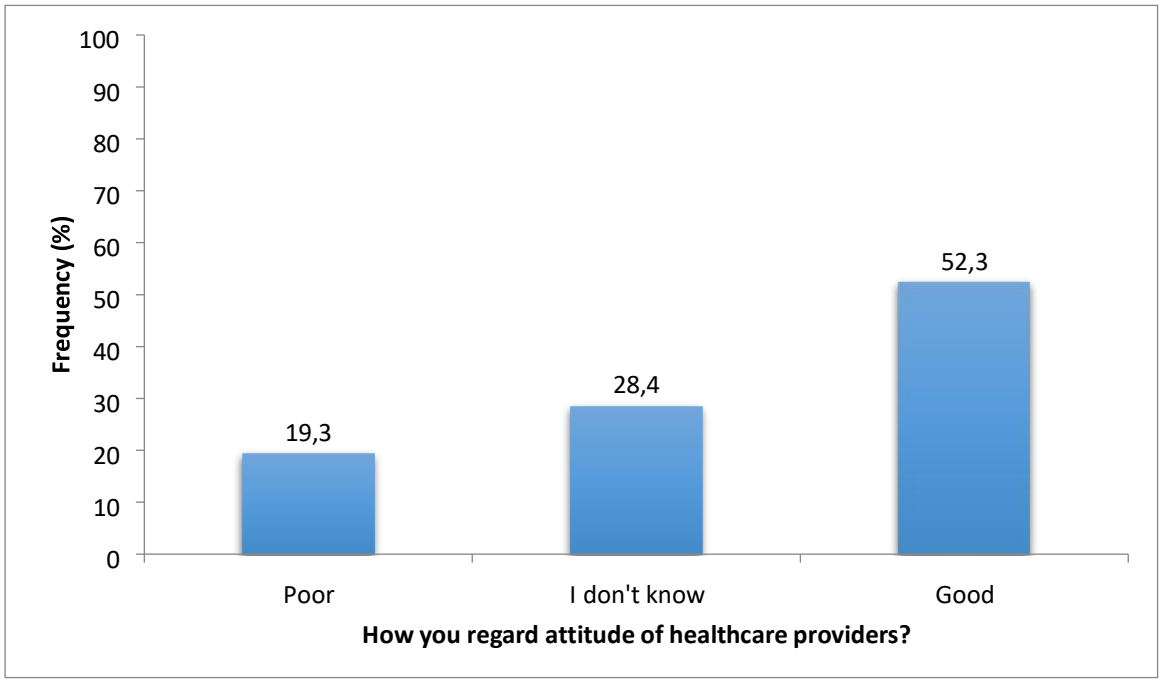


Figure 28: Attitude of healthcare providers

When respondents were asked how they perceived the attitude of healthcare providers, more than half of respondents regarded the attitude of healthcare providers as good while 19,3% regarded the attitude of healthcare providers as bad and 28,4% did not know.

4.6.2 Going for HIV Testing Services if attitude of healthcare providers is regarded as good

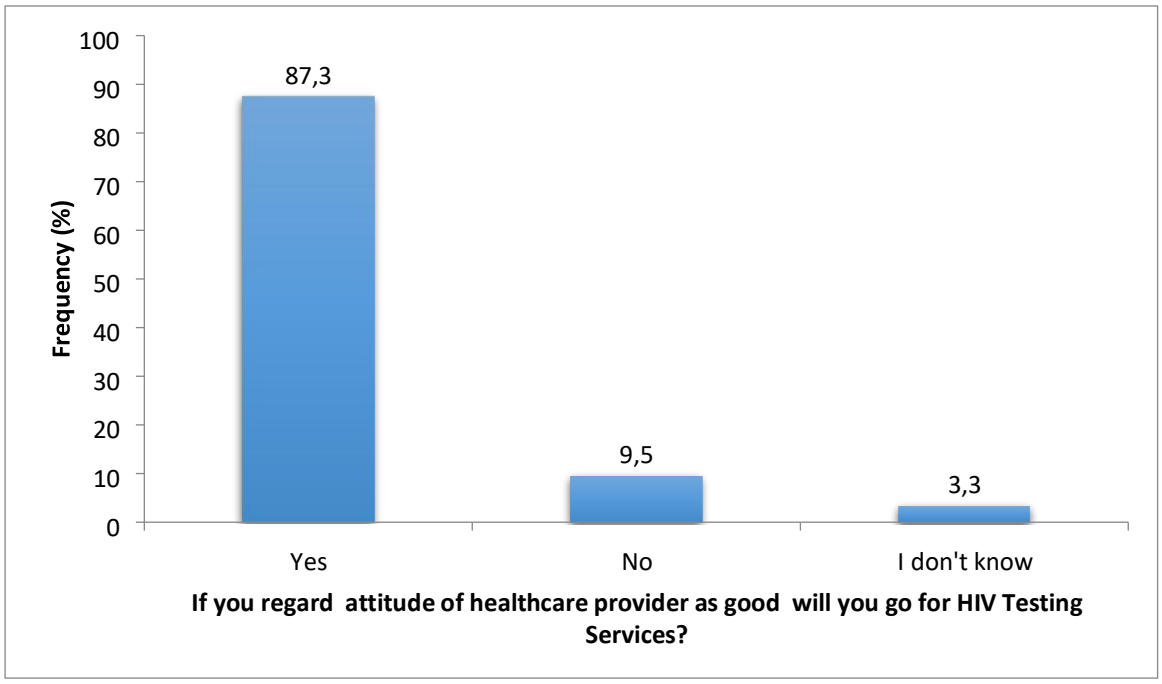


Figure 29: Going for HIV Testing Services if attitude of healthcare provider is regarded as good.

From the above graph, the majority of respondents (87,3%) would utilise HIV Testing Services if they regarded the attitude of healthcare providers as good. Few respondents (3,3%) indicated that they did not know if they would utilise HIV Testing Services if they regarded the attitude of healthcare providers as good. Furthermore, 9,5% of respondents indicated that they would not utilise HIV Testing Services even if they regarded the attitude of healthcare providers as good.

4.6.3 Utilising HIV Testing Services if attitude of healthcare provider is regarded as bad

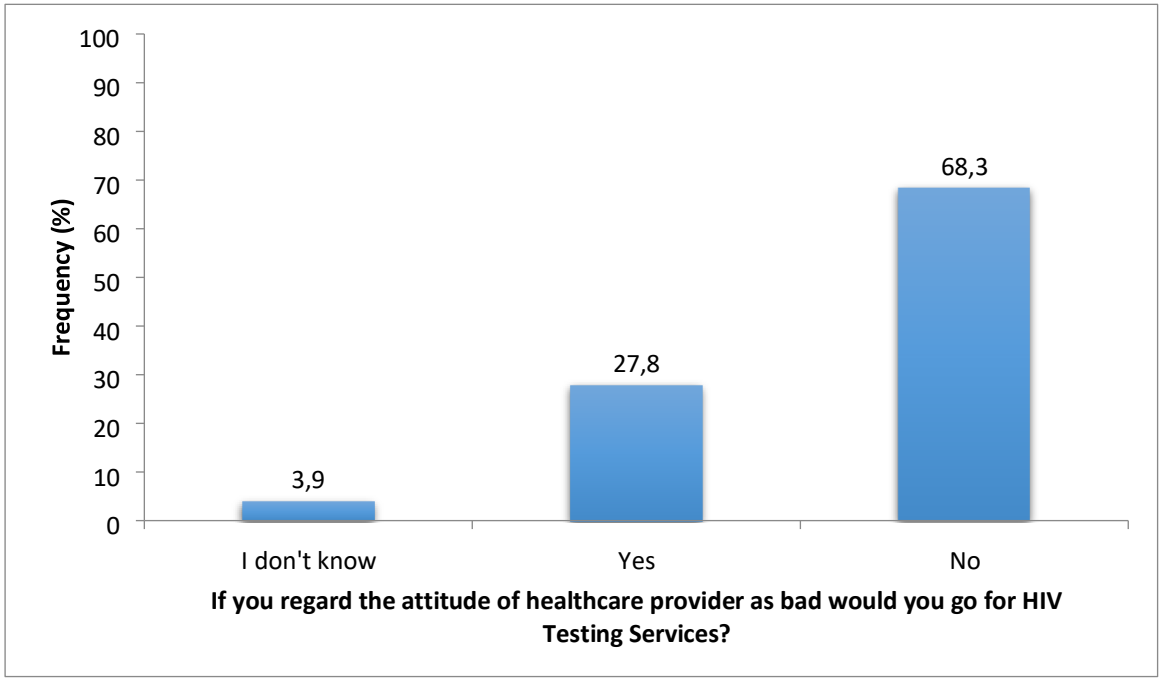


Figure 30: Utilising HIV Testing Services if attitude of healthcare provider is regarded as bad.

Respondents were asked if they would utilise HIV Testing Service if they regarded the attitude of healthcare provider as bad and most of the respondents (68,3%) reported that they would not, while 27,8% of respondents reported that they would utilise HIV Testing Services if they regarded the attitude of healthcare provider as bad.

4.6.4 Utilising HIV Testing Services if required to pay

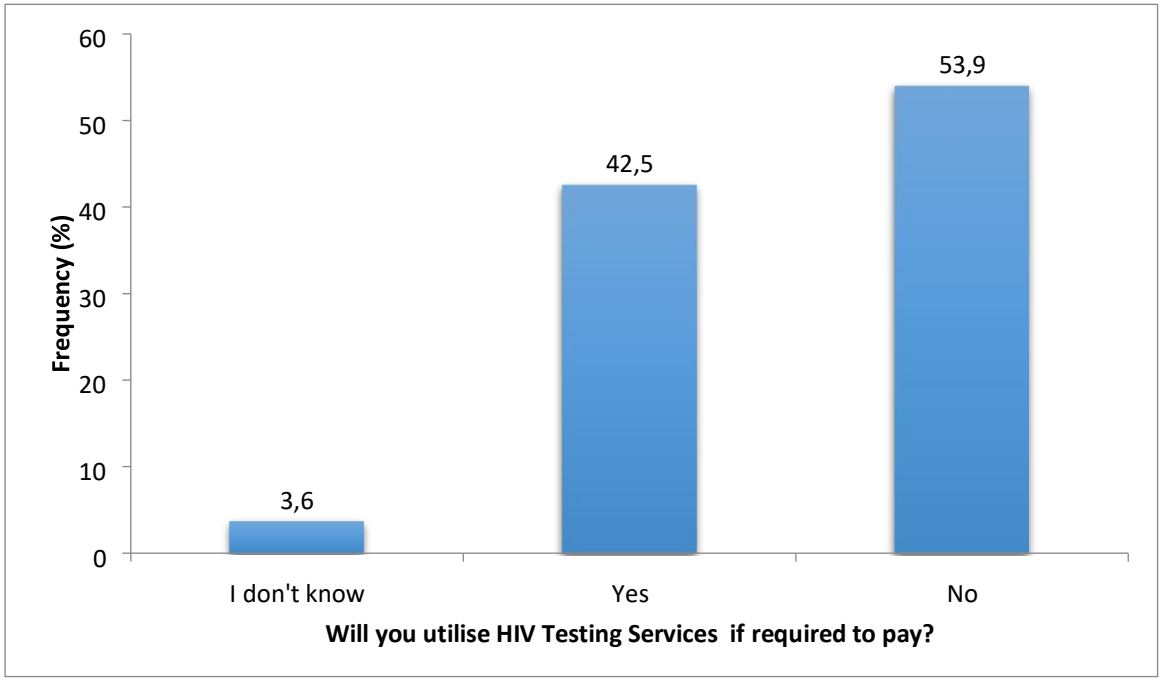


Figure 31: Utilising HIV Testing Services if required to pay

When respondents were asked whether they would utilise HIV Testing Services if they required to pay; more than half of the respondents indicated that they would not utilise HIV Testing Services if they were required to pay. Furthermore, 42,5% indicated they would utilise HIV Testing Services if they were required to pay and only few respondents (3,6%) did not know if they would utilise HIV Testing Services if they were required to pay for such services.

4.6.5 Location of HIV Testing Services mobile centres

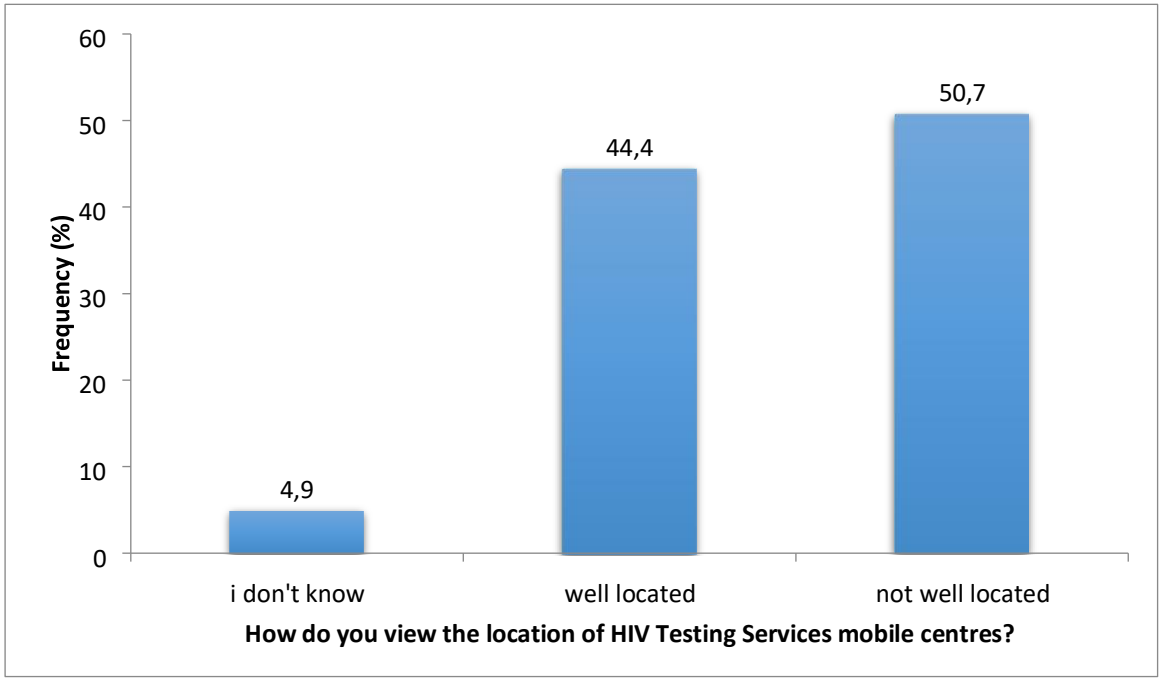


Figure 32: Location of HIV Testing Services mobile centres

The above graph indicates that just over half of respondents view the location of HIV Testing Services mobile centres as not well located, while 44,4% of respondents view HIV Testing Services mobile centres as well located.

4.6.6 Reason for viewing HIV Testing Services mobile centres as not well located

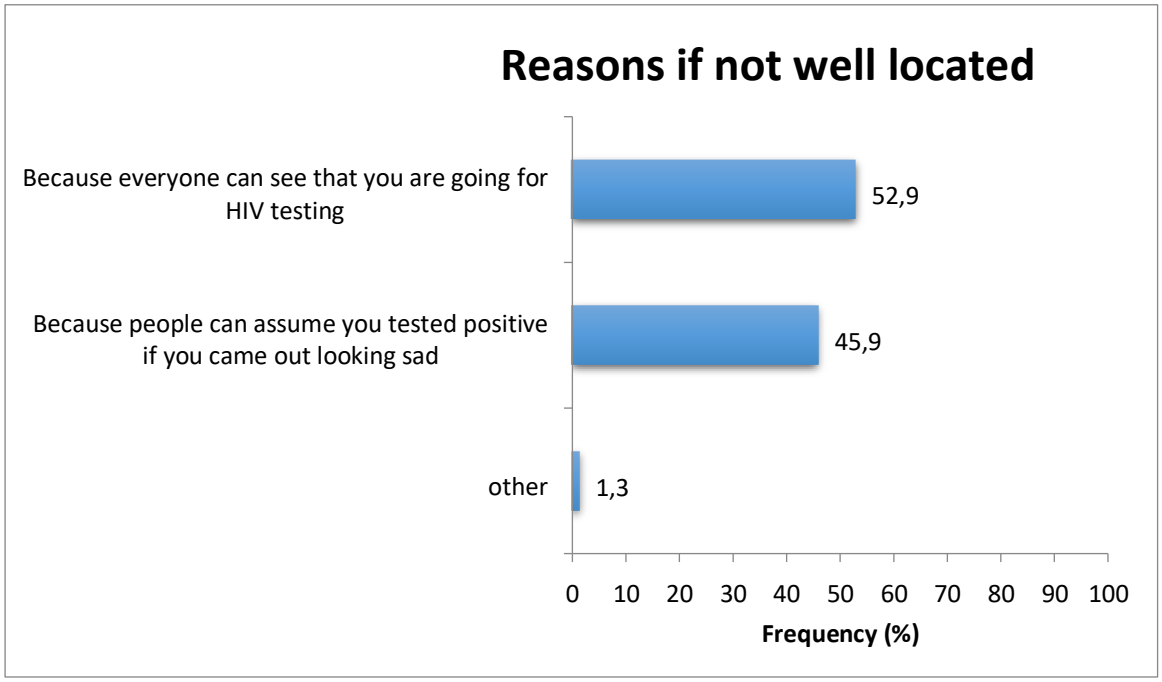


Figure 33: Reason for viewing HIV Testing Services mobile centres as not well located

For respondents who viewed the location of HIV Testing Services mobile centres as not well located; 52,9% felt that everyone can see that you are going for HIV testing while the remaining 45,9% felt that people outside may assume that you tested positive if you came out looking sad.

CHAPTER 5: DISCUSSION, RECOMMENDATIONS AND CONCLUSIONS

5.1 Introduction

The purpose of this chapter is to discuss major research findings, give recommendations as well as highlight on key areas for future research. The aim of this study was to investigate factors contributing to low HIV Testing Services (HTS) uptake among Health Sciences students. In this chapter, the findings of the study will be discussed with reference to relevant literature and findings from similar studies.

5.2 Demographic characteristics of respondents

A structured self-administered questionnaire was used to collect data from 306 respondents of whom 33% (n = 102) were males and 67% (n = 204) were females. The age of respondents ranged from 17-44 years; with majority of respondents in the age category of 21-24 years. Furthermore, approximately 30% of respondents were in the third level of their studies. The high proportion (89,9%) of respondents reported that they were single. In this study, 94,4% of the respondents reported that they were Christians while the remainder were of African and other religions. In this study, the majority of respondents were Venda (52,9%), followed by Tsonga (25,2%), Pedi (13,1%) and other ethnic groups.

In this study, majority (17,3%) of respondents who had utilised HIV Testing Services were in the age range of 21-24 years. Several studies have shown that age is a determinant in the uptake of HIV Testing Services by university students. A study done by Museve, Gongera and Labongo (2013) in Kenya, found that a huge proportion of respondents who had utilised HIV Testing Services were in the age range of 21-25 years. Another study conducted by Alemayehu (2010) in Ethiopia, showed that majority of respondents who were aged between 21 and 25 years were more willing and likely to utilise HIV Testing Services. This association may arise from an increased perception of HIV/AIDS risk among individuals who upon establishing long-term relationships, plan for the future with their partners, hence causing an upward increase in the uptake of HIV Testing Services (Sanga & Mwangi, 2015).

This study found that more females (30,7%) than males (13,4%) had been tested for HIV. This finding is consistent with a study performed by Abiodun, Sotunsa, Ani and Jaiyesimi (2014) in Nigeria, which revealed that more females than males had utilised HIV Testing Services. In another study by Wondemagegn, Abera and Yimer (2014), it was found that females had more favourable attitude towards HTS and majority of them had utilised HIV Testing Services.

Further, a study by Alemayehu et al. (2010) showed that males had better and more accurate knowledge about HIV/AIDS, however, a high proportion of their female counterparts were more

willing and twice likely to use HIV Testing Services. Consequently, this that revealed that more females than males were seemingly more concerned about their health-status including HIV statues.

In this study, majority of respondents who had utilised HIV Testing Services were in their third level of their studies. In a related study by Gadegbeku (2013), it was found that fourth-year students were more likely to go for HIV Testing Services compared to their second year counterpart students. According to Wondemagagen et al. (2014), high level of education is associated with increased level of HIV knowledge which may subsequently lead to a more favourable attitude towards utilisation of HIV Testing Services although several studies have shown that a positive attitude towards use of HIV Testing Services does not automatically lead to increased uptake of such services.

5.3 Knowledge of respondents regarding HIV Testing Services (HTS)

A vast majority of respondents in this study had good knowledge about HIV/AIDS and HIV Testing Services. When asked about the common mode of HIV transmission, a high proportion (92,8%) of respondents identified unsafe sex as the common mode of HIV transmission while a small proportion of respondents believed sharing needles and mother-to-child transmission represented the common modes of HIV transmission.

Several studies have shown how majority of students are adequately knowledgeable about the common mode of HIV transmission. A study conducted in Qatar assessed university students' knowledge and attitude towards HIV/AIDS and showed that majority of the respondents were able to identify unprotected sex as a common mode of HIV transmission (Khenji, Kuwari, Khal & Thani, 2012). Further, another study by Choudhary, Ali and Altaf (2015), showed that unsafe sexual intercourse was identified by participants as the main mode of HIV transmission.

With regards to finding out if one is infected with HIV, majority (86,9%) of respondents indicated taking an HIV test as a way of finding out if they were infected. Other respondents felt that looking sickly could be a way of finding out if one is infected with HIV. This can be attested by the AIDS Foundation South Africa (2020) which stated that the only way to find out if one is infected with HIV is by having an HIV test. However, there is still misconception that you can tell if someone is living with HIV if they look sick. For instance, people infected with HIV can have it for many years before their immune system becomes weak and symptoms start to manifest (AIDS Foundation South Africa, 2020).

In this study, approximately 94% of the respondents had previously heard of HIV Testing Services and nearly 90% of the respondents knew of places where HIV Testing Services were offered. The main sources of information for HIV Testing Services were clinics (37,4%) and HIV testing awareness campaigns (37,1%)), followed by television (11,2%) and radio (4,5%). Respondents who indicated friends or relatives as sources of information for HIV Testing Services were relatively few in proportion.

In a similar study conducted by (Khenji, et.al., 2012), few respondents indicated friends and family as the least sources of information while most respondents cited mass media such as television, radio, internet and magazines as their main sources of information regarding HIV Testing Services. In a study conducted by Veneguola (2012), media including television, radio and newspapers were shown to be prime sources of information for HIV Testing Services.

It can be seen that family and friends were among the least sources of information for HIV Testing Services and this could be mainly because HIV/AIDS has been mainly associated with negative behaviours such as drug use, prostitution and homosexuality. Moreover, in many communities HIV/AIDS has been and is still associated with death and conversations around death is still regarded as taboo in other communities (Treves-Kagan, Ayadi, Pettifor, MacPhail, Twine, Maman, Peacock, Kahn & Lippman, 2017).

Furthermore, a study conducted by Hall, Peterson, and Johnson (2014), revealed that there was a lack of discussion around HIV/AIDS in most communities. Respondents indicated that they did not talk about HIV/AIDS unless if something happened to someone they knew or if they were joking around the topic of HIV/AIDS.

In this study, one of the respondents indicated social media as an alternative source of HIV Testing Services. The widespread use of social media in an effort aimed at HIV prevention and care are well recorded. According to Taggart, Grewe, Conserve, Gliwa & Isler (2015), the role of social media including social networking sites and mobile technologies as a platform for generating, sharing and receiving of information through multidirectional exchanges which transcends geographic borders was acknowledged. However, social media is without its own limitations and these are linked to cost, lack of physical interaction and lack of or limited privacy for the users.

In this study, a vast majority (87,1%) of respondents were found to be aware of the importance of HIV Testing Services. More than half of respondents indicated that HIV Testing Services

helped people to know their HIV status, followed by 22,8% who indicated that HIV Testing Services helped people to prevent the spread of HIV/AIDS then 19,4% who believed HIV Testing Services helped people to access treatment when tested positive. However, only a small proportion of students felt that HIV Testing Services helped people plan for the future. As stated by (WHO, UNAIDS, 2017), HIV Testing Services are essential in helping individuals to be aware of their HIV status and they are a great linkage to HIV prevention, treatment, care and support services.

5.4 The attitude of respondents towards HIV Testing Services (HTS)

In this study, it was found that majority of respondents had a good attitude towards HIV Testing Services. Various studies have shown that students, generally, have a positive attitude towards HIV Testing Services. A study done in Nigeria by Ogaji, Oyeyemi and Ibrahim (2013) showed that majority of respondents had a positive attitude towards HIV Testing Services and they thought that utilisation of HIV Testing Services was necessary.

Another study conducted in Ethiopia investigated factors contributing to HIV Testing Services uptake among youth in colleges, showed a high proportion of respondents had favourable attitude towards HIV Testing Services and majority of them were willing to go for HIV testing whether they have or not in the past (Dirar, Mengiste, Kedir & Godana, 2013).

In another study conducted in South Africa which assessed perceptions and willingness of students towards HIV Counselling and Testing at higher learning institutions, it was found that majority of respondents had a positive attitude towards HIV Testing Services (Makhubele, Dhlamini & Khoza, 2015). This demonstrated that university students generally have a favourable attitude and have willingness to utilise HIV Testing Services.

When respondents were asked to indicate whether they “agree”, “disagree” or “don’t know” with the statement “it is necessary to go for HIV Testing Services if one is faithful to one partner”; most participants (63,7%) disagreed with the statement. The implication of this findings was explained by Kirby, Dayton, L’engle and Prickett (2012), who argued that if a person has one partner and their partner has two partners, therisk of acquiring HIV was high because he or she may be infected by the second partner.

A related study conducted in Tanzania by Meda (2013) found that some respondents had misconceptions around the transmission of HIV. They thought that HIV/AIDS could only be transmitted through sexual intercourse. They associated HIV Testing Services with sex and felt that HIV Testing Services were not necessary if one was faithful to one partner. The study

participants claimed that people with multiple sexual partners were the ones to utilise HIV Testing Services. Therefore, the uptake of HIV Testing Services is necessary as it also provides information that will help to expose such misconceptions.

This study also found that approximately 40% of the respondents agreed they would go for HIV Testing Services if they were sick, followed by nearly 39% who disagreed that they would go for HIV Testing Services if they were sick and then by 21% of the respondents who indicated that they did not know if they could go for HIV Testing Services they fell sick. This result differs from the result reached by Woldeyohannes, Asmamaw, Sisay, Hailesselassie and Tekeste (2017) in a study they conducted in Ethiopia which showed that majority of respondents believed one should go for HIV Testing Services at any given time regardless of whether they feel sick or not. Furthermore, the study showed that only few respondents supported the view that one should utilise HIV Testing Services if one falls ill.

There are still preconceived ideas and views that the uptake of HIV Testing Services should only be for those who feel sick so that they can rule out the possibility of an HIV infection. As stated earlier, most people do not look or feel sick and it does not mean that they may not be living with HIV. The earlier individuals get tested for HIV, the better (AIDS Foundation South Africa, 2020).

Regarding the issue of incentivising the use HTS, this study findings showed that about 48% of respondents indicated that they would utilise HIV Testing Services if they were offered incentives. The use of incentives has been shown to increase the uptake of HIV Testing Services; however, studies evaluating the relationship between the use of financial incentives and uptake of HIV Testing Services are limited (World Bank Group, 2016).

5.5 Personal-related factors contributing to low uptake of HIV Testing Services.

In this study, it was found that more than half (55,9%) of the respondents had not utilised HIV Testing Services, despite having adequate knowledge about HIV Testing Services. This result is consistent with the results found in a study by Jali, et al. (2014), which showed that most respondents were knowledgeable about HIV Testing Services but few had utilised the services. These results could be linked to several barriers which include inaccurate perception of risk, stigma, fear of a potential positive diagnosis and people's perceptions towards consequences of living with HIV which affect the utilisation of HIV Testing Services among students (Khalifa, Eltayeb & Alawad, 2014).

In this study, majority (51,4%) of respondents had undergone HIV testing only once, followed by those who had undergone HIV testing twice (33,3%). The proportion of respondents who had tested more than 3 times was relatively small (15,2%). These results are consistent with the results reached in another related study conducted in Kenya, which showed that the number of respondents who were undertaking repeat HIV Testing was low. It was shown that going for HIV Testing Services takes great courage for majority of students and those who test negative are unlikely to go for a repeat and live by the negative results for convenience and peace of mind. On the other hand, those who test positive may go for a repeat visit because of denial or for confirmation of the results (Museve, et al., 2013).

Furthermore, respondents cited various reasons for getting tested for HIV. About 79% of respondents got tested for HIV because they just wanted to be aware of their HIV status. Twelve percent of the respondents indicated that they utilized HIV Testing Service after indulging in an unprotected sex and nearly 9% of respondents were advised by the healthcare service providers to go for HIV testing.

This finding is similar to a result reached by Makhubele, et al. (2015) in a study conducted in South Africa, which showed that majority of students went for HIV testing because they desired to know their HIV status. Another study conducted by Onyeonoro, Emelumadu, Chuku, Kanu, Ebenebe, Onwukwe, Uwakeme and Ndukwe (2014) in Nigeria, revealed that the most common reason cited by students for undergoing HIV testing was to know their HIV status.

Apart from using HIV testing services to know their HIV status, some students utilise the service just to satisfy their curiosity as some of them do not know what actually takes place there. This view was acknowledged in a study conducted by Museve, et al. (2013) who showed that majority of respondents went for HIV Testing Services out of curiosity while others went there to seek early treatment.

In this study, respondents were asked if going for HIV Testing Services created stigma; and majority (55,1%) of respondents indicated that going for HIV Testing Services created stigma. There is continued stigma around the use of HIV Testing Services and this stigma can act as a significant barrier in the uptake of HIV Testing Services, although in South Africa, the government has implemented mass HIV testing campaigns. HIV/AIDS-related stigma has been associated with delays in testing or decision not to go for HIV Testing Services (Treves-Kagan, et al., 2017).

This study also found that majority (55,9%) of respondents feared potential HIV-positive results. As stated by Lin, Roy, Dam and Coman (2017), some students have fear of being tested positive and how family and friends will react towards them if they knew about their HIV positive results and what living with HIV would mean for their future. Furthermore, most individuals are scared that family and friends will no longer want to associate with them. Consequently, fear of positive results has been linked with lower uptake of HIV Testing Services.

A study conducted by Mbengo (2013), in South Africa, revealed that most respondents feared a potential HIV-positive diagnosis. The participants reported that they would get stressed and commit suicide if they found out that they were HIV positive. Furthermore, the respondents indicated that HIV-positive results would jeopardise their long-term future plans such as studying, getting married and starting a family. This fear of a potential HIV-positive diagnosis was also shown in a study performed by Ogaji, et al. (2013) in Nigeria, which showed that majority of respondents would choose to rather die from any violent accident or any other disease than from HIV/AIDS.

In this study, respondents were asked also if they perceived themselves to be at risk of acquiring HIV; about 70% of respondents reported that they did not perceive themselves to be at risk of being infected with HIV and 35% of them reported that they always engaged in protected sex while nearly 22% reported that they were abstaining from sexual intercourse. There were 14% of respondents who felt that being infected with HIV could not happen to them. A study done by Lin, et.al, (2017), showed that a sense of invincibility and excessive confidence among students was a barrier to the utilisation of HIV Testing Services as some students believed that they were not prone get infected with HIV.

A study done by Lin, et al., (2017) among African-American students showed that majority of students do not consider themselves as high-risk group for HIV infection. As a result, individuals who do not consider themselves to be at risk of acquiring HIV show relatively low interest in the uptake of HIV Testing Services. According to the Health Belief Model (HBM) as stated by La Morte (2019), HIV testing behaviour could be linked to an individual's perceived vulnerability and severity of the threat. If the risk of infection has been perceived to be low, an individual is less likely to utilise HIV Testing Services.

5.6 Health-service related factors contributing to low HIV Testing Services (HTS) uptake

In this study, the majority (52,3%) of respondents regarded the attitude of healthcare service providers as good and felt that they would utilise HIV Testing Services if the attitude of

healthcare service providers was generally good. Respondents who regarded the attitude of healthcare providers as bad indicated that they would not utilise HIV Testing Services. This result is supported by Dapaah (2016) who noted that the attitude and behaviour of healthcare providers in terms of how they relate and communicate with individuals can influence an individual's willingness to utilise HIV Testing Services. Individuals need to feel a sense of trust towards their healthcare providers, especially with matters pertaining to HIV/AIDS.

A warm and friendly attitude of the healthcare provider goes a long way in creating trust and making an individual feel that the healthcare provider has their best interest in mind. A study undertaken by Uwakwe, Uwakwe, Iwu, Duru, Nnebue and Ilika (2016), showed that a high proportion of respondents reported that they would be influenced to utilise HIV Testing Services if they trusted that the healthcare provider would keep their results confidential.

A study conducted by Jali, et al. (2014), in South Africa, showed that majority of respondents indicated that they did not go for HIV Testing Services because of the negative attitude of the healthcare providers. Some respondents did not trust that the healthcare providers would maintain confidentiality of their HIV results. The relationship of trust is essential in the uptake of HIV Testing Services by students.

In this study, the findings showed that more than half (53,9%) of the respondents indicated that they would not utilise HIV Testing Services if they were required to pay for such services, however, there were other respondents who indicated they would utilise HIV Testing Services even if they were required to pay. In the context of South Africa where our study was conducted, HIV Testing Services are offered free of charge in public health facilities. A study done by Onyeonoro, et al., (2014) in Nigeria showed that majority of students did not pay for HIV testing, however, there were others who did and financial barriers posed as limits for access to HIV Testing Services.

With regards to the location of HIV Testing Services mobile centres at university campus, nearly 44% of the respondents did not have any concern with the location of HIV Testing Services mobile centres. Moreover, approximately 51% of respondents indicated that HIV Testing Services mobile centres were not well located. Some respondents felt that everyone can see that they are going for HIV testing while others felt that people on the outside can assume that an individual tested positive if he or she came out of HIV testing centre with a sad look.

A study conducted by Museve (2013), in Kenya, showed that the location of the HIV Testing Services centres had an influence on its uptake, although it did not significantly affect uptake. However, respondents indicated that they avoided stand-alone centres and preferred HIV Testing Service centres in hospital settings or those that are integrated with other activities so that their visit to HIV Testing Services centres is not too obvious.

When applying the view of Health Belief Model (HBM), this can be considered as perceived barriers which refers to an individual's assessment of an obstacle to taking a recommended health action. If the respondents feel that being recognised at the HIV Testing Services mobile centres can raise potential stigma, they may be reluctant to utilise HIV Testing Services. As stated by La Morte (2019), an individual's ultimate course of action is often dependent on the individual's perception of the benefits and the barriers associated with the health behaviour.

5.7 RECOMMENDATIONS

Based on the findings of the study, the following recommendations were made:

- **HIV Testing Services education and awareness campaigns**: The University through the Campus Health Services should conduct HIV Testing Services education and awareness campaigns aimed at emphasing the benefits and the importance of HIV Testing Services which include early linkage to the right treatment, support and care in helping one to cope with a new HIV-positive diagnosis as most respondents feared the potential of a HIV-positive diagnosis. Furthermore, the issues of confidentiality should also be emphasised.

- **HIV Testing Services workshops:** Conducting workshops through the Campus Health Services can be important for initiating useful discussions around HIV/AIDS subject and to provide an opportunity to perform practical activities to further demonstrate the importance of utilising HIV Testing Services. Workshops can also serve as platform for equipping students with the skills necessary for them to successfully disseminate information regarding HIV Testing Services.

- **Media:** The role of many forms of media inn facilitating the dissemination of information on utilisation of HIV Testing Services is well-documented. Consequently, the researcher recommends that the University, through the Communication Directorate, should make proper use of its various communication mediums such as the radio

station, newsletter and other relevant social media platforms to regularly disseminate information on HIV Testing Services and thus, promote their utilisation among students.

- **Future research:** Future research can be conducted to cover aspects that were not covered in this study such as the experiences of students that have utilised HIV Testing Services. Moreover, future research can be conducted in other schools in the University as this study only focused on the school of Health Sciences.

5.8 CONCLUSIONS

HIV/AIDS remains a global health concern and it should be fought against using all means necessary. As a result, HIV Testing Services (HTS) forms an alternative weapon for fighting the war against HIV/AIDS because it is a key entry point in HIV prevention, treatment, care and support.

The aim of this study was to investigate the factors that contribute to the low uptake of HIV Testing Services (HTS) among Health Sciences students. The findings of this study showed that majority of respondents were knowledgeable about HIV Testing Services and also revealed that their main sources of information were clinics and HIV testing awareness campaigns. The attitude of the respondents towards HIV Testing Services was positive and majority of them showed their willingness to utilise HIV Testing Services. However, several factors including the stigma associated with HIV/AIDS, the fear of a potential HIV-positive diagnosis and low perception of risk and negative attitude of healthcare providers were shown to be main contributors to low uptake of HIV Testing Services among students.

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APPENDIX A: LETTER OF PERMISSION

University of Venda

Private Bag X5050

Thohoyandou

Limpopo Province,

0950

14-September-2018

To Whom It May Concern

RE: REQUEST FOR PERMISSION TO CONDUCT A STUDY AT THE UNIVERSITY

I am a Master of Public Health (MPH) student at University of Venda. I hereby wish to request for permission to conduct a research study within the university. The aim of the study is to investigate factors contributing to low HIV Testing Services (HTS) uptake among Health Sciences students. The information will be kept confidential and anonymous. No respondent will be harmed or exposed to any risk whatsoever. Your favourable response will be highly appreciated. Thank you.

Yours Sincerely

Makuya Takalani

Student no.11621818

Makuya.taka@outlook.com

APPENDIX B: INFORMED CONSENT

RESEARCH ETHICS COMMITTEE

UNIVEN Informed Consent

Appendix B

LETTER OF INFORMATION

Title of the Research Study : Factors contributing to low HIV Testing Services (HTS) among Health Sciences students at University of Venda.

Principal Investigator/s/ researcher : Ms T. Makuya, MPHHM student

Co-Investigator/s/supervisor/s : Dr.F.J. Takalani, PHD

: Ms S.E. Tshivhase, MPHHM

Brief Introduction and Purpose of the Study: This is a research project that will be conducted by a Master of public Health (MPH) student at University of Venda. The project aims to investigate factors contributing to low HIV Testing Services (HTS) uptake among Health Sciences students at University of Venda.

Outline of the Procedures : In this study, you will be required to complete a 40 question questionnaire to solicit information regarding factors contributing to low HIV Testing Services (HTS) uptake. You will be expected to complete all applicable questions in full and independently. The whole procedure may last between 40 and 60 minutes. There will not be any follow-up done once the completion of questionnaire has taken place.

Risks or Discomforts to the Participant: There are no foreseeable risks or discomforts for participants in this study.

Benefits : As a respondent, you will not benefit directly from this study, however, the information received from you and the findings of the study may assist in shedding light on factors contributing to low HIV Testing Services (HTS) uptake among Health Sciences students. The university may also come up with strategies that are geared towards maximum utilization of HIV Testing Services by students.

Reason/s why the Participant May Be Withdrawn from the Study: Non-compliance to the instructions or the choice of the participant to withdraw may lead to participant being withdrawn from the study, however, there will be no adverse consequences for the participant as a result thereof.

Remuneration : You will not receive monetary or any other form of remuneration by choosing to participate in this study.

Costs of the Study : You will not be expected to cover any cost related to the study.

Confidentiality : The researcher will ensure that all the information you provide in this study will be kept confidential. Your identity will not be revealed as you will not be required to write your name on the questionnaire. In addition, your identifying information will not be linked to you.

Research-related Injury : There are no foreseeable research-related injury in this study.

Persons to Contact in the Event of Any Problems or Queries:

Please contact the researcher (073 8893 206), my supervisor (082 9793 035) or the University Research Ethics Committee Secretariat on 015 962 9058. Complaints can be reported to the Director: Research and Innovation, Prof GE Ekosse on 015 962 8313 or Georges Ivo.Ekosse@univen.ac.za

CONSENT

Statement of Agreement to Participate in the Research Study:

- I hereby confirm that I have been informed by the researcher, Makuya Takalani, about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number: SHS/18/PH/28/0811
- I have also received, read and understood the above written information (*Participant Letter of Information*) regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerized system by the researcher.
- I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- I understand that significant new findings developed during the course of this research which may relate to my participation will be made available to me.

Full Name of Participant Date Time Signature

I, …… …… …… ……..

I, Makuya Takalani, herewith confirm that the above participant has been fully Informed about the nature, conduct and risks of the above study.

Full Name of Researcher

Makuya Takalani Date: 05/10/2018 Signature: T.Makuya

Full Name of Witness (If applicable)

…….. Date …….. Signature……..

Full Name of Legal Guardian (If applicable)

…… Date…… Signature……..

APPENDIX C : QUESTIONNAIRE

FACTORS CONTRIBUTING TO LOW HIV TESTING SERVICES (HTS) UPTAKE AMONG STUDENTS OF HEALTH SCIENCES AT THE UNIVERSITY OF VENDA.

Name of researcher: Makuya Takalani

Date: 05/10/2018 Instructions:

- **Please answer all applicable questions by making a tick on applicable box**
- **Do not tear any page**
- **Do not copy anyone's response**

SECTION A: DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

1. AGE OF PARTICIPANT.....

2. GENDER:

1.	Male	
2.	Female	

3. LEVEL OF STUDY:

1.	First year	
2.	Second year	
3.	Third year	
4.	Fourth year	
5.	Postgraduate	

4. MARITAL STATUS:

1.	Married	
2.	Single	
3.	Divorced	
4.	Widowed	

5. RELIGION:

1.	Christian	
2.	African religion	
3.	Islamic	
4.	Other (Specify)……	

6. ETHNIC GROUP:

1.	Venda	
2.	Tsonga	
3.	Pedi	
4.	Tswana	
5.	Zulu	
6.	Shona	

7.	Other (Specify)……	

SECTION B: KNOWLEDGE ABOUT HIV TESTING SERVICES

1. COMMON MODE OF HIV TRANSMISSION

1.	Unsafe sex	
2.	Mother to child	
3.	Sharing needles	
4.	Other (Specify)……	

2. WAYS OF FINDING OUT IF ONES IS INFECTED WITH HIV/AIDS:

1.	Taking an HIV test	
2.	Doctor's examination	
3.	Looking sickly	
4.	Other (Specify)……	

3. HAVE YOU EVER HEARD OF HIV TESTING SERVICES (HTS)?

1.	Yes	
2.	No, if 'No', go to question 5	

4. WHERE DID YOU HEAR ABOUT HTS?

1.	Clinic or hospital	
2.	Radio	
3.	Television	
4.	Awareness campaigns on campus	
5.	Friend/ relative	
6.	Other (Specify)……..	

5. DO YOU KNOW OF ANY PLACE WHERE THEY OFFER HIV TESTING SERVICES?

1.	Yes	
2.	No	

6. DO YOU KNOW ABOUT THE IMPORTANCE OF HIV TESTING SERVICES?

1.	Yes, if 'Yes', go to question 7	
2.	No, if 'No', go to SECTION C	

7. WHAT IS THE IMPORTANCE OF HIV TESTING SERVICES?

1.	It helps one to know one's HIV status	
2.	It helps to prevent the spread of HIV/AIDS	
3.	It helps to plan for the future	
4.	It helps one to receive treatment if tested positive	

SECTION C: ATTITUDE REGARDING HIV TESTING SERCICES

On a scale of 1 to 3, please tick any of the following which is applicable to you.

		1. Agree	2. I don't know	3. Disagree
1.	It is necessary to go for HIV Testing services to learn about one's status			
2.	HIV Testing services are not necessary if you are faithful to only one partner			
3.	I intend going for HIV Testing services sometime in the future			
4.	I don't intend going for HIV Testing services anytime soon			
5.	I can only go for HIV Testing services if I am really sick			
6.	I can only utilize HIV Testing services if they are offering incentives			

SECTION D: PERSONAL-RELATED FACTORS CONTRIBUTING TO LOW HIV TESTING SERVICES UPTAKE

1. HAVE YOU EVER BEEN TESTED FOR HIV?

1.	Yes	
2.	No, if 'No', go to question 4	

2. HOW MANY TIMES HAVE YOU TESTED FOR HIV?

1.	Once	
2.	Twice	
3.	More than three times	

3. REASONS FOR TESTING:

1.	To know my HIV status	
2.	I had engaged in unprotected sex	
3.	I was going to get married	
4.	It was the healthcare provider's advice	

4. DO YOU THINK GOING FOR HIV TESTING SERVICES CREATE STIGMA?

1.	Yes	
2.	No	
3.	I don't know	

2. **DO YOU FEAR GOING FOR HIV TESTING SERVIVES BECAUSE OF BEING AFRAID OF POSITIVE RESULTS?**

1.	Yes	
2.	No	

6. DO YOU THINK YOU ARE AT RISK OF GETTING INFECTED WITH HIV?

1.	Yes	
2.	No	

7. WHAT IS THE REASON TO THE PREVIOUS QUESTION?

1.	I don't always have protected sex	
2.	I always have protected sex	
3.	I am abstaining	
4.	I think being infected with HIV/AIDS cannot happen to me	

SECTION E: HEALTH-SERVICE RELATED FACTORS CONTRIBUTING TO LOW HIV TESTING SERVICES UPTAKE:

1. **HOW DO YOU REGARD THE GENERAL ATTITUDE OF HEALTHCARE WORKERS PROVIDING VCT SERVICES?**

1.	Good	
2.	Poor	
3.	I don't know	

2. **IF YOU PERCEIVE THE GENERAL ATTITUDE OF THE HEALTHCARE WORKER AS GOOD, WILL GO FOR HIV TESTING SERVICES?**

1.	Yes	
2.	No	
3.	I don't know	

3. IF YOU PERCEIVE THE GENERAL ATTITUDE OF THE HEALTHCARE WORKER AS BAD, WILL YOU GO FOR HIV TESTING SERVICES?

1.	Yes	
2.	No	
3.	I don't know	

4. WOULD YOU GO HIV TESTING SERVICES IF YOU ARE REQUIRED TO PAY?

1.	Yes	
2.	No	
3.	I don't know	

4. HOW DO YOU VIEW THE LOCATION OF HIV TESTING SERVICES MOBILE CENTRES?

1.	Well located	
2.	Not well located	
3.	I don't know	

6 . REASONS IF 'Not well located'

1.	Because everyone can see that you are going for HIV testing	
2.	Because people outside can assume that your results are positive if you come out looking sad	
3.	Other (Please specify)……..	

THE END.

THANK YOU FOR YOUR TIME.

APPENDIX D: APPROVAL

UNIVERSITY OF VENDA

OFFICE OF THE DEPUTY VICE-CHANCELLOR: ACADEMIC

TO : MR/MS T. MAKUYA

SCHOOL OF HEALTH SCIENCE

FROM: SENIOR PROFESSOR L.B KHOZA

DEPUTY VICE-CHANCELLOR: ACADEMIC

DATE : 23 JULY 2018

DECISIONS TAKEN BY UHDC OF 23RD JULY 2018

Application for approval of Master's research proposal in Health Sciences: **T. Makuya (11621818)**

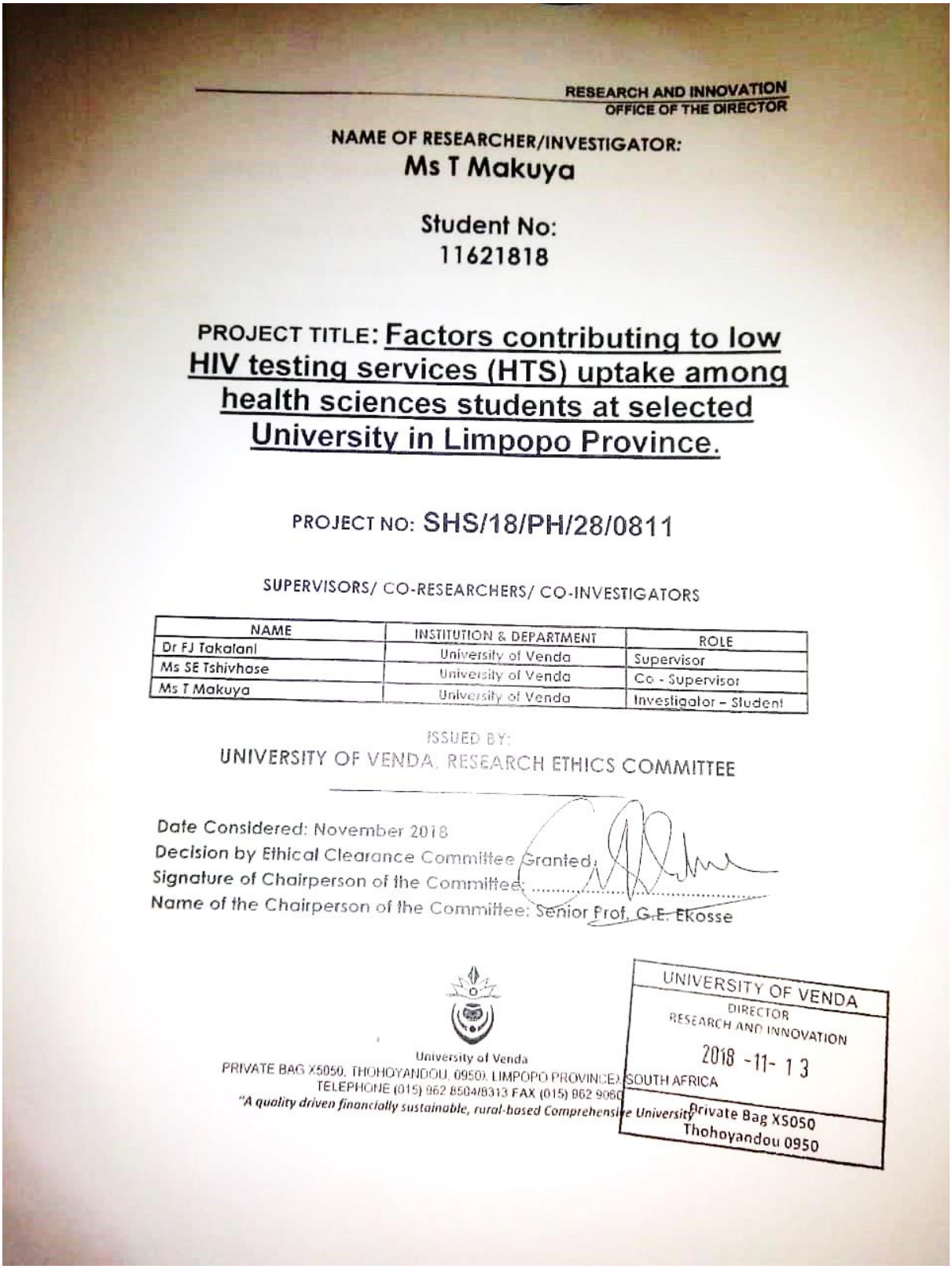
Topic: "Factors contributing to low HIV Testing Services (HTS) uptake among Health Sciences students at the University of Venda."

Supervisor	UNIVEN	Dr. F.J Takalani
Co-supervisor	UNIVEN	Ms. S.E Tshivhase

UHDC approved Masters proposal

Senior Professor L.B. Khoza
ACTING DEPUTY VICE-CHANCELLOR

APPENDIX E: ETHICAL CLEARANCE



RESEARCH AND INNOVATION
OFFICE OF THE DIRECTOR

NAME OF RESEARCHER/INVESTIGATOR:
Ms T Makuya

Student No:
11621818

PROJECT TITLE: **Factors contributing to low HIV testing services (HTS) uptake among health sciences students at selected University in Limpopo Province.**

PROJECT NO: SHS/18/PH/28/0811

SUPERVISORS/ CO-RESEARCHERS/ CO-INVESTIGATORS

NAME	INSTITUTION & DEPARTMENT	ROLE
Dr FJ Takalani	University of Venda	Supervisor
Ms SE Tshivhase	University of Venda	Co - Supervisor
Ms T Makuya	University of Venda	Investigator – Student

ISSUED BY:
UNIVERSITY OF VENDA, RESEARCH ETHICS COMMITTEE

Date Considered: November 2018
Decision by Ethical Clearance Committee Granted:
Signature of Chairperson of the Committee: .....
Name of the Chairperson of the Committee: Senior Prof. G.E. Ekosse

University of Venda
PRIVATE BAG X5050, THOHOYANDOU, 0950, LIMPOPO PROVINCE, SOUTH AFRICA
TELEPHONE (015) 962 8504/8313 FAX (015) 962 9060
"A quality driven financially sustainable, rural-based Comprehensive University"

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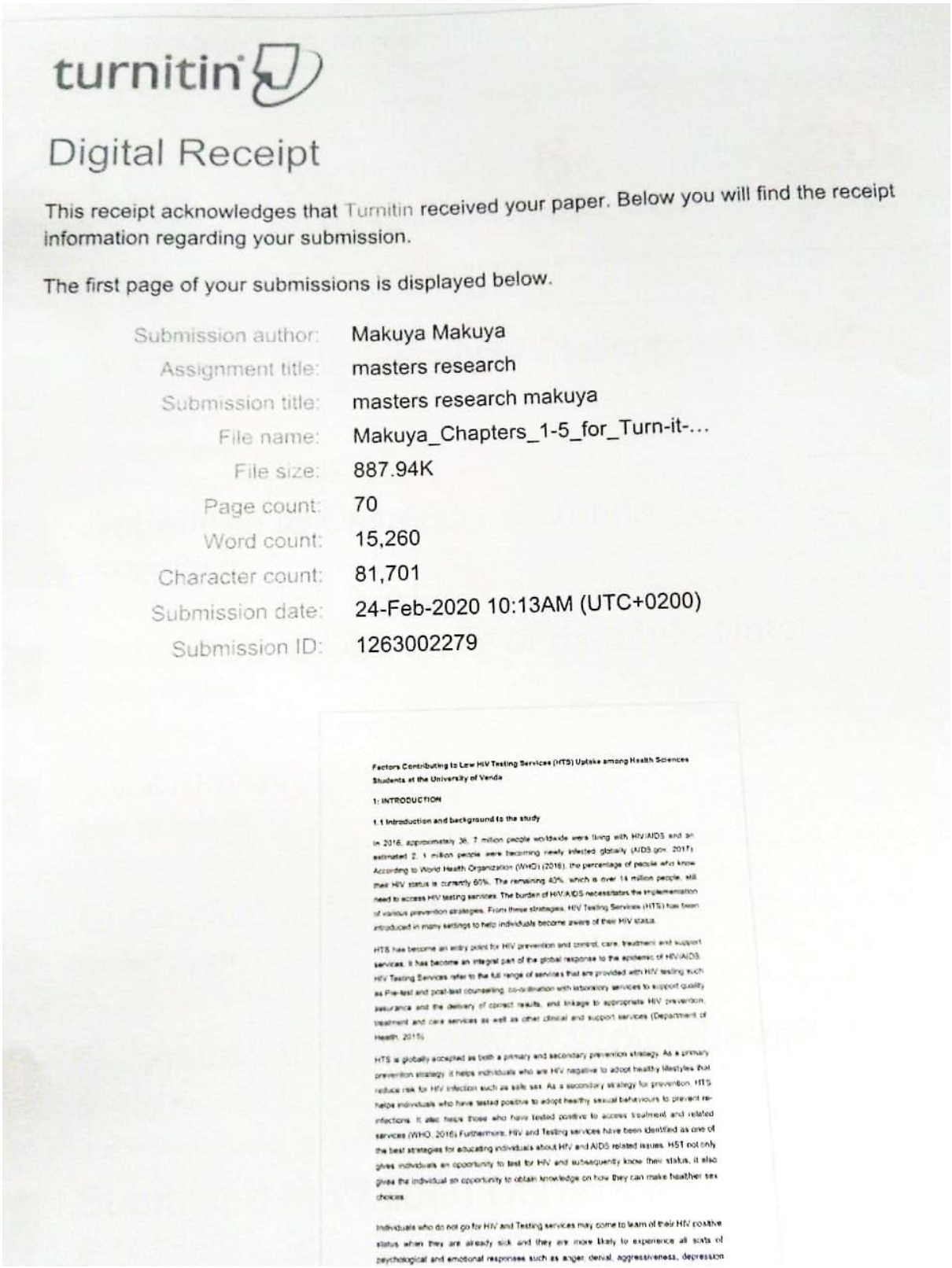
DIRECTOR
RESEARCH AND INNOVATION
2018 -11- 13
Private Bag X5050
Thohoyandou 0950

APPENDIX F: TURNITIN DIGITAL RECEIPT



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Factors Contributing to Low HIV Testing Services (HTS) Uptake among Health Sciences Students at the University of Venda

1: INTRODUCTION

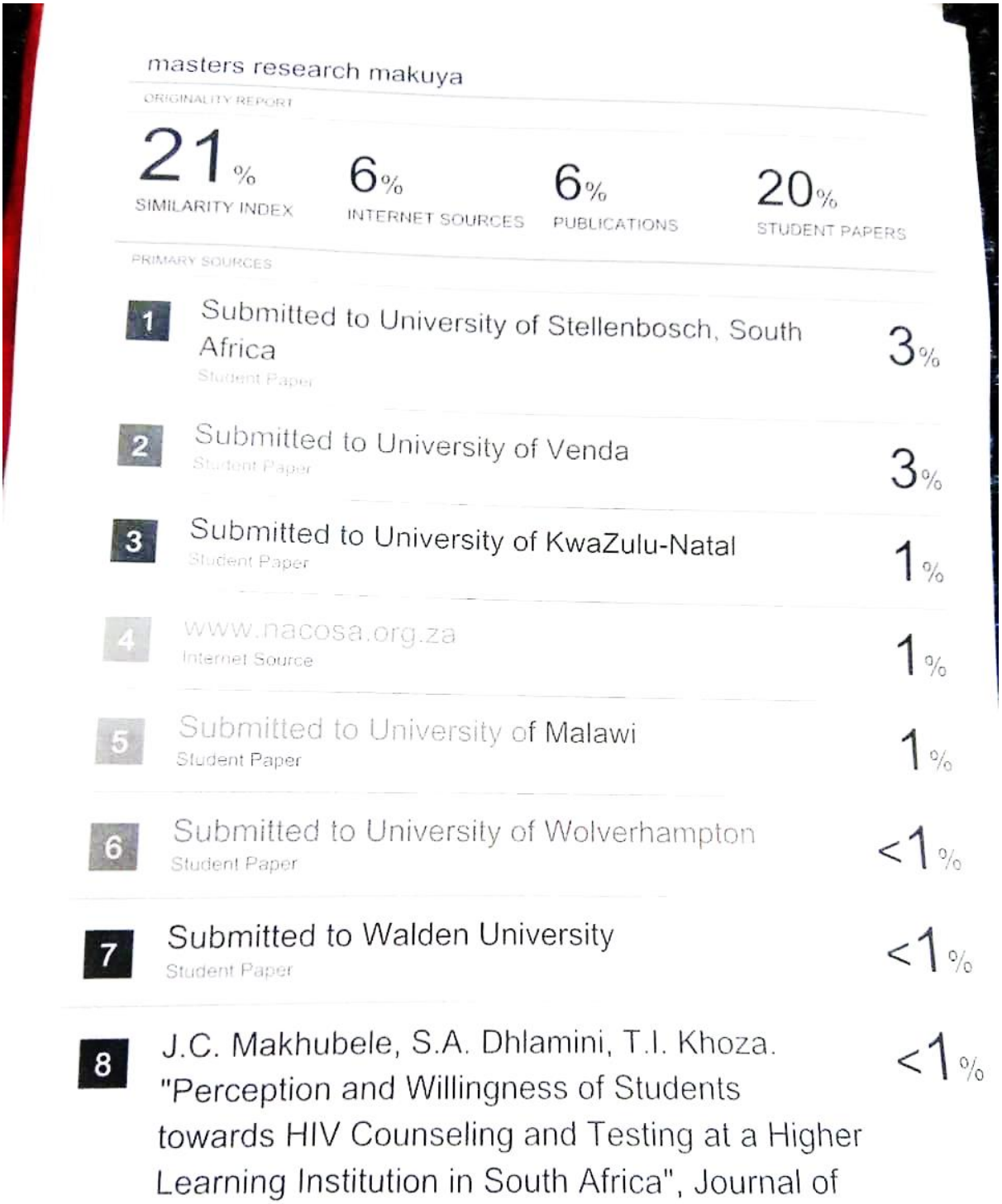
1.1 Introduction and background to the study

In 2016, approximately 36. 7 million people worldwide were living with HIV/AIDS and an estimated 2. 1 million people were becoming newly infected globally (AIDS gov. 2017). According to World Health Organization (WHO) (2016), the percentage of people who know their HIV status is currently 60%. The remaining 40%, which is over 14 million people, still need to access HIV testing services. The burden of HIV/AIDS necessitates the implementation of various prevention strategies. From these strategies, HIV Testing Services (HTS) has been introduced in many settings to help individuals become aware of their HIV status.

HTS has become an entry point for HIV prevention and control, care, treatment and support services. It has become an integral part of the global response to the epidemic of HIV/AIDS. HIV Testing Services refer to the full range of services that are provided with HIV testing such as Pre-test and post-test counselling, co-ordination with laboratory services to support quality assurance and the delivery of correct results, and linkage to appropriate HIV prevention, treatment and care services as well as other clinical and support services (Department of Health, 2015).

HTS is globally accepted as both a primary and secondary prevention strategy. As a primary prevention strategy, it helps individuals who are HIV negative to adopt healthy lifestyles that reduce risk for HIV infection such as safe sex. As a secondary strategy for prevention, HTS helps individuals who have tested positive to adopt healthy sexual behaviours to prevent re-infections. It also helps those who have tested positive to access treatment and related services (WHO, 2016). Furthermore, HIV and Testing services have been identified as one of the best strategies for educating individuals about HIV and AIDS related issues. HST not only gives individuals an opportunity to test for HIV and subsequently know their status, it also gives the individual an opportunity to obtain knowledge on how they can make healthier sex choices.

Individuals who do not go for HIV and Testing services may come to learn of their HIV positive status when they are already sick and they are more likely to experience all sorts of psychological and emotional responses such as anger, denial, aggressiveness, depression



masters research makuya

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8	J.C. Makhubele, S.A. Dhlamini, T.I. Khoza. "Perception and Willingness of Students towards HIV Counseling and Testing at a Higher Learning Institution in South Africa", Journal of	<1%

APPENDIX G: LETTER OF PROOFREADING

Office 03-100

University of KwaZulu Natal

Westville Campus

Duban, 3629

21 Februry 2020

Dear Sir/Madam

This serves to confirm that I proof-read and edited dessertation entitled : FACTORS CONTRIBUTING TO LOW HIV TESTING SERVICES (HTS) UPTAKE AMONG STUDENT OF HEALTH SCIENCES AT THE UNIVERSITY OF VENDA." by Takalani Makuya, student number 11621818

I have suggested a few amendments, provided the changes I recommended to the text, the laungage is of acceptatble standard.

Please don't hesisteta to contact me for any enquiry.

Regards,

Mr MC Mafunda
MSc(UNIVEN); BSc(MSU); ECRM(UZ); ECPME(UZ)
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