



**PERCEPTIONS AND ATTITUDES OF HIV-POSITIVE PATIENTS
TOWARDS HIV INDEX TESTING IN THULAMELA MUNICIPALITY,
VHEMBE DISTRICT, LIMPOPO PROVINCE**

By

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DECLARATION

I, **Tshilidzi Tshivhase**, declare that the proposal titled “**Perceptions and Attitudes of HIV positive patients towards index testing in the Thulamela Municipality, Vhembe District, and Limpopo province**” hereby submit this study that has not previously been submitted for a degree at this or any institution, and that is my own work in design and execution. All the sources that I have quoted and cited have been indicated, acknowledged and referenced.

T. Tshivhase

Signature

07/03/2023

Date

DEDICATION

This study is dedicated to the following people:

- To my husband, Livhuwani Harry Tshivhase
- To my children Muofhe, Thuso, Livhuwani and NinamukovheTshivhase
- To Dr SK Muthambi
- To Mrs V Nemitandani
- To Mr ThomsonSithole

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- My four children, Muofhe, Thuso, Livhuwani, and Ninamukovhe, for your constant co-operation, understanding and tolerance during my intermittent absences from home.
- Dr S.K Muthambi encouraged me and urged me to complete this study without delay.
- My friends, Mrs V. Nmutandani and Mr ThomsonSithole

LIST OF ACRONYMS AND ABBREVIATIONS

AIDS	Acquired Immune Deficiency Symptoms
ART	Antiretroviral Therapy
ARV	Antiretroviral Drugs
HIV	Human Immune Deficiency Virus
HTS	HIV Testing Services
PITC	Provider Initiated Testing and Counselling
PLWHIV	People Living with HIV
UNIAIDS	United Nations Programme on HIV/AIDS
UNICEF	United Nations International Children's Emergency Fund

ABSTRACT

HIV testing, treatment and prevention approaches are implemented to ensure that all people are tested and know their HIV status, but approximately 36,9 million people are living with HIV without being aware. Globally, current HTS approaches were not doing enough. UNAIDS 90-90-90 strategy was adopted in South Africa to control the HIV pandemic and to end HIV and AIDS by 2030, 90% of people living with HIV should know their status, and 90% of those diagnosed with HIV positive status would be initiated on treatment, while the viral of the 90% receiving treatment would be suppressed. Index testing might be one of the most effective interventions for managing the HIV epidemic worldwide by increasing the uptake of HIV testing among index contacts, key populations, and the community at large. The purpose of this study was to explore and describe the perceptions and attitudes of HIV-positive patients on index testing in the Thulamela Municipality, Vhembe District, Limpopo province. The study adopted an exploratory-descriptive design embedded within the qualitative research approach. The study population comprised all HIV-positive patients on treatment and newly diagnosed people living with HIV who attended HIV and testing services at William Eadie Community Health Centre. Convenience sampling was used to select twenty (20) participants who were above the age of 18 years old. Individual semi-structured interviews were used to collect data, and data were analyzed using thematic analysis. Voice recorder and field notes were used. Permission to conduct the study was obtained from the Ethics Committee of the University of Venda, the head of the Department of Health and a letter for permission to conduct the study at William Eadie Community Health Centre and the code of ethics to protect the rights of participants were applied. The findings revealed that nurses lacked knowledge about HIV index texting; consequently, they cannot counsel patients living with HIV. It is recommended that nurses should undergo training in HIV testing and how to counsel people living with HIV. From this study, people living with HIV' perceptions and attitudes towards HIV index testing are linked to their inadequate knowledge of it.

Keywords: *Attitudes, HIV Index testing, HIV positive patients, Perceptions.*

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CHAPTER 1: INTRODUCTION TO THE STUDY

1.1 Introduction and Background to the Study

Index testing involves the provision of HTS to family members to know PLHIV (index clients) who are at increased risk of HIV infection, such as sexual partners and children under 15 years (Lasry, Medley and Behel 2019). This model acknowledges the importance of providing HIV services to family members of an individual living with HIV for reasons regarding being affected by HIV diagnosis of one family member, concerns around disclosure and stigma and discrimination, as well as treatment challenges (Jubilee, Park and Chipango 2019). Index testing increases the uptake of HIV testing on services among partners of people living with HIV, resulting in positivity yield and increased linkage to treatment and care among partners of people with HIV. It provides mutual access support to access HIV prevention, treatment care services, improved adherence and retention of treatment, and increased mother-to-child transmission. (Ibiloye, Masquillier and Jwanle, 2022). Also, index testing ensures that the partners of HIV-positive clients benefit from opportunities to learn their HIV status and commence Anti-Retroviral Treatment (ART) if tested positive (Emeh, Usman and Adebajo, 2021). The approach has proved to be a key intervention in diagnosing PLHIV, enrolling and sustaining them on treatment and care in other settings (Hlongwa, Mashamba-Thompson, Makhunga and Hlongwana 2019).

In June 2016, the Index case testing model was implemented to identify those exposed to HIV infection by Index case, to increase the uptake of HIV testing worldwide and to reduce the spread of HIV. An individual who tests HIV positive (index case) is required to contact and bring a family member, for example, a sexual partner, injecting drug partners within past years, spouse, siblings, parents and children under the age of 15 years for HIV test and enrolling positive in care (Khalifa, Stover and Mahy, 2019). The Joint United Nations Programme on HIV/AIDS in 2017 found that 3.9 million people are not tested, are unaware of their status, and continue to live with HIV (UNAIDS, 2016). Of those who are infected with HIV, 75% are aware of their status, while 9.4 million people are living with undiagnosed infections (Lasry, Mujawar and Medley 2019). Partner notification, known as index testing or contact tracing, is the only case-finding strategy that effectively identifies the exposed contacts of HIV-positive persons living with HIV (UNAIDS, 2016).

South Africa has about 7.5 million HIV-infected people of varying ages, driven by a heterosexual population, and it is exacerbated by the prevalence of tuberculosis (TB) (Chimukangara, Kharsay and Lessells, 2019). The 2018 prevalence was 13% and has risen consistently in the past decade. However, the infection incidence has steadily declined in all population groups (World Health Organisation 2018). Despite the decline, there is a need for

scaled-up HIV Testing Services (HTS) to identify and link people living with HIV (PLHIV) with unknown status to care and treat.

Machado, Carvalho and Riera (2017) report that the number of adolescents and young people living with HIV has also increased globally. In 2017, UNICEF indicated that HIV newly infected 590,000 young people aged 15 to 24, and the testing rate among them was very low. Most regions affected by HIV were Eastern and Southern Africa, with 17% of adolescent boys and girls aged 15 to 19, while 23% of adolescent girls of the same age tested for HIV (Hosek and Pettifor, 2019). It was reported that approximately 1,700,998 HIV tests with 99,201(58%) positive results were done in March 2018 in 20 counties (Lasry, Mujawar and Medley 2019). From the tests conducted, the index positivity rate for index testing was 9,8% for people aged 15 (from 1,2% to 2,0%). The current researcher believes that introducing the index testing model will increase the number of people who know their status and will be initiated into the ARV programme (Bunda and Bassett 2019). It will also reduce the number of people spreading the virus to others. In concurrence, UNAIDS (2016) states that progress in health education and health promotion has been made globally, but some did not know their status. So, index testing comes in handy.

In Sub-Saharan African countries such as South Africa, Zimbabwe, Mozambique, Uganda, Nigeria, Tanzania, Zambia, Ethiopia, Kenya, and Malawi, HIV infections in the region is approximately 17% (Lofgren, Bond, Nakasujja et al., 2020). HIV prevalence is higher at 20.4% (Department of Health, 2015). In their study, Jubilee, Park and Chipango, 2019) report that the HIV prevalence rate of adults and children in Lesotho is very high, with a prevalence rate of 25.6% of adults from 15 to 59 years and 2,1 children living with HIV in 2016, (Jubilee et al., 2019). Further state that, due to the high prevalence rate of both adults and children living with HIV and not knowing their status, immediate attention is needed to identify those who have an unknown status to be tested, cared and get treatment (Jubilee, Park and Chipango, 2019).

In 2019, people living with HIV in Zimbabwe were 1.4 million. Seven hundred thirty were estimated to be women living with HIV while 14, 000 million men were also living with HIV (Zimbabwe national statistics agency 2016). In Mozambique, there are 2.2 million people who are living with HIV, with women at 15.4% and men were 8% more than women (Rich, Mavhu, France et al. 2022). According to UNAIDS (2016), in Uganda, 170,000 live with HIV, and the prevalence rate of HIV is 6.2% among females and 4.7% among males. In the context of South Africa, people living with HIV was estimated to be 7.7 million in 2019, with 140 00 women infected with HIV and 4.7 million women unknowingly living with HIV, 86 000 men also infected with HIV, and 2.8 million men unknowingly living with HIV (UNIAIDS, 2019). Further, the Department of Health(2016) indicated that the prevalence of HIV in Malawi between the ages of 15-64 adult women was 12.8% and 8.2% compared to men of

the same age. In Vhembe District, where the study is undertaken, out of 1402779 people, 64372 are infected with HIV at a rate of 4.61%.

Southern African countries have tried to reach the first 90% strategy goal of people living with HIV and unaware of their status (Mahachi, Muchedzi, and Tafuma 2019). To reach those undiagnosed people, Zimbabwe, Tanzania and Malawi implemented index testing and partner notification services (Mahachi et al. 2019). Many people at risk of contracting HIV do not attend HIV testing services in high numbers because factors associated with HIV diagnoses affect them. It is their perceptions, attitudes and the way they perceive the HIV testing services to decide whether to go for testing or not. According to Ross, Akiya and Slawek (2019), African immigrants in the United States have a highly increased number of HIV due to their perceptions of the programme. It is also indicated that their perceptions towards index testing need to be considered to change their attitudes, which will increase the service uptake (WHO, 2016). Urgent attention is required where innovative ways to identify previously undiagnosed HIV Infected people by identifying and screening them for HIV infection to close the gaps in HIV testing (Department of Health, 2017).

HIV modalities are implemented for all people living with the virus to know their HIV status, but current HTS approaches are insufficient to find those living with HIV. During 2017-2018, people who were HIV positive and on ART treatment in Limpopo Province were approximately 72.6% (National Department of Health, 2016). Key findings indicate that people on treatment in Limpopo Province by District 2017-2018 are as follows: Vhembe District with 80.6, Waterberg 73.9, Mopani 73.7, Sekhukhune 69.1 and Capricorn District with 67.2 (National Department of Health, 2016).

Despite the high rates of HIV prevalence among people across the globe, the literature also shows a general fear among people regarding HIV Index testing for HIV-positive and non-positive patients (Madiba, Ralebona and Lowani 2021). For example, Oforjebe, Hoffman and Shaba, (2020) on the acceptability of the HIV Index testing HIV-positive clients in Malawi indicate that although HIV-positive individuals were willing to share their HIV results with their partners, there are barriers to HIV Index testing such as the lack of trust among partners and towards the healthcare authorities, harmful gender norms and socio-cultural practices that prevent individuals from taking the HIV Index testing. The attitude toward index testing is also critical to influence challenges of coercion to test or result in interpersonal violence among HIV Index testing partner clients (Oforjebe, Hoffman and Shaba, 2020). Drawing from this, the main objective of the study is to explore and describe the perceptions and attitudes of PLHIV on index testing.

In the United States of America, (Ross, Akiya and Slawek, 2019) reveal that African immigrants have an increased rate of HIV infections due to the perception and attitudes they hold towards the HIV testing and care programme. They are found to have negative perceptions and attitudes towards HIV Index testing (Erena, Shen and Lei 2019). Thus, the initiatives to ensure that people are positive for HIV Index testing significantly reduce the gaps of undiagnosed HIV persons. For Carrico, Storholm and Flentje (2017), factors such as spirituality or religiosity and substance use impact how black men who have sex with men perceive HIV testing.

Erena, Shen and Lei (2019) identify factors such as geography, age, gender and marriage status as influencers of attitudes and perceptions on HIV index testing. For example, the study exhibits that in Nairobi informal urban residents have a lower rate of HIV index testing willingness compared to the formal settlements. The study also shows that individuals aged 20-24 are more likely to be tested for HIV than other age group categories. Married partners are more likely to be tested for HIV status, while unmarried partners are less likely to be tested (Seidu, 2020).

The knowledge and understanding of the importance of HIV index testing are also significant towards changing the perceptions and attitudes of HIV-positive patients towards HIV index testing. For example, the study by Yehia, Herati and HIV Research Network (2014) reports that understanding HIV testing practices can improve compliance with the guidelines and may assist in identifying areas that require future intervention. Herati and HIV Research Network (2014) further stipulate that healthcare promoters should design campaigns and thoughtful strategies to ensure that important information reaches the target people, emphasising HIV testing guidelines and importance, leveraging health information on HIV index testing and pushing the information to the people towards increasing HIV testing.

1.2 The theoretical framework

This study adopts Health Belief Model Hochbaum and Rosenstock in the 1950s (HBM) as the points of departure. The health belief model (HBM) posits that individuals must act to prevent certain diseases or illnesses depending on their perceptions. This model is adopted in this study to explain individuals' health behaviour, personal beliefs and perceptions of the diseases and ways to decrease HIV (HIV index testing) diseases by doing things that may prevent them through testing and prevention. (Ofori 2019).

The HBM theory assists in assessing individuals on how they may protect their health and change their behaviour in preventing diseases. It is useful because it assists in providing information on the individual's views on the issue of health and factors that can influence them to change their behaviour. HBM focuses on the perceptions and beliefs of an individual.

HBM model perceives seriousness, susceptibility, benefit and barriers as the main four constructs of the model, as explained below.(Gehlert and Ward, 2019).

1.2.1 Susceptibility

According to Ofori (2019), index contacts are susceptible to acquiring HIV due to a lack of information on HIV index testing and also ignorance of using a condom. Also, index contacts do not change their behaviour unless they believe they are at risk, and those who do not think they are at risk of acquiring HIV from unprotected sex are less likely to use a condom. Therefore, myths and misconceptions surrounding HIV index testing prevent an individual from performing HIV tests (Muleka 2020). For example, index contacts should be given correct information on HIV index testing and also the importance of testing that will change their perception.

1.2.2 Perceived severity

It is perceived that individuals who have already tested HIV positive will disclose their HIV-positive status to their sex partners as well as family members to protect them from having HIV infection as they know the consequences of the disease, and will also make use of a condom to prevent the continued spread of the disease. Many people are less likely to consider condoms when they think STDS are a minor inconvenience.

1.2.3 Perceived barrier

HIV-positive patients have difficulties disclosing their HIV status due to stigmatisation and discrimination by friends, family members, colleagues and community members. Modifying factors such as marital status and education influence a person's behaviour not to take action for HIV index testing. Religious belief may also be a barrier to disclosing HIV status as other religions believe that being HIV positive is a punishment. Inability to cope with HIV-positive results, confidentiality breaches by a health care provider, mistreatment by health care providers, and lack of knowledge and family support are proven as some of the barriers (Chin and Mansori, 2018). The current researcher has observed that some people believe that bringing up condoms in a relationship is a sign of distrust and become hesitant to bring them.

1.2.4 Cues to action

People's disposition for HIV testing uptake may change by using jingles, fliers and billboards to display the consequences of HIV infection. HIV-positive patients may influence family members to participate in HIV screening. Routing HIV screening is when all patients in a location regard the risk of any individual patients, and it will provide more information about

their HIV status so that they can benefit from early diagnosis and treatment as well as reduce infecting others (Glanz, Rimerand and Vismanath, 2015).

1.2.5 Perceived benefits

When HIV index clients' belief in the recommended preventive health activities such as disclosing their HIV status to the family members, using a condom correctly to reduce the spread of HIV infection, and taking medication correctly may improve their health, and they may take care of their bodies by a healthy diet. They also get better family support from their family members to reduce the stigma attached to them. Through adherence, they may recover from HIV effects (Tarkang and Zotor, 2015). Index contacts should understand the new modality for testing HIV and acknowledge that it may prevent the spread of HIV.

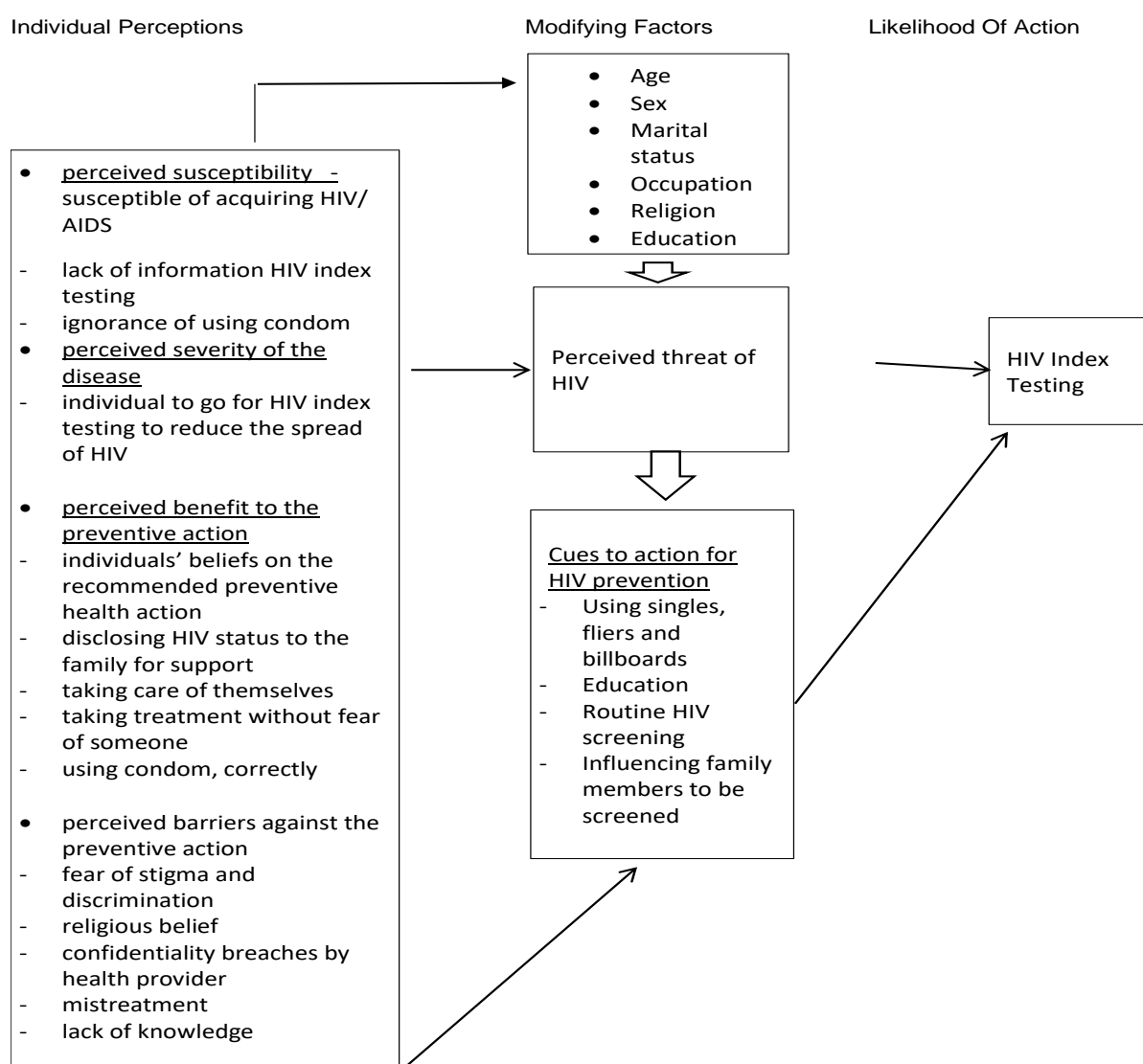


Figure 1: The connectivity of the theoretical framework (Self-developed)

1.3 Problem statement

In South Africa, different types of HIV testing modalities which include Provider Initiated Testing and Counselling (PITC), Self-Screening and Client-initiated Counselling and testing (CICT), have been introduced throughout the years (Department of Health, 2016). Campaigns for HIV were conducted in different health facilities to raise awareness of HIV & AIDS and encourage people to get tested to know their status and to go through treatment where necessary. However, current literature proves that little has been achieved in getting people tested for HIV. The researcher is an experienced HIV lay counsellor mentor at a primary health care clinic around Vhembe District and has learned that despite various strategies the government has introduced, numerous people still take for granted the importance of getting tested. In contrast, others still fear getting tested, and their status remains unknown. The fear and ignorance of testing have resulted in the continuous spread of HIV and AIDS, increasing the number of people who depend on the government for ARVs, and child-headed families and resulting in the loss of qualified workers who play a vital role in the economy of the country, either through death or falling sick to such an extent that they are unable to work (Department of Health, 2016). South Africa's economy is already struggling, so it cannot afford such instances (Roosevelt, 2017). The Index testing model targets contacts of HIV-positive persons for HIV testing services and can potentially reduce the spread of HIV & AIDS.

It remains a huge problem that few people get tested even though the government has introduced different testing modalities and campaigns to raise awareness of HIV and AIDS. This perpetuates the spread of the virus, causing child-headed families as mortality rates increase. More people will eventually be dependent on ARVs, while the labour market is losing qualified workers. In Thumalela Municipality, Vhembe District, most people living with HIV have not been tested, and their sexual partners and children remain undiagnosed, increasing the spread of HIV (Department of Health, 2016). Considering this, the current study explores and describes perceptions and attitudes of HIV-positive patients on HIV Index testing in Thulamela Municipality within the Vhembe District. This study's aim aligns with the 2017 global HIV coalition, which sparked renewed focus among participating countries towards achieving global prevention targets.

1.4 The Rationale of the Study

Some studies in South Africa regarding index case testing have been conducted, but minimal if nothing at all, has focused on HIV index testing (perceptions and attitudes of HIV-positive patients in Limpopo Province). For instance, Kamanga, Brown and Jawati (2015) focus on maximising the partner notification opportunities for index patients and their sexual partners in Malawi. These researchers suggest a need to identify family members, sexual partners and children under the age of 15 years of index case because it will provide evidence based

on their perceptions and attitudes on index testing. There is a need for intervention to identify people living with HIV, engage them in ART programmes and promote adherence to achieve viral load suppression. Additionally, strategies are needed to reach people who are at risk and untested in the past 12 months and are newly diagnosed but not adhering to treatment. It is, therefore, relevant for this study to explore and describe the perceptions and attitudes of HIV-positive patients towards index testing.

1.5 Significance of the Study

The knowledge received through participation might help to improve HIV-positive patients' understanding of index testing within the context of HIV infection. Lay counsellors and other health providers with training in HIV counselling should work together to identify those at risk of contracting HIV at an early stage of infection. It will yield positive outcomes. This study is necessary and deserves attention because family members and children remain untested and without access to treatment. The study might assist HIV-positive patients in accepting themselves and freely discussing their HIV status with their family members. Recommendations from this study might benefit communities with campaigns on HIV-related issues such as disclosure, the importance of index testing and a healthy diet. The study might also benefit the body of knowledge.

1.6 Purpose of the study

To explore and describe perceptions and attitudes of HIV-positive patients on HIV index testing in Thulamela Municipality, Vhembe District.

1.7 Research questions

- What are the perceptions of HIV-positive patients towards HIV index testing?
- What are the attitudes of HIV-positive patients towards HIV index testing?

1.8 Research objectives

- To explore the perceptions of people living with HIV towards HIV index testing.
- To explore the attitudes of people living with HIV towards HIV index testing.
- To ascertain the understanding of people living with HIV on index testing.

1.9 Definition of concepts

1.9.1 Attitudes

Attitude is a way in which a person behaves or views something, according to Choi and Dhakal (2017). Attitude is an enduring response dealing with persons, ideas, objects or situations. Attitudes are someone's beliefs or emotions about something, which their behaviour may show. Therefore, attitude is how an individual thinks and behaves. For this study, an attitude refers to HIV-positive patients' views, thinking and emotional reactions toward index testing.

1.9.2 HIV index testing

Index testing is the provision of HTS by a counsellor or health care worker to family members of people living with HIV, called index clients, by listing all their sexual or injecting drug partners within the past years and biological children under the age of 15 years (Poku 2016). In this study, index testing is considered a method in which family members, including partners and children exposed to HIV of people diagnosed with HIV, are offered HIV Counselling and Testing Services (Mahachi, Muchedzi and Tafum, 2019).

1.9.3 HIV-positive patients

HIV-positive patients refer to individuals who are infected with HIV. HIV-positive patients are individuals (Das, Aritra and Detels 2017). In this study, HIV-positive patients are participants living with HIV who have attitudes and perceptions towards index testing

1.9.4 Perception

Perception is a process in which a person or individual recognises and interprets information they have gathered and responds to a certain way of thinking. It is a way of understanding situations from an environment with personal interference and concludes to take actions or behaviours (Fetzer, Henseland Roth, 2020). In this study, perception refers to how HIV-positive patients understand and explain what they think regarding index testing modality.

CHAPTER 2: LITERATURE REVIEW

2.1. Introduction

The study is about perceptions and attitudes of HIV-positive patients towards HIV index testing in the Thulamela Municipality, Limpopo Province. The chapter contextualised HIV index testing and discussed the statistics of people living with HIV in developed and developing countries, knowledge about HIV&AIDS, perceptions and attitudes of HIV-positive patients towards HIV index testing, benefits of HIV index testing, risks of HIV index testing and strategies to improve uptake on HIV index testing.

2.2. HIV index testing

World Health Organisation (WHO) (2016) describes HIV index testing as the process whereby health care providers and HIV counsellors request newly diagnosed individuals classified as HIV positive and on HIV treatment to reveal all their sexual partners and their children for their past years. With their consent, the health care providers or HIV counsellor contacts the partners and children to inform them that they may be exposed to HIV-related illnesses. Therefore, please encourage them to take HIV index testing.

According to the Joint United National Programme on HIV & AIDS [UNAIDS] (2016), approximately 9.4 million people were un-aware of their Human Immunodeficiency Virus ("HIV") status. Out of the total, which is 9.4 million, there were 3.9 million people infected and living with HIV. These low numbers confirm that most people are afraid to get tested, even though some effort and support were offered to people to do so. Many modalities were developed to test HIV, but the results were disappointing. As a result, HIV Index Testing was introduced.

HIV index testing is a new HIV control procedure in addition to the existing modality of HIV testing and counselling worldwide Kahabuku, Plotkin and Christesen et al. (2017). It is aimed at reducing HIV transmission by providing voluntary testing services to improve the HIV positivity rate. Kahabuku et al. (2017) further reason that the HIV index testing linked those who tested positive to treatment while providing preventive services to those who tested negative. This is the only way countries would control the HIV pandemic and achieve the UNAIDS target of 90% of people living with HIV knowing their status.

2.3. Statistics of people living with HIV in developed and developing countries

HIV is one of many **communicable** diseases worldwide, and testing is one of the available tools to determine whether a person needs treatment. WHO (2020) estimates approximately 38 million people worldwide live with HIV. This includes 36 million adults and 1.7 million children under 15 years. In alignment, UNAIDS(2020) reports that 25 million people living

with HIV are from the African continent. Also, out of 38 million, approximately 84% know their HIV status and receive ARV treatment and support services.

In 2020, people who tested for HIV worldwide approximately 84%, and all of them knew their HIV status. However, new infections are estimated to be 1.5 million annually, with adults at 1.3 million and children under 15 at 160 000(Amstrong-Mensah, Ruiz and Fofana 2020). Testing for HIV is the first step to accessing ARV treatment, care and support service, and there are 28 million people who receive treatment worldwide. Surprisingly, WHO 2020 reported that 10 million are still waiting for their ARV treatment. However, the current researcher notes the progress; more efforts are needed for children and adolescents to scale up treatment(Amstrong-Mensah, Ruiz and Fofana 2020). By the end of 2019, 54% of children and adolescents were on medication. Therefore, it is appropriate that people who are on medication keep their viral load undetectable and live healthy lives with no risk of transmitting HIV to their sexual partners.

Many people living with HIV were from developing countries, primarily low-income earners (Staupe-Delgado and Rubin 2022). The UNAIDS (2020) found that of 21 million, Western and Central Africa amounted to 5 million, constituting 13%. About 6 million people were from Asia and the Pacific, with 15%. While 2 million people living with HIV were from Western and Central Europe and Northern America with 6%. Globally, by the end of 2020, 690 000 people had died from HIV worldwide (Chirwa-Banda 2022).

Table 1. The table below summarises the numbers and prevalence rate of people living with HIV in developed and developing countries (Joint United Nations 2021).

Country	Adult prevalence of HIV / Aids	Number of PLHIV	Death from related illness	Year
Switzerland	0,20%	17,000	None	2019
Norway	0.12%	6.277	77	2017
Denmark	0.11%	6.500	None	2018
Germany	0.10%	87.000	None	2018
Sweden	0.13%	8.000	None	2019
China	0.09%	1.250000	None	2018
Uganda	6.10%	1.500,00	21,000	2019
Vietnam	0.30%	230.00	4,000	2019
Zambia	12.10%	1.200,00	17.000	2019
Mozambique	12,10%	2,200.00	51.000	2019

Machado, Carvalho and Riera (2017) observe that the number of adolescents and young people living with HIV is increasing at an alarming rate globally. The United Nations Children's Fund (UNICEF) (2017) shared that HIV newly infects 590,000 young people aged 15 to 24. What is of critical concern and interesting to note from (UNICEF) (2017) reveals that the testing rate among young people is very low. HIV testing is free and available to everyone, but very few youths use it. The resistance is prevalent and a real concern if HIV control strategy is to be achieved.

Hosea and Pettifor (2019) found that in Africa, people living with HIV are concentrated in Eastern and Southern Africa. Hosek and Pettifor (2019) reveal that HIV testing using the new HIV index testing in 20 African countries in 2018. From this analysis, statistics show that approximately 1.7 million HIV tests with 99, 201; equivalent to 58% positive results, and the Sub-Saharan African countries, including South Africa, Zimbabwe, Mozambique, Uganda, Nigeria, Tanzania, Zambia, Ethiopia, Kenya and Malawi, had the HIV prevalence higher than 20.4% (Department of Health, 2015). The numbers are further broken down to 17% of adolescent boys aged 15 and 19. According to Jubilee, Park and Chipango (2019), the same is true with adolescent girls aged 15 to 19, who constituted 23% of those who tested for their HIV status using the HIV index testing method. Despite the target to reach 90% strategic goal, there is a high number of people living with HIV and unaware of their status in most developing countries (Ross, Akiya and Slawek 2019). These people remained undiagnosed and at risk of contracting HIV if not encouraged to take the HIV index testing and received treatment and support services. Furthermore, the perceptions and attitudes of African migrants that HIV is a white illness in the United States of America increased HIV infection. HIV index testing plays an important role in providing treatment and support. In addition, Ross et al. (2019) believe that some of the existing initiatives, such as the "90-90-90 strategy" should be revised to devise effective strategies for countries to follow. According to WHO (2016a), this would ensure that people are positive for HIV index testing and close the gaps between diagnosed and undiagnosed HIV persons. This is the only way to reduce the high rate of HIV infections (WHO, 2016b)

In the 2017/18 financial year, South Africa, particularly in the Limpopo Province, had people who were HIV positive and on Anti-Retroviral Therapy (ART) treatment which is reported to be approximately 72.6% (National Department of Health, 2016). At the district levels: Vhembe District has (80.6%), Waterberg (73.9%), Mopani (73.7%), Sekhukhune (69.1%), and Capricorn District (67.2%). These percentages of people on ART treatment are encouraging. Still, they are the ones who should participate in the study like, including their partners and children in the HIV Index Testing programme. The reality points to a different direction: the ones on treatment are hesitant to disclose to their partners and children as they

fear rejection and stigmatisation. As a result, HIV infection continues to increase at an alarming rate.

2.4. Understanding HIV and AIDS

The knowledge about HIV/AIDS comprises the mode of transmission, prevention measures and risk behaviour and their implications. HIV/AIDS is a serious health problem around the world. Thus, it is a global epidemic, progressing at a higher rate among adults and youth. Therefore, HIV awareness is urgently needed to stop the transmission of this virus (Boakye and Mavhandu-Mudzusi 2019).

Spreading adequate knowledge and awareness about HIV is one of the most important strategies to prevent and control HIV and AIDS Kahabuka et al. (2018). Inadequate knowledge and risky sexual behaviour are major obstacles in preventing the spread of HIV to others (Kasymova 2020). Therefore, knowledge of HIV/AIDS is crucial in stopping negative attitudes and discrimination toward infected and affected individuals.

According to World Health Organisation (2020), improving HIV and AIDS knowledge has been effective in HIV prevention. At the same time, behavioural interventions such as safe sex practice, HIV and AIDS testing, and treatment uptake are the only tools to control the transmission. Studies globally indicate that most young people aged 15 to 24 have no idea how HIV is transmitted (Tarkang, Lutala and Dzah2019) and how to protect themselves from acquiring the Virus. Countries such as Cameroon, Central African Republic, Lesotho and Sierra Leone with generalised HIV epidemic of 80% of young people aged 15 to 24 do not have enough knowledge about HIV/AIDS(Bakker 2019). UNICEF (2020) also found that many young people lack knowledge of the mode of transmission and prevention methods. HIV/AIDS prevention intervention is needed, such as outreach efforts targeting young people from disadvantaged rural areas and those from lower socio-economic groups. Therefore, the uptake of HIV index testing is encouraged by factors such as people's knowledge and beliefs about HIV. Knowledge sharing and advice-giving, coupled with awareness about HIV, is one of the most important strategies in preventing the spread of HIV to other people. Ryan, Hahn and Rao (2020) believe that transmission of HIV in South Africa continues to increase in numbers because of the large number of people living with HIV who are undiagnosed. As a result, they are the major contributors to the continuous transmission of HIV.

2.5. Perceptions of HIV-positive patients towards HIV index testing

There was a general fear among people regarding HIV index testing for HIV-positive and non-positive individuals. The study by Offorjebe, Hoffman and Shaba (2020) reported the acceptability of the HIV index testing on HIV-positive patients in Malawi was higher, with their

willingness to share their HIV results with their partners. The results also highlighted that such people were very positive that their partners would be willing to complete the HIV index testing. Despite the positive mentality, it was also discovered that there were barriers to HIV index testing, such as the lack of trust between the patients and the healthcare authorities. The problem of trust within the partner relationship, gender, cultural norms and practices prevented people from taking the HIV index testing. Oforjebe et al. (2020) opine that more work would be done around inter-personal violence and intimidation among the partners to increase HIV index testing. These were some of the challenges that increased the reluctance to HIV index testing.

According to Boye, Bouaré and Ky-Zerbo (2021), the disclosure of HIV status to partners in Mali was very low. These authors further argued that HIV index testing was a critical strategy to improve the knowledge of HIV status. However, there was a need to understand the knowledge and practices of partners if HIV index testing was to succeed. People's perceptions regarding HIV index testing are that it is in-appropriate to reveal one's HIV status to their partner because it may trigger violence and death. This resulted in the failure to disclose the HIV status of the partners who might have tested for HIV. At the perception level, Boye et al., 2021 note with concern that there is a lack of effective strategies to push and support the disclosure of HIV status among healthcare promoters and campaigns. Therefore, it is essential to strengthen strategies to support the disclosure of HIV-positive status among partners. For these reasons, without revised strategies to change the perception of people to improve uptake. Failure would result in HIV index testing remaining low.

2.6. Attitudes of HIV-positive patients toward HIV index testing

The HIV index testing was adopted as a global commitment to support sustainable development goals and reducing HIV/AIDS through testing, provision of ARV and support services (Rosenberg and Mtande, 2015). According to Seidu(2020), in Kenya, people aged 20-24 years are more likely to be tested for HIV than other age group categories Seidu(2020). Further argued that people are interested in participating in the HIV index testing but later hesitated because of the slow pace of roll-out. Those who were unmarried were less likely to be tested for HIV status. The interesting finding is that the marital status of the individual, HIV status, gender, education level and age determinants had an effect on whether to be tested for HIV status or not.

Mahendra, Gilborn, Bharat and Mudoj (2007) note the pervasive existence of HIV/AIDS-related stigma and discrimination within healthcare institutions, making it necessary to reduce the HIV/ AIDS stigma to promote HIV index testing among healthcare professionals. Mahendra et al. (2007) indicated that the stigma and attitude of healthcare professionals

were associated with the lack of knowledge about HIV Index Testing transmission and discriminatory practices. There is a co-existing relationship between the negative attitudes towards HIV index testing and the limited resources within health facilities. Therefore, there was a need to take into account the socio-cultural and economic context within which stigma occurred in an attempt to reduce the high levels of stigma and negative attitudes toward HIV index testing.

Mahachi, Muchedzi and Tafuma (2019) observe that most of the Southern African countries have made progress towards reaching the Joint United Nations Programme on HIV and AIDS goal of reaching the 90% mark of the people living with HIV to be aware of their status; Zimbabwe has led the way with an estimated 73% in 2016. However, the difficulty was the absence of measuring tools to promote awareness of HIV index Testing. This has resulted in the Zimbabwean Ministry of Health and Child Care failing to reach the remaining un-identified people with undiagnosed HIV infection through the HIV index Testing. Thus, there is a need for careful implementation of the HIV index testing and projects to promote its uptake, positivity rates and, consequently, HIV treatment.

Mahachi, Muchedzi and Tafuna (2019) assert that early HIV testing and diagnosis are significant towards enhancing treatment initiatives among children for survival and health improvement. However, the uptake of HIV index testing remained low in highly prevalent areas in Zimbabwe. Most people (91%) believe that children may benefit from HIV index testing. The authors opine that the fear of discrimination among individuals tested for HIV was identified as one of the barriers to up-taking HIV index testing. There was a need to increase knowledge regarding HIV index testing in children, thus reducing the gaps in discrimination and stigma.

Simon, Flick, and Kim (2018) identified that significant advances in paediatric HIV treatment among children is difficult to implement. On the one hand, identifying the children and initiating antiretroviral therapy (ART) at early stages remains complex. Simon, Flick, and Kim(2018) believe that there is a problem with the approaches towards case finding of HIV-infected people, they also suggested the use of enhanced uses of family testing as an Index Case Finding (ICF) strategy to which HIV-infected patients would be systematically screened to identify family members with unknown HIV status. Furthermore, previously undiagnosed HIV-infected children and adults would be linked to relevant care and support systems. In addition, Simon et al. (2018) recommended that family HIV index testing become the national strategy for integrating different programmes. The possibility of managing index testing among children encourages more family members to be tested, reaching a wider population.

Plotkin, Kahabuka and Christensen(2018) conducted a study to observe the experiences and outcomes of men and women with partner notification for HIV index testing in Tanzania. The study identified women and men newly diagnosed with HIV to be enrolled as Index clients to list current and past sexual partners for referral to HIV Index Testing. This concurred with the findings of Ahmed and Seid (2020) that married partners' referrals are more successful than unmarried index clients. Their findings also revealed that the female HIV index testing referrals are more successful than the male partners. Furthermore, it is vital to note the barriers relating to the unsuccessful referral from women partners about the assumed social strength of males within societies.

The effectiveness of an entertainment-education TV Series (MTV Shuga) in providing information (Banerjee, La Ferrara and Orozco-Olvera, 2019) and changing behaviour and attitudes towards HIV and AIDS in Nigeria. Banerjee et al. (2019) further reveal that using a simple model that edutainment, such as the randomised controlled trial in urban Nigeria with young viewers of MTV Shuga, could work through a social or an individual channel. The social norm components have no significant correlation to the positive impact on HIV testing compared to the individual effect of edutainment (Banerjee et al. 2019). This study is important in showcasing the power of media as one factor that promotes participation in HIV index testing within communities. It is vital to note that edutainment stories on television may assist countries in explaining the importance of HIV index testing in a socially acceptable and non-threatening way. This way of sharing information may change attitudes as it reaches more people and changes societal perceptions.

2.7. Benefits of HIV index testing

HIV index testing is a strategy to control and reduce the spread of HIV infection (Boye, Bouare, Ky-Zerbo and Simofotso et al. 2021). Furthermore, there are many benefits of getting tested for HIV, whether the test results may be negative or positive. Early testing for HIV infection is very important and useful in preventing illnesses related to HIV. It helps the patient to make an informed decision to receive or have access to HIV treatment and support services that may prevent other complications, thus, reducing risky sexual behaviour.

According to Mahachi, Muchedzi and Tafuma (2019) HIV index testing was medically beneficial and assist in preventing HIV transmission to partners and infants. It also assisted individuals to on-going support and emotional or psychological care.HIV index testing also helps in behavioural change and prevention of mother-to-child transmission.

2.7.1. Informed decision

The HIV counselling and testing services empower individuals to take decisions to be tested not only for HIV index testing but other illnesses (Watson,2019). If an individual test negative,

he or she could take steps not to get infected by the virus by practising safe sex. The same is true, positive results assisted in protecting others and stopped the spread of HIV. Therefore, HIV index testing and counselling services were important to reduce the spread of HIV and AIDS.

When married people get tested for HIV using the HIV index testing, they often know their HIV status and make informed decisions on their sexual lives and how many children they should have. Ahmed and Seid (2020) indicate that if a pregnant woman becomes HIV positive, they have access to ARV treatment as early as possible and may have alternatives on how they could breast-feed their babies and reduce the risk of transmitting the virus to unborn babies.

2.7.2. Prevention and treatment

HIV index testing and counselling services helped to identify those infected with HIV and who could benefit from receiving treatment (Jubilee, Park and Chipango 2019). Being tested earlier improves the lives of those tested and found positive. Thus, HCT is very important as it reduces mortality and morbidity. HCT services help individuals with HIV information for risky reduction purposes. Further, HIV index testing is important in managing other opportunistic infections. People with HIV received information about good nutrition and also benefited from TB treatment, as HIV-positive patients may develop tuberculosis (TB). HIV index testing encourages patients to support each other through notification.

2.7.3. Reduces risky sexual behaviour

According to Plotkin et al. (2018) HIV knowledge and information increased the uptake of prevention services and reduced risky sexual behaviour among those who tested HIV positive. Those who are in the asymptomatic stage adopted preventive measures such as using condoms every time to avoid transmission of the virus to other partners. Thus, many people change their lives after testing HIV positive and avoiding multiple partners.

2.7.4. Prevention of mother-to-child transmission

The prevention of mother-to-child transmission services reduces mother-to-child transmission and advises earlier on feeding options. A pregnant woman who tests HIV positive received treatment the same day after receiving positive test results to reduce the risk of transmitting HIV to unborn babies (Cheung and Lao, 2022).

2.7.5. Emotional and psychological care

Ross, Akiya and Slawek (2019) posit that many people who test HIV-positive experience many problems, such as denial, anger and suicidal actions. People who test HIV positive and

their families benefit from social support services at the early stage. This included opportunities of joining support groups, networks of people living with HIV/AIDS and other social networks. Trained lay counsellors, psychologists, and social workers also provided psychological and emotional support to increase positive living and coping strategies to cope with the disease.

2.8. Risks of HIV testing

HIV index testing is not immune to challenges or barriers. Ross, Akiya, and Slawek, 2019) reported that the fear of knowing that positive status, stigma, discrimination and isolation by parents, friends and relatives affected the decision to take the HIV Index Testing. These factors act as a barrier for people to consider HIV index testing. The factors are discussed as follows:

2.8.1. Rejection from family members

HIV-positive patients experienced rejection and isolation from family members, friends and relatives (Campbell, 2020). Social separation and loneliness occur due to HIV-positive status. HIV-positive patients isolated themselves from the community after receiving HIV-positive results. While others have a reduced number of friends and do not want them to know about their condition because of being afraid of being known that they are living with HIV.

When family members and relatives know about HIV-positive status, they isolate themselves from such a person. Some people are forced to leave their family of origin, house and family members, and this conduct increases depression or delays patients going for treatment. Some are mistreated and humiliated. Patients' utensils may be taken away from others, and no one in the house would be allowed to touch them; (Montano, 2020); mistreatment and humiliation became common.

2.8.2. Stigma and discrimination

People who test positive for HIV face many challenges, such as stigma and discrimination, after being diagnosed. While many people refuse HIV index testing and counselling services because of fear of stigmatisation and discrimination, this denial to accept positive status eventually leads to depression. Sweileh (2019) states that many people living with HIV hide their HIV status and, in turn, postpone treatment. They fear disclosing their HIV status because the community and those near them do not accept HIV-positive status. Most people living with HIV are labelled as adulterous and isolate themselves from family members and friends due to the stigma attached to them. HIV stigma and discrimination also affect the mental health of those with HIV (Jorm, 2020).

2.8.3. Privacy and confidentiality

Kahn (2020) asserts that lack of privacy and confidentiality discouraged people from taking HIV index testing and refusing counselling services. Section 14 of the 1996 Constitution of the Republic of South Africa stipulates that everyone has a right to privacy and confidentiality, but lay counsellors and health professionals often violate it. As a result, such conduct affected the HIV index testing uptake.

2.8.4. Provision of support

People living with HIV experience a lack of family support after being diagnosed with HIV (Koroka, 2021). The family, relatives and friends were supposed to provide financial and emotional support, but they ill-treated and humiliated them. Nalubega (2021) indicated that the family is in a place to prevent the spread of HIV by encouraging treatment adherence. However, it emerges that the family worked against the presupposed intentions. Family conduct may defeat the fight towards HIV infections.

2.8.5. HIV-positive results

According to Nannozi, Wobudeya and Gahagan (2017), people living with HIV fear the positive result of the HIV index testing. The fear is around the coping mechanism and people's perceptions. Nannozi et al. (2017) argue that people view HIV infection as a death sentence and think they would no longer survive if they tested positive. They are convinced that having HIV-positive status also affects current and future marriages. In essence, the lingering mind is the fear of dying and bringing the family into disrepute. It should not be ruled out that many married women are afraid of positive results due to violence from their sexual partners.

2.9 Strategies to improve HIV testing in communities.

Many HIV strategies that have been implemented involve people living with HIV who are unaware of their status and those who are at risk of contracting the HIV Virus and do not respond well. Banerjee, Ferrara and Orozco-Olvera et al. (2019) indicated that HIV testing and treatment services are aimed at reducing high HIV mortality and to achieve the new UNAIDS target of 95% of new HIV-positive diagnoses by 2030.

New HIV strategies to control the HIV epidemic and to improve HIV index testing globally were implemented worldwide. There are different types of HIV strategies implemented depending on the availability of transport and cost, accessibility and distance to reach HIV services. These HIV index testing approaches are introduced in the community setting outside of health facilities and in the Department of Health facilities. The strategies are:

2.9.1. HIV self-testing

HIV self-testing (HIVST) is a rapid self-administered test using oral fluids or blood which can be done anywhere and any time of the day (Hlongwa, Mashamba and Makunga.2020). The HIV self-testing service also allows individuals to interpret positive or negative results (UNAIDS,2016). HIV self-testing improved HIV uptake with un-diagnosed people. HIV self-testing addressed discomfort, stigma and discrimination that mostly occurred in health care facilities. The positive results may be repeated and confirmed at a health facility following the national testing algorithm by a trained HIV lay counsellor or trained health professionals. The HIV self-testing helped individuals who stayed far from inaccessible health facilities. The strategy is seen as effective compared to facility-based testing due to the long queues and waiting periods experienced. Statistically speaking, in 2015/2017, approximately 628,700 self-testing kits were distributed in Malawi, Zambia and Zimbabwe. While 2.5 million self-set kits were distributed in East and South Africa (Harichund and Moshabela, 2018)

2.9.2. Home-based testing

Healthcare providers meet with individuals in their homes to provide pre-and post-HIV counselling services. Makuya (2020) reasons that the strategy assists married people, children and other family members to access HIV index testing at no cost in the comfort of their homes. Home-based testing identified new cases at the early stages of the disease and improved men's uptake in Lesotho, Nigeria, Zambia and South Africa. (UNICEF) concurs with Makuya(2020) that men are more open to talking freely when HIV testing is done at home. Home-based testing reduced stigmatisation, discrimination and judgmental attitudes by health providers. Home-based HIV testing services facilitated disclosure among the family members and increased knowledge regarding HIV status.

2.9.3. HTS in school-based testing

HIV testing services at school and the tertiary institution was offered to sexually active young learners above 12 years. Department of Health (2015) cautioned researchers and health providers that experienced health professionals should do HTS if lay counsellors were involved but under the supervision of the trained and registered health professional for ethical reasons. The service was done as part of an HIV awareness campaign, and It is also offered to teachers, lecturers and staff in tertiary institutions voluntarily to comply with ethics. Those who test HIV positive are referred to the nearest health facilities for further management.

2.9.4. Partner HIV index testing

Partner HIV index testing outside the facility setting occurs when the lay counsellor or health care provider offers HIV testing for everyone opposed to HIV by index client (Shama, Barnabas and Celum, 2017).

2.9.5. Mobile testing

HIV testing services are offered in the community through mobile vehicles by health care providers, not lay counsellors. The targets are those with difficulties accessing HIV testing services, and mobile testing reduces barriers such as transportation. This strategy improves the HIV index testing uptake by 38 per cent.

2.10. Strategies to improve HIV index testing in a health facility

2.10.1. Provider-initiated counselling and testing

The health provider provided HIV index testing and counselling to everyone visiting the health facility. If a person chooses to test for HIV, the health provider will offer HIV index testing, which is a rapid test with immediate results. Chikwari, Dringus and Ferrand (2018) indicated that HIV index testing was introduced to ensure that a minimum standard of care promotes access to prevention. The health provider-initiated HIV index testing increases the number of tests administered daily and decreases barriers towards HIV testing.

2.10.2. Client-initiated counselling and testing

The client-initiated HIV index testing and counselling is provided in the health facility by healthcare workers (UNICEF, 2018). This approach to HIV testing roll-out target is married and single individuals. The client-initiated HIV index testing is another way to reach as many people as possible to achieve the 90% target.

2.11. Conclusion

HIV index testing is a new and complex phenomenon; thus, under-researched. The HIV index testing's success is influenced by different socio-cultural aspects such as religion, gender, equality and other negative conspiracies. The barriers are multi-phased, and one-size fits all strategy is bound to fail. A joint Government and stakeholders' strategy may positively improve the uptake as it would consider the local context. Thus, progress in health education and health promotion remains critical to ensuring that there is success in HIV index testing, improving knowledge, change the negative attitude and perceptions on the ground. For HIV index testing to succeed and reduce HIV infection, an integrated approach needed to be championed by local people with guidance from health professionals.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Research approach

The current study adopted a qualitative approach, which is an approach that seeks to investigate information about human behaviour and experiences, including their beliefs and their emotions (De Vos, Strydom and Delpont, 2018). This method assisted the researcher in collecting first-hand information on the perception and attitude of HIV-positive patients on HIV index testing. It also allowed HIV-positive patients and newly diagnosed HIV-positive to explain more and express their feelings on HIV index testing. The current researcher chose this approach to obtain in-depth information on the problem being investigated. This research approach was deemed useful for this study as the researcher is interested in understanding HIV-positive and newly diagnosed HIV-positive patients' perceptions and attitudes toward HIV index testing.

3.2 Research design

The study design is a plan of how one answers and conducts the research questions and guides the researcher as they collect, analyse and interpret their observations to describe and understand the phenomenon from a participant's point of view (Umanilo, Hamid and Hamiru 2019). The researcher used a phenomenological design that assisted in describing what participants perceive and how they interpret the current situation. A phenomenological design was chosen due to its relevance in this study because it enabled the researcher to explore and describe participants' experiences towards HIV index testing. In this regard, the research design deals with the meaning of the participant's perceptions or views regarding the phenomena of interest from their deliberation. An explorative-descriptive design will be used in this study to understand better the perceptions and attitudes of HIV-positive and newly diagnosed HIV-positive patients.

3.3 Study setting

The study was conducted at one of the eight (8) selected community health centres in Thulamela municipality in Vhembe District, which comprises four municipalities: Thulamela Municipality, Collins Chabane, Makhado and Musina Municipalities. While Vhembe District is one of the five (5) districts of Limpopo province, the other four are, Mopane, Capricorn, Waterberg and Sekhukhune. Thulamela is composed of clinics and community health centres. Its population is mainly characterised by Vhavenda, Vatsonga and Bapedi cultural groups, although Vhavenda cultural groups dominate. The available community health centres have HIV programmes introduced by the Department of Health. These include HIV counselling and testing, index testing, couple counselling, support group meetings,

distribution of condoms and ARV treatment, TB programme, health education and health promotion. These services are free and offered to people who visit the clinic and its staff members.



Figure 2: Map of Vhembe District Municipality (<http://www.vhembe.gov.za>)

3.4. Study population and sampling

3.4.1 Study population

The population is the entire group of people who have common characteristics that meet the criteria the researcher is interested in (Flick, 2018). The target group of this study was patients living with HIV who are on HIV treatment and newly diagnosed HIV-positive patients aged 18 and above from Tshidimbini and the surrounding villages such as Mukula, Khubvi, Vondwe and Ha-makhuvha.

3.4.2 Sample and Sampling

Sampling is selecting participants who will participate in the study (Flick, 2018). A convenient sampling method was used to select participants. The researcher chose convenient sampling because it is based on the characteristics of the population who shared information and experiential knowledge. Such participants were selected based on the characteristics that served the purpose of the study (Creswell and Creswell, 2017). The sample consisted of twenty (20) participants, who were conveniently sampled as the researcher sought information-rich participants willing to participate in the study. William Eddie Community Health Centre (WECHC), situated at Tshidimbini Village, was chosen through convenient

sampling as the researcher sought a centrally located health centre from which a number could be drawn. The people should believe that HIV treatment can be accessible, be willing to speak and share their experiences on the phenomenon under study, and participate. Participants sought were those registered on the clients' register and who frequently visited the clinic to collect medication from nearby communities. William Eddie Community Health Centre (WECHC) was more accessible to the majority of people living with HIV because it operates on 24 hours basis and has a population diversity serving people from low to high socio-economic backgrounds. The researcher chose William Eddie Community Health Centre to conduct the study and Thohoyandou Community Health Centre for pre-testing the data collection instrument.

3.4.3 Inclusion criteria for participants were:

- Males and females who are living with HIV and are on ARV medication.
- Adults 18 years and above.
- Residing under Thulamela Municipality

3.5. Data collection tool (Instrument)

Data was collected by using a semi-structured interview with HIV-positive patients. The interview guide was chosen because it assisted the researcher in collecting information from participants, their experiences, and their thoughts about the topic. It also consisted of three sections: demographic information, perceptions and attitudes. The researcher developed an interview guide in English and translated it into the local language, Tshivenda, to accommodate all participants. The interview guide was developed following the study research questions and the literature review. The interview guide allowed the participants to express their views in their ways. In this study, an interview was conducted using dialogue with follow-up questions and comments from the researcher.

3.6 Pre-testing

Dikko (2016) defines pre-testing as a way of pre-testing data collection instruments, and the interview guide was tested to check problems that may be solved before starting with the research to choose the correct research questions. The main aim of conducting pre-testing was to test the suitability of the questions and provide the researcher with an opportunity to devise new suggestions on the viability of the research. It also assisted the researcher in gaining experience in conducting semi-structured interviews and teaching the researcher how she may build a relationship with the participants who give better responses. The pre-test empowered the researcher with the skills to do interviews and conversations. It was conducted using an interview guide. The pre-testing was carried out at Thohoyandou Community Health Centre. This is because the health centre has the same characteristics as

the area under study. A formal letter was sent to Thohoyandou Community Health Centre personnel for approval before conducting the pretesting interview. Castillo-Montoya (2016) indicates that all selected participants should have similar criteria to those in the main study. Five participants were selected, and they were living with HIV and were on ARVS medication and newly diagnosed positive patients who were not involved in the main study. A tape recorder was used for recording the interviews, which took between 35 and 40 minutes in consideration of other commitments of the participants, and they were conducted in a room at the facility.

The interview started with social conversations before the interview to establish a good relationship. The participants could talk freely based on the questions asked, and the researcher also used follow-up probing questions to get more information. All participants were asked the same questions in the local language during the interview. At the end of the sessions, the researcher learned how participants answered the questions and knew where to improve (Dewar and MacBride, 2017). Only two of the five participants interviewed knew about HIV index testing. The perceptions of three participants interviewed believed that HIV index testing put them in marital misunderstandings resulting in family problems. Most of the participants interviewed felt they were not interested in participating in the HIV index testing programme as it would not change their HIV status. They had a negative attitude towards it. The researcher tried to counsel participants by explaining that HIV index testing would assist them in supporting each other. In that way, they would help reduce the spread of HIV.

3.7. Measures to ensure the trustworthiness of the study

This study's findings are worthy of attention to because trustworthiness was ensured. Trustworthiness was ensured through credibility, transferability, dependability and conformability.

3.7.1. Credibility

This was ensured through reality reflection. Triangulation, prolonged engagement and peer debriefing were done for this purpose. One participant was interviewed daily to ensure that every participant is given as much time as possible. The researcher also allowed the participants to state when they may be interviewed so that it could be when they had enough time. Peer debriefing will be carried out by the researcher seeking support from other professionals. To achieve this, the researcher took back the collected data transcribed verbatim to the participants to confirm if it was exactly what they said during the interview.

3.7.2 Dependability

Dependability was ensured using a tape recorder, sketchy notes and peer examination. The researcher transcribed the same data twice with an interval of a week and then compared the two results to see if they were still the same. In this way, the researcher checked if they did not make mistakes when collecting the data. All the records of the research that were used were kept achieving dependability.

3.7.3 Transferability

The researcher ensured transferability by providing descriptive details of those participants and a detailed description of how the study would be conducted. The description involved details on the research process from data collection, how the interview will be done, and its duration to the production of the final results of the study

3.7.4. Conformability

For this purpose, the researcher kept documents containing information obtained during data collection so that the researcher could reflect on them. Documents kept included recordings from the interviews and data obtained during the interview.

3.8. Procedure for data collection

The Head of the Department of Health and Facility Management requested a letter of permission (Appendix 2) to conduct the research project and information sheet (Appendix B). After the researcher had received permission letters, an appointment was made with those participants who had agreed to participate in the study to get them to sign consent forms and to explain the process of collecting data. The researcher collected data from male and female participants who are living with HIV and are on ARVs medication and newly diagnosed HIV positive status, who came to the community health centre according to their different appointment dates to collect HIV medication. All twenty (20) participants had coded pseudo-names to protect their identities. The researcher did one-on-one interviews, and all participants were encouraged to feel free to participate. The interviews were conducted in a counselling hall to ensure the privacy and free expression of the participants. The interview guide was useful and assisted the researcher when conducting the session, as affirmed by researchers such as Phillippi and Lauderdale (2018). The researcher conducted one interview session per day. In this process, the researcher used the client's intake forms to collect information related to the relationship with the index client, demographic information, HIV testing history, HIV testing results, number of people to be tested and preferred facility for an ongoing visit for treatment and care. The researcher asked questions about their perceptions and attitudes towards HIV index testing using probing questions based on their responses to obtain enough information and more understanding. The relationship between

the index client and family members was established to get the biological children of the index client and their sexual partners. The researcher ensured that everybody at risk of contracting HIV received HIV testing services. All biological children were tested if the mother's status was unknown. Data saturation was achieved in the study when there was no new information coming from the participants.

The following is the procedure for HIV index testing. During this process, the researcher is called a lay counsellor while the patient is called index client. The lay counsellor explains to the index client what the HIV index testing procedure is about and that it entails three options: The first option is a passive referral, where the index client is asked to inform or notify their sex partners themselves. The second option, provider referral, is where the lay counsellor informs the index client's sexual partner within 48 hours and provides a notification card. The third option involves a contracted referral, where index clients are given seven days to notify all their partners and to come to the health facility within seven days. If the sexual partners did not report to the facility, then the lay counsellor helped to inform the sexual partners about the HIV index testing programme. The researcher used a datasheet to collect all information about the index contact, also called a sex partner.

3.9. Data analyses

According to Bird, Menzies and Zimmermann (2015), data analysis is defined as a process of summarising and categorising data obtained to get answers to the research questions to evaluate and clarify the data. The current researcher used Braun and Clarke's thematic analysis to analyse the data. Krippendorff (2018) indicates that thematic analysis is a process of recording themes within the data. All recorded interview data were transcribed verbatim and repeatedly read to establish themes. Codes were grouped into themes which were named. The analysed data was presented in themes, sub-themes, and categories. Thematic analysis is about peoples' views, opinions, knowledge, and experiences (Humble and Radina, 2018). In analysing the collected data, the researcher followed the six steps of qualitative data analysis by Braun and Clarke (2015) as follows

Step 1. Familiarisation

This is where the researcher becomes familiar with the data collected before actual analysis. During this phase, the researcher used the audio recording to read and re-read the interview transcripts to transcribe the data. This phase aims to engage the researcher to think about the topics that participants discussed, which helped the researcher proceed to the second phase.

Step 2. Generating initial codes

All information identified as relevant was used to generate initial codes, and then whenever the researcher heard interesting information during the interview, she wrote down a code. There were types of codes applicable. For instance, descriptive codes require little interpretation, whilst interpretive codes represent data that need more interpretation. The researcher identified the codes, and code generation was done.

Step 3. Sorting codes into themes

After the transcripts were coded, the researcher ensured all the code lists were clustered according to their similar meaning or relationship. Further, the researcher labelled the cluster to check if there is a relationship between them. Furthermore, since it is important, the researcher read materials to identify the heretical relationship between the themes.

Step 4. Reviewing the themes

The researcher in this phase carried out two phases simultaneously. The researcher reviewed the themes against the data and ensured no important information was left and all the themes were captured. The researcher read all related codes to explore if there are contradictions to see if themes are overlapping.

Step 5. Defining and naming themes

During this phase, the researcher described the identified theme seen during the last phase. All themes' names were descriptive. The researcher also highlighted the interesting part of every theme, not only describing what the themes are all about. This phase is for providing names that have a relationship with the theme.

Step 6. Producing the report

In this phase, the researcher wrote an analysis of the data. Thematic analysis requires an introduction to establish research questions. The researcher included methodology describing how the data was collected. The researcher produced reports such as journals, articles, or dissertations in this last phase. Providing a report about the data based on the analysis is very important. All the themes are logically connected and meaningfully expressed. When writing the results, enough information about the research was needed for the reader to evaluate the quality of the research.

3.10. Ethical considerations

Ethical considerations were ensured throughout the study to protect the rights of the participants. The following ethical aspects were considered in this research: permission to

conduct the study, informed consent, voluntary participation, confidentiality and protection of participants from harm

Permission to conduct the study

The proposal for this study was submitted to the Department of Public Health, School of Health Science for assessment and then submitted to the University of Venda Higher Degrees Committee for evaluation and approval. After the approval, the researcher applied for ethical clearance from the University of Venda Research Ethics Committee. The researcher requested a letter of permission to conduct the study from the Limpopo Department of Health and facility management at William Eadie Community Health Centre.

Informed Consent

Informed consent is the process where participants in the study have to provide adequate information about the investigation to the participants so that they would be able to make a voluntary informed decision or confirm their willingness to participate or not to participate in the study. All people who participated in this study were given information on the reason for conducting the study as well as when and how the interviews would be conducted during the data collection process. Informed consent in this study was obtained from people living with HIV and those who are index clients and from all clients newly tested HIV positive patients with the HIV index testing model.

Voluntary participation

Before participating in the study, the researcher clarified that participation was voluntary and participants had the right to withdraw when necessary. The researcher also provided the participants with the procedure that needed to be followed for the study so that they could decide whether to participate or not.

Confidentiality

Moser and Korstje (2018) define confidentiality as the ability to keep participants' information. All information about the issue of HIV was kept confidential; no names were attached to the interview guide, and only codes were used in the questionnaire for referencing when capturing data and during analysis (Akinsola, 2015). Collected data was available only to those who participated in the study, like supervisors. The researcher did not allow sharing of information with other people without any consent from the participants. Data was locked inside the cardboard. In this study, all information related to the HIV status of index clients and index contacts was never divulged or made available to any person or relatives. Confidentiality of the personal information of participants was therefore maintained. The

privacy of participants was also ensured, and a notice on the door of the interview room was placed informing other people not to enter to ensure privacy.

Protection from harm

One of the basic human rights to be considered when conducting research is to avoid harm and discomfort to the participants. In this study, all participants were assured freedom from any harm such as physical, psychological, emotional and social. The researcher took responsibility for any possible danger during the research process by preventing and promoting the well-being of the participants. Risk and harm from the participants were considered as any other differences during the research process. Questions from the interview questions were constructed in a non-judgmental manner to avoid trauma during the process of answering questions (Grady,2018).

3.11. Dissemination of the results

Copies of the research document will be submitted to the following institutions; The University of Venda for referencing, the Department of Health in Vhembe District, Public health institutions such as clinics, community home-based caregivers and Non-Governmental Organizations.

3.12. Summary

The chapter described the research methodology. It explained the setting of the study and the map of Thulamela municipality. The population, type of sampling and sample with the criteria are mentioned. The research instrument, a semi-structured interview with an interview guide, was elaborated on. To ensure trustworthiness, measures have been mentioned, procedures for data collection and ethical considerations.

CHAPTER 4: DATA PRESENTATION

4.1. Introduction

In this chapter, the searcher presents data collected from the participants on the perceptions and attitudes of HIV-positive patients towards municipality testing in Thulamela Municipality Vhembe District, Limpopo Province. The interview guide was used to collect data from the participants. The interview guide was divided into four sections. Section A covered the demographic characteristics of the participants regarding HIV index testing. Section C explored the attitudes of participants towards HIV index testing. Data collected from the participants during the interview was presented, analysed and discussed from the tape-recorded discussions.

Twenty (20) participants (Ten males and ten females) on HIV treatment and newly diagnosed HIV positive participated in this study, and interviews were conducted in Tshivenda in the counselling hall. All twenty (20) participants had coded pseudo-names to protect their identity and to ensure privacy.

4.2. Demographic characteristics of the participants

Table 4.1: Demographic characteristics of the participants

Characteristics	Category	Frequency	Percentage
Gender	Males	10	50%
	Females	10	50%
Age	18-35	07	35%
	36-45	05	25%
	46-49	05	25%
	50 and above	03	15%
Marital status	Married	10	30%
	Single	05	25%
	Divorced	05	25%
Level of education	Secondary	13	35%
	Postgraduate	07	35%
Employment status	Employed	10	50%
	Unemployed	06	30%
	Self-employed	04	20%

Participants were interviewed about HIV index testing based on three themes, namely: understanding of HIV index testing, Perceptions towards HIV index testing and Attitudes towards HIV index testing.

4.3. Understanding of HIV Index testing

Of the twenty (20) participants interviewed, seven indicated that they knew about HIV index testing, while 13 did not know about HIV index testing. As evident in the utterances below:

“What I know is that if I undergo an HIV index testing with a positive result, I have to inform all my sex partners and encourage them to be tested and that, everyone is encouraged to take an HIV test to know their HIV status earlier before they become sick ” (participants 11, male, 27 years)

Another participant added,

“HIV index testing is when health professionals or lay counsellors request newly diagnosed HIV positive client or an HIV positive client who are on HIV treatment to mention all their sex partners and inform them that they are exposed to HIV and that they are requested to be offered voluntary HIV testing” (participant no. 7, female, 25 years)

Participants were asked if they had ever heard of HIV Index testing. From the 20 participants interviewed, 6 of the respondents reported that they had heard about HIV index testing, while 14 of the respondents had not heard about HIV index testing. Participants who had not heard about HIV index testing uttered the following.

“I never heard of HIV index testing. It is for the first time to hear such testing. It is a new testing we have never heard.”(participant no. 10, female, 18 years)

“No, I never heard about HIV index testing since I have tested two years ago” (participant no. 4, female, 32 years)

“No, no,no, I have never ever heard about HIV index testing. I always come to the clinic to collect my treatment and go home”. (participant no. 12, male, 36 years)

One of the participants who has heard about HIV index testing uttered the following,

“Yes, it is not for the first time, I heard about HIV index testing the day I was tested HIV positive. I come here at the clinic for ANC booking, the lay counsellor tested me, I find that I am HIV positive, after that she introduces HIV index testing to me and agreed to be part of the programme” (participants no. 6, female, 18 years)

Four (4) of the participants indicated that they heard about HIV index testing from the radio, as echoed below,

“One day, while I was seated at home opening my radio. I heard the conversation on HIV and AIDS. I also heard about HIV index testing that everyone who tested HIV positive must encourage their partner to be tested” (Participant no. 13, male, 19 years)

One (1) of the participants said that she heard about HIV index testing when she attended a woman club with other women.

“Every month's end, we meet together as woman's club where we discuss some agreements on the trip, we will have during school holiday. So, another woman started to discuss on the issue of HIV index testing. It is where I heard about it. She was just encouraging us to participate in that testing service.”(participant no.5 female, 24 years)

“I went to the clinic myself I wanted to test for HIV to know my HIV status health care provider agreed to test. He pricked my hand take blood to the test kit, after a few seconds, he told me that the results are positive and he talked about HIV index testing”. (Participant no 8, male, 50 years)

Participants were asked if they knew where HIV index testing was offered. Of the 20 participants interviewed., 11 of participants did not know of the places where HIV index testing was offered. While 9 of the respondents thought that HIV index testing might be taking place at the clinics or other health facilities, as echoed below,

“I do know where HIV index testing was offered because I never heard about HIV index testing in my life so it will be difficult for me to explain such a question”. (participant no. 15 male, 45 years)

“You know what? This HIV index testing is new to me. I never heard about it. I don't have any knowledge on what it is all about.” (participant no. 09, female, 22 years)

Few participants indicated they knew where HIV index testing was offered, as attested by participant two below.

“What I can say is that, I heard about HIV index testing the day I went to the clinic to see the doctor and decided to participate in the program. The testing is offered at the clinics or health care facilities” (participant no. 2, female, 50 years)

Participants were asked if they knew the importance of HIV index testing. The responses of the 20 participants were: 12 of the respondents did not know the importance of HIV index testing because most of them did not know about HIV index testing, while 8 of the respondents knew the importance of HIV index testing.

“I don’t know the importance of HIV index testing because I have never been to this testing modality” (participant no. 14, male, 50 years)

“The importance of HIV index testing is not important to me. I don’t know HIV index testing” (participant no. 10, female, 47 years)

The other participant indicated that:

“To my understanding, it helps those who tested HIV positive to prevent the spread of HIV to their sex partner and protect those who are negative to remain healthy. Starting HIV treatment early helps individuals to plan for the future and get more benefits” (participant 17 female, 55 years)

4.4. Perceptions towards index testing

Twenty participants were asked if their perceptions would hinder them from undergoing HIV index testing. They responded as follows: 5 indicated that it would not be a problem to undergo HIV index testing and also explained that there is nothing that would hinder them from undergoing the service, but they failed to encourage their partners to be part of HIV index testing.

“I don’t have any problem participating in this program of HIV index testing as it will help me to reduce the spread of HIV to family members.” (Participant no 16 male (45years)

“This HIV index testing is not good because if I have to participate in the program, I will quarrel with my husband as he will accuse me of nondisclosure” (participant no.9.female, 22 years)

There seem to be more participants who are against HIV index testing. Fifteen of the participants did not disclose their status to their sex partners. They indicated that it would not be possible to participate in the HIV index testing because it would automatically result in their disclosure and possible interpersonal violence among index partners.

“I discovered ARV treatment in her jacket pocket I decided to go for HIV testing. When I asked when she was tested, she told me she got the disease before we married. She knew that she was HIV and did not inform me. When I tried to talk about this, she beat me. She used to beat me every time. I think I cannot participate in this HIV testing service. To me, stigma is a major barrier which hinders me from undergoing HIV index testing” (Participant no 19, male, 46 years).

4.5 Attitudes of people living with HIV towards HIV index testing

One participant said “It is good to know your status as early as possible because it will assist me in taking treatment and maybe save me from infecting others. While taking an HIV test may help me to be screened and get treatment for other diseases”. (Participant no 17 female, 55 years).

“When I am on treatment, I shall feel better as I shall eat correct food with vitamins and get the necessary support from family as a whole.” (Participant No. 6, female, 18 years).

Participants were asked if they told their husbands, wives or other family members that they were HIV positive. Of the 20 participants, 12 said that they did not inform anybody that they were HIV positive because they were afraid that their partners would physically abuse them. They were also afraid of stigma and loss of family relationships.

“Ooh, What? I am not going to tell anyone I don’t trust her. She will disclose this information to all our relatives. She will find that I am HIV positive maybe when I am sick when I check I find that many people are living with HIV but hiding their HIV status” (Participant 3 male, 38 years)

Other participants indicated that they fear disclosing their HIV status to their sex partner due to the fear of losing the relationship. For instance;

“It is very difficult to tell him my HIV status it will be difficult to accept their situation. I know that I was faithful to him, he will end up saying I am the one who comes with the disease and cheese me out of the house” (participant no 18, male, 48)

In contrast with the findings, due to the fear of stigma and discrimination, another guy denies disclosing his own status to his colleagues and other family members.

“I don’t want to disclose my HIV status because people will not understand me. That’s why I don’t disclose my status I don’t want to lose my friendship due to this issue, we discuss many issues but when it comes to this I become silent” (participant no. 20, female, 49 years)

Some participants disclosed their HIV status and received support from family, friends and relatives. For example, participant 4 uttered this:

Disclosure of HIV status is important. I am taking my ARVs medication correctly without missing it since my sister reminds me daily. I feel free to take my medication while I am at home with her. My sister and other family members are supporting me in such a way that I am not experiencing any problem” (Participant no. 1, female, 18 years)

Twenty participants were asked about the reactions of family, relatives and friends when they heard they were HIV positive. The participants answered as follows:

“My sister treated me badly when I came from the hospital. She took me to her house because I was very ill. One day she gave me food to eat then my brother’s son asked me to feed him. When I was busy feeding him using my hands, my sister came and said, why are you feeding this son, she said don’t feed him because you are ill. I feel very sad because everybody is unhappy about me” (Participant no 16, male,46 years)

“After my husband's death, in-laws chased me from the house, so I decided to return to my parent's house. My parents treated me badly, no one talked, and I felt so stressed. They gave me an outside room where my clothes and everything belongs to me” (participant no 12, female,25)

In this study, HIV-related stigma and discrimination from close family members, parents and siblings following their HIV diagnoses also experienced verbal insults, evidence and rejection by parents following their HIV diagnosis.

4.6. Summary

Data were presented, analysed, and interpreted with four sections of the interview guide: Demographic characteristics of the respondents, knowledge of participants towards HIV Index testing, perceptions of HIV positive patients towards HIV index testing and attitudes of HIV positive patients towards HIV index testing. Based on the findings of this study, recommendations and conclusions were made together with the study's limitations in the next chapter.

CHAPTER 5: DISCUSSION, RECOMMENDATIONS AND CONCLUSIONS

5.1. Introduction

The primary purpose of this chapter was to discuss findings on the knowledge perceptions and attitudes of HIV-positive patients towards HIV index testing, limitations of the study, recommendations and conclusions.

5.2. Discussion

Twenty participants took part in this study, with the oldest participants in the category of 50 years and above, counting for only the least of the participants. All participants in this study were Venda. This study found that most participants are married, while few are single or divorced. The study reveals that most participants have grade 12 certificates while a few obtained a degree.

In this study, participants show that they are educated and understand HIV index testing. This study is in line with the study of Kahabuka, Plotkin and Christensen (2018) (SEE: 2.4), whose findings indicate that 80% of participants had grade 12 certificates. Those who were not having grade 12 did not know about HIV testing.

The findings of this study indicate that (100%) of the participants know about HIV counselling and testing (HCT). Further, most HIV-positive individuals know HIV testing services (HTS) since the findings indicate that most know about the HIV transmission mode.

In this study, most participants did not know anything about HIV index testing and had inadequate information about the entire process because it is a new testing modality. A study conducted by Kasymova(2020) shows that inadequate knowledge is a major obstacle in preventing the spread of HIV. Incurrence, Kahabuka, Plotkin and Christensen (2018), in their study in Burkino Faso, indicate that a complete understanding of the HCT of individuals requires education and knowledge about HIV. Knowledge would stop the negative attitude and discrimination toward infected and affected individuals.

Several studies have shown how people living with HIV are adequately knowledgeable about index case HIV testing when compared to those who lack knowledge about index case HIV testing (Kahabuka, Plotkin and Christensen, 2018). The findings are consistent with a study conducted in Ethiopia that knowledge of HIV tests was positively associated with HIV test acceptance (Kahabuka, Plotkin and Christensen, 2018). Another study conducted in China on HIV counselling and testing indicated that HTS showed that a high level of HIV-related knowledge was significantly associated with a greater willingness to utilize HTS

serviceKasymova, (2020). The overall participants who did not have adequate knowledge of HIV Index testing showed a big gap in the knowledge level regarding HIV Index testing.

The majority of participants in this study have never heard about HIV Index testing, while few of the participants have heard about HIV Index testing. From the few of the participants, even fewer of them had heard about HIV Index testing from the radio, while others heard about it at the clinic and from friends.

A study conducted in Lesotho on HIV index testing to improve HIV positivity rate linkage to care and treatment of sexual partners shows that PLHIV who have heard about index care testing indicate that index case HIV testing is important to partners of family living with indexes and has perceived benefits of index case HIV testing (Tarkang, Lutala and Dzah 2019)

In this study, more than half of the participants did not know the places where HIV index testing services were offered, while less than the respondents of participants knew where HIV index testing services were offered. Knowing the place of the HIV test is also positively associated with knowledge about HIV. This is consistent with previous other studies among women inKasymova, (2020) and might be due to those who know the place of HIV tests, which are exposed to information.

This study's findings show that most participants do not know the importance of HIV Index testing. While few participants indicated that HIV index testing helped to reduce the spread of HIV to family members

In this study, the majority of participants refused to undergo HIV index testing. The findings show that participants are afraid of interpersonal violence among index partners. It is also found that the majority of participants are afraid of physical abuse by their partner and stigma as well as loss of a family relationships. According to Boye et al. (2021), disclosing HIV status to partners may cause violence and death

According to the findings of the study, the majority of the participants have not disclosed their HIV status to their family members, friends and relatives. This finding aligns with the findings of Eren, Shen and Lei (2019) wherein the majority of participants hesitated to take the HIV tests because of the reactions of other people.

It is found that participants experience HIV stigma and discrimination, verbal insults and rejection by parents following having contracted HIV. Stigmatisation acted as a barrier to the uptake of HIV index testing. HIV has been associated with stigma and related to delays in

deciding whether to undergo HIV Index testing or not to go for HIV Index testing. Madiba, Ralebona and Lowane., (2021) had negative attitudes towards HIV index testing

5.3. Recommendations

Based on the study's findings, the following recommendations are made to improve knowledge, attitudes and perceptions of HIV patients towards HIV index testing.

Health care providers: Daily health education at the health facilities on HIV index testing should be emphasised by health care providers. The benefits of HIV index testing to their sex partners must be promoted. This will change their lifestyle and attitude towards HIV and AIDS. Health care providers should offer HIV index testing as a package of HIV care service and lay counsellors should provide the importance of testing high-risk family members to reduce missing people living with HIV and provide education on HIV/ AIDS in general

Guidelines: Strategies to reduce stigmatisation and discrimination should be put in place as they are barriers to implementing HIV index testing and have a negative impact on preventing the spread of HIV

HIV training services workshops: Since nurses do not have adequate skills and knowledge of the HIV index testing process, they should be trained in HIV testing to support people living with HIV who need to be tested for it.

5.4. Application of the theoretical framework in this study

The Health Belief Model (HBM) argues that individuals must act to prevent certain diseases or illnesses depending on their perceptions. According to this study, one participant seemed to have given up and lost interest in undergoing the HIV index testing. Also, others did not want to pursue HIV index testing, which would not change her status. HIV index testing improves the patient's lifestyle and supports one another's, sex partners.

Further, HBM explains the individual's health behaviour, personal beliefs and perceptions of the disease and ways to decrease HIV disease. People form negative perceptions due to a lack of understanding, especially HIV index testing, awareness and cultural belief system. In this study, some men and a few women continued to resist participating in HIV index testing. They have their own beliefs about how to cure HIV. Because of this resistance, the war against HIV/AIDS can never be won.

5.5. Future Research

Future research can be conducted to investigate factors that contribute to the low uptake of HIV index testing. Another topic could be how the Department of Health can provide enough logistical capacity to reach more HIV index contact cases.

5.5. Limitations of the study

The limitation of this study is that index testing is implemented only in 1 health centre at William Eddie Community Health Centre around Tshidimbini. The other health centres were not included. Some of the participants were reluctant to be interviewed for the study. Therefore, the findings cannot be generalized.

5.6. Conclusion

From the findings of this study, perceptions and attitudes of people living with HIV towards HIV index testing are linked to an inadequate understanding of index testing. It affects their perceptions and results in low uptake of HIV index testing of sexual contacts. It is necessary to encourage PLWHIV to accept their HIV-positive status and disclose it to their sexual partners. This will reduce the transmission of HIV to other sexual partners. HIV index testing may effectively and efficiently increase and identify undiagnosed HIV-positive patients, particularly index contacts. Lack of understanding about the HIV testing of their sex partners and lack of knowledge of testing sites are barriers to achieving a successful HIV index screening programme

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Annexure A Study interview guide

Section A: Demographic information

Please tick the appropriate responses where applicable

Characteristics	Category
Gender	Males
	Females
Age	18-35
	36-45
	46-49
	50 and above
Marital status	Married
	Single
	Divorced
Level of education	Secondary
	Post graduate
Employment status	Employed
	Unemployed
	Self-employed

Section B: Knowledge of index testing

- What knowledge do you have on index testing? Can you explain what you know about HIV index testing?

Section C: Perceptions of index testing

- What are your perceptions regarding HIV index testing? Did those perceptions hinder you from or facilitate you towards testing for HIV?

Section D: Attitudes towards index testing

- Did you inform your wife/ husband or any other family members that you had HIV? If not, how did they find out?
- How was the reaction of your family, friends and relatives when they heard that you have done HIV index testing?
- How are you treated at work, by family members and relatives, and by community members?

Annexure B: Informed Consent

RESEARCH ETHICS COMMITTEE

UNIVEN INFORMED CONSENT

Letter of Information

Title of the Research Study: Perceptions and Attitudes of HIV-positive patients towards index testing in the Thulamela Municipality, Vhembe District, Limpopo Province.

Principal Investigator/s/ researcher: Ms Tshivhase, T.

Co-Investigator/s/supervisor/s: Prof L Makhado, PhD and MrsTshivhase S.E.,PhDPH

Brief Introduction and Purpose of the Study:

I am TshilidziTshivhase, a Master of Public Health (MPH) student in the Faculty of health science at the University of Venda. As part of my curriculum, I should conduct a research project, the research project based on Perceptions and Attitudes of HIV-positive patients towards index testing in the Thulamela Municipality, Vhembe District, Limpopo Province. Index testing is one of the HIV Counselling and testing approaches identified for ensuring that all people living with HIV, not knowing their HIV status, know their HIV status. Index testing is the process whereby HIV-positive patients and newly diagnosed patients with HIV will be asked to list their current or past sexual partners for a referral to HIV Counselling and Testing Programme (HTS). Index testing will increase the uptake of HIV testing, and it will have a high impact if HIV-positive patients and newly diagnosed with HIV are given information on how the index testing works. The study aims to explore and describe the perceptions and attitudes of HIV-positive patients on index testing in the Thulamela Municipality, Vhembe District, Limpopo Province.

Outline of the Procedures: As a participant, you will be required to answer all the questions in the interview guide. Face-to-face interview will be conducted and will take 30 to 45 minutes per participant. The participants will comprise male and female HIV-positive patients and newly diagnosed HIV-positive aged 18 and above. To achieve the study goal, the study will use qualitative methods such as purposive sampling, interview guide, measures to ensure trustworthiness, etc. The proposed study will employ a qualitative approach using descriptive and explorative design. The study will be conducted in Vhembe district, Thulamela Municipality, at William Eddie Community Health Centre in Limpopo province.

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

Benefits: There are no anticipated direct benefits for participating in this study. The findings of the study will be directed to William Eddie Community Health Centre which participated in the study. The findings of the study and recommendations will be made to the relevant health authorities. The researcher will make a presentation in the conferences and all the results will be published in journals.

Reason/s why the Participant May Be Withdrawn from the Study: Participation in this study is voluntary. Participants will be informed of the voluntary participation and right to withdraw without any penalty.

Remuneration: There will be no remuneration for participating in this study.

Costs of the Study: The participants are not expected to pay any cost in this study.

Confidentiality: The information from this study will be used for the study purposes only and will not be made available to a third party that is not involved in the study. Findings from this study will not be linked to any participants. Names of participants will not appear in any questionnaire or to any other research document.

Research-related Injury: There will be no harm/injury that may occur to participants during the study. The investigator does not anticipate any research-related injury and there is no funding for an injury.

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

(Supervisor and details) Please contact the researcher TshivhaseTshilidzi (cell no 0607748324), my supervisor Prof L Makhado at (015 962 8828) or at Lufuno.makhado@univen.ac.za or Co-supervisor Mrs. Tshivhase S.E at (015 962 8684) or at Shonisani.tshivhase@univen.ac.za 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

Annexure C: CONSENT

Statement of Agreement to Participate in the Research Study;

I hereby confirm that the researcher has informed me (MrsTshilidzi Tshivhase), about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number:

I have also received, read and understood the above-written information (*Participant Letter of Information*) regarding the study. I am aware that the study's results, 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 researcher can process the data collected during this study in a computerized system.

At any stage, I may withdraw my consent and participation in the study without prejudice. 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,

(MrsTshilidzi Tshivhase) herewith confirm that the above participant has been fully

Informed about the nature, conduct and risks of the above study.

Full Name of Researcher

..... Date..... Signature.....

Full Name of Witness (If applicable)

..... Date

Signature.....

Full Name of Legal Guardian (If applicable)

Date..... Signature.....

Annexure D: Letter of permission: The Head of Department (Dep. of Health)

P.O. Box 264

Vhufuli

0971

18 May 2020

The Head of the Department (HOD)

Department of Health

Private Bag X 9302

Polokwane

0700

Dear Sir/ Madam

RE: REQUESTING PERMISSION TO CONDUCT A RESEARCH STUDY

I am a master's student in the Department of Health Science at the University of Venda and wish to conduct a research study as part of the requirement for a Master's Degree.

The proposed title of my study is Perceptions and Attitudes of HIV positive patients towards index testing in the Thulamela Municipality, Vhembe District, Limpopo Province. The study aims to explore and describe the perceptions and attitudes of HIV positive patients and newly diagnosed HIV positive on index testing. The use of HIV Counselling and testing approaches identified to ensuring that all people know their HIV status and index testing can increase the uptake of HIV testing and to reach those undiagnosed individuals and link them to HIV care and treatment.

A qualitative study using thematic analysis will be applied. Semi-structured interview method of data collection using an interview schedule will be conducted.

An interview guide will be used for data collection, and the information gathered will be treated with uttermost confidentiality. The summary of results will be made available and be at Thohoyandou Community Health Centre.

Therefore, I am asking for your permission to conduct the study.

Your help in facilitating this research will be highly appreciated. Yours faithfully

.....
MrsTshilidziTshivhase
Student

.....
Prof. L Makhado
Supervisor

Annexure D: Letter of permission: William Eddie Community Health Centre

P.O. Box 264

Vhufuli

0971

18 May 2020

William Eddie Community Health Centre

Private Bag X 1400

Tshidimbini

0972

Dear Sir/ Madam

RE: REQUESTING PERMISSION TO CONDUCT A RESEARCH STUDY

I am a master's student in the Department of Health Science at the University of Venda and wish to conduct a research study as part of the requirement for a Master's Degree.

The proposed title of my study is Perceptions and Attitudes of HIV positive patients towards index testing in the Thulamela Municipality, Vhembe District, and Limpopo Province. The study aims to explore and describe the perceptions and attitudes of HIV positive patients and newly diagnosed HIV positive on index testing. The use of HIV Counselling and testing approaches identified to ensure that all people know their HIV status and index testing can increase the uptake of HIV testing and to reach those undiagnosed individuals and link them to HIV care and treatment.

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Therefore, I am asking for your permission to conduct the study.

Your help in facilitating this research will be highly appreciated. Yours faithfully

.....
MrsTshilidziTshivhase
Student

.....
Prof L Makhado
Supervisor

Annexure F Letter of Approval from Department of Health



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

Department of Health

Ref : LP_2022-09-029
Enquires : Ms PF Mahlokwane
Tel : 015-293 6028
Email : Phoeba.Mahlokwane@dhsd.limpopo.gov.za

TSHIVHASE T

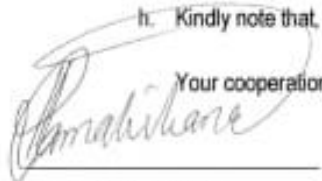
PERMISSION TO CONDUCT RESEARCH IN DEPARTMENTAL FACILITIES

Your Study Topic as indicated below;

PERCEPTIONS AND ATTITUDES OF HIV POSITIVE PATIENTS TOWARDS HIV INDEX TESTING IN THULAMELA MUNICIPALITY, VHEMBE DISTRICT, LIMPOPO PROVINCE

1. Permission to conduct research study as per your research proposal is hereby Granted.
2. Kindly note the following:
 - a. Present this letter of permission to the Office District Executive Manager a week before the study is conducted.
 - b. This permission is **ONLY** for Gondeni clinic and William eddie CHC
 - c. In the course of your study, there should be no action that disrupts the routine services, or incur any cost on the Department.
 - d. After completion of study, it is mandatory that the findings should be submitted to the Department to serve as a resource.
 - e. The researcher should be prepared to assist in the interpretation and implementation of the study recommendation where possible.
 - f. **The approval is only valid for a 1-year period.**
 - g. If the proposal has been amended, a new approval should be sought from the Department of Health
 - h. Kindly note that, the Department can withdraw the approval at any time.

Your cooperation will be highly appreciated



PP Head of Department

24/10/2022

Date

Private Bag X9302 Polokwane
Fidel Castro Ruz House, 18 College Street, Polokwane 0700. Tel: 015 293 6000/12. Fax: 015 293 6211.
Website: <http://www.limpopo.gov.za>

The heartland of Southern Africa – Development is about people!

Annexure F: Ethical Clearance

ETHICS APPROVAL CERTIFICATE

RESEARCH AND INNOVATION
OFFICE OF THE DIRECTOR

NAME OF RESEARCHER/INVESTIGATOR:

Mrs T Tshivhase

STUDENT NO:

9814466

PROJECT TITLE: Perceptions and Attitudes of HIV Positive Patients towards HIV Index Testing in Thulamela municipality, Vhembe District, Limpopo Province.

ETHICAL CLEARANCE NO: FHS/22/PH/06/1409

SUPERVISORS/ CO-RESEARCHERS/ CO-INVESTIGATORS

NAME	INSTITUTION & DEPARTMENT	ROLE
Prof L Makhado	UNIVEN, Public Health	Supervisor
Mrs SE Tshivhase	UNIVEN, Public Health	Co-Supervisor
Mrs T Tshivhase	UNIVEN, Public Health	Investigator – Student

Type: **Masters Research**

Risk: **Minimal risk to humans, animals, or environment (Category 2)**

Approval Period: **September 2022 – September 2024**

The Human and Clinical Trials Research Ethics Committee (HCTREC) hereby approves your project as indicated above.

General Conditions

While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, please note the following.

- The project leader (principal investigator) must report in the prescribed format to the REC:
 - Annually (or as otherwise requested) on the progress of the project, and upon completion of the project
 - Within 48hrs in case of any adverse event (or any matter that interrupts sound ethical principles) during the course of the project.
 - Annually a number of projects may be randomly selected for an external audit.
- The approval applies strictly to the protocol as stipulated in the application form. Would any changes to the protocol be deemed necessary during the course of the project, the project leader must apply for approval of these changes at the REC. Would there be deviated from the project protocol without the necessary approval of such changes, the ethics approval is immediately and automatically forfeited.
- The date of approval indicates the first date that the project may be started. Would the project have to continue after the expiry date; a new application must be made to the REC and new approval received before or on the expiry date.
- In the interest of ethical responsibility, the REC retains the right to:
 - Request access to any information or data at any time during the course or after completion of the project.
 - To ask further questions; Seek additional information; Require further modification or monitor the conduct of your research or the informed consent process.
 - withdraw or postpone approval if:
 - Any unethical principles or practices of the project are revealed or suspected.
 - It becomes apparent that any relevant information was withheld from the REC or that information has been false or misrepresented.
 - The required annual report and reporting of adverse events was not done timely and accurately.
 - New institutional rules, national legislation or international conventions deem it necessary

ISSUED BY:

UNIVERSITY OF VENDA, RESEARCH ETHICS COMMITTEE

Date Considered: August 2022

Name of the HCTREC Chairperson of the Committee: Prof MS Maputle

Signature

MS Maputle

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Annexure G Editor's Letter



COPY-EDITING ENDORSEMENT

To whom it may concern,

This certifies that the dissertation (excluding reference list & appendices) whose title appears below, has been edited for proper English language grammar, punctuation, spelling, and overall style. However, it remains the researcher's decision to effect the recommended changes.

TITLE

Perceptions and Attitudes of HIV Positive Patients Towards HIV Index Testing in Thulamela Municipality, Vhembe District, Limpopo Province

RESEARCHER

Tshivhase, T

DATE EDITED

04 March 2023

Signed



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