FACTORS CONTRIBUTING TO UNDER UTILISATION OF HIV TESTING SERVICES AMONG TB PATIENTS IN MALAWI

by

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Submitted in accordance with the requirements for the degree of

MASTER OF PUBLIC HEALTH

at the

UNIVERSITY OF SOUTH AFRICA

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JUNE 2013
DECLARATION

I declare that FACTORS CONTRIBUTING TO UNDER UTILISATION OF HIV TESTING SERVICES AMONG TB PATIENTS IN MALAWI, is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

________________________ _____________________
SIGNATURE       DATE
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15 June 2013
FACTORS CONTRIBUTING TO UNDER UTILISATION OF HIV TESTING SERVICES AMONG TB PATIENTS IN MALAWI

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ABSTRACT

A quantitative, descriptive, explorative survey was conducted to explore and describe factors contributing to underutilisation of HIV testing services among tuberculosis patients and clients in Malawi. Sampled were 282 participants attending an outpatient clinic. A self administered questionnaire was used. The findings revealed that 80.5% of the respondents perceived themselves susceptible to HIV infection, 55% believed there were negative consequences of HIV Testing and Counselling (HTC), 87.6% perceived HTC had benefits, most of the respondents (76.8%) mentioned the benefit of knowing the HIV status helping one to plan life, 65% believed in themselves, that they could accept and undergo HIV testing with ease. The study recommends that all HTC providers be thoroughly trained in knowledge and skills to offer services with confidentiality and avoid stigma and discrimination of those found HIV positive. The importance and benefits of HTC should be emphasised in all behaviour communication messages.

KEY WORDS

Clients; counselling; cues to action; HIV testing service; perceptions; perceived benefits; perceived negative attributes; perceived self efficacy; perceived susceptibility; perceived severity; tuberculosis; underutilisation.
ACKNOWLEDGEMENTS

First and most of all I thank God Almighty for His grace that enabled me to complete this dissertation.

I thank the following persons for their respective support and encouragement:

- My husband and best friend, George Kamba, for his continuous encouragement.
- My late Mum, Eunice Chipendo, for her words of encouragement and love
- Vincent Ntchembe and Mwai Chitete and Dr Maluwa, for sharing their experiences in statistics
- Mr Chancy Kamba, Dr Sam Phiri and Mrs Manda, for their support during data collection

I am particularly grateful to my supervisor, Professor Gloria Thupayagale-Tshweneagae for her promptness in responding to my submissions, her supportive guidance and professionalism.
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<td>African Journal of AIDS Research</td>
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<td>AIDS</td>
<td>Acquired Immune Deficiency Syndrome</td>
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<td>DOTS</td>
<td>Directly Observed Therapies</td>
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<td>GoM</td>
<td>Government of Malawi</td>
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<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
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<td>HTC</td>
<td>HIV Testing and Counselling</td>
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<td>LATH</td>
<td>Liverpool Association of Tropical Health</td>
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<td>MGDS</td>
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<td>NAC</td>
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CHAPTER 1

ORIENTATION TO THE STUDY

1.1 INTRODUCTION

Malawi is a country in the Sub-Saharan Africa with high (10.6%) Human Immunodeficiency Virus (HIV) prevalence (Ministry of Health, Malawi 2012: iii). The World Health Organization (WHO) identified tuberculosis as the commonest cause of morbidity and mortality in HIV positive patients. As a result, HIV testing is recommended in all patients diagnosed with tuberculosis. In the year 2010 there were 22,536 registered tuberculosis patients in Malawi (Ministry of Health, Malawi 2011:1; WHO 2011b:1).

In 1995 the WHO launched the Stop TB Strategy which addresses inadequacies of access, equity and quality of services while adopting evidence-based innovations in involving private care providers, promoting research and empowerment (WHO 2011:4b). In 1997 WHO established a new initiative called ProTEST, targeting countries with high tuberculosis (TB) and HIV rates including Malawi (WHO 2011a:235-420). The ProTEST was established to coordinate HIV and TB prevention and care. In ProTEST voluntary counselling and testing is the first intervention before TB and HIV interventions are started (WHO 2011a:235-420).

Three conditions, the three “Cs”, have remained since HIV testing began in 1985. They are the underpinning principles that guide that HIV testing must be confidential, accompanied by a counsellor and conducted with an informed consent (UNAIDS/WHO 2004:7). Several factors pose as barriers to HIV testing, including lack of knowledge, attitude and perceptions.

One million and one hundred people in the world who were living with HIV, developed tuberculosis disease and most of whom (82%) were from Africa (WHO 2011b:11). HIV and TB co-infection worsen the disease progression of each other (Ministry of Health, Malawi 2012:1).
1.2 BACKGROUND TO THE STUDY

The research problem was identified by the researcher’s observation of the fears among tuberculosis patients who were asked to go through HIV testing and counselling at a city hospital in the city of Lilongwe. Further on, the researcher learned from The Chief TB Clinical Officer in the same city that all tuberculosis suspects and confirmed clients need to undergo HIV testing according to the Tuberculosis Policy Guidelines. There were a total of 22,536 tuberculosis patients registered by the National TB Control Programme in the year 2010 (Ministry of Health, Malawi 2011:1).

Despite being told of the importance of the policy of HIV testing, over 50% (11,268) of tuberculosis patients were not tested for HIV in 2005 (Chinzizi & Harries [s.a.]:1). When a community nurse working at a TB clinic in Lilongwe was asked why some patients refuse to have an HIV test she said she did not know because nobody has done such an inquiry. The question, “what are the factors that contribute to low HIV testing TB patient” started to linger in the researcher’s mind.

Tuberculosis is an infectious disease affecting mostly the economic productive age group (15 to 49). It spreads more rapidly in patients who have been infected with the HIV virus (WHO 2011b:3). The likelihood of developing active tuberculosis in people who are co-infected with tuberculosis and HIV is 21-34 times more than in HIV negative people who are infected by the TB bacteria (WHO 2011b:61). Thirteen percent of people living with HIV worldwide developed active tuberculosis in 2011 (UNAIDS 2012).

Globally a number of initiatives have been put in place to control the spread of TB. “To stop tuberculosis by 2015” is the 6th Millennium Development Goal, which the Stop TB Strategy also promotes realizing that one untreated person suffering from TB can transmit it to 10 to 15 other people within a year (WHO 2009:1).

The ProTEST is an initiative established to coordinate HIV and TB prevention and care. In ProTEST voluntary counselling and testing is the first intervention before TB and HIV interventions are started (WHO 2011a:235-420).
Two million and 8 million people die and fall sick from tuberculosis, respectively every year. The case rate for TB in Africa is 216 per 100,000 people (Fourie 2009:1). Eighty three percent of tuberculosis patients in Malawi were HIV positive in 2011 (WHO 2011c:1). TB and HIV co-infection poses great challenges in the management of TB at all levels. As a result of the HIV epidemic in Malawi, there has been as increase by five times of TB cases in Malawi for the past 20 years (Ministry of Health, Malawi 2011:2).

There are 351 HIV counselling and testing sites in Malawi. Malawi is a country in the Sub-Saharan Africa with 10.6% HIV prevalence, highest (12%) among the 15-49 age groups (Ministry of Health, Malawi 2012:2). The oldest recorded prevalence of HIV in Malawi was in the late 1980s. Between 1995 and 1998 HIV prevalence increased from 2.4% to 26% (Office of President and Cabinet (OPC), Malawi Government 2007:5). By the year 2005 there were 930,000 out of the 11 million people in Malawi who were living with Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS). There are 100,000 new HIV infections occurring annually in Malawi and HIV prevalence rates are high (10.6%) among the sexually active age group 15 to 49 years (Ministry of Health, Malawi 2012:2).

National TB Control Programme in Malawi was launched in 1964 and Directly Observed Short Course (DOTS), where patients are observed as the take TB medicine was introduced in Malawi in the year 2005. The TB death rate in Malawi declined from 22% in 1998 to 16% in the year 2005 (Ministry of Health, Malawi 2011: VI).

However, the rate of scaling up anti-retroviral drugs in integrated TB and HIV and AIDS programmes and in all DOTS distribution centres appears to be sluggish. Forty-seven percent of TB clients tested for HIV in 2005, despite attaining 100% DOTS coverage (Nyirenda 2006:149). This calls for additional and collective efforts to address this problem.

Policies that ensure regular supply of TB drugs and laboratory consumables, quality assured diagnosis, monitoring and supervision systems, decentralisation of services, co-ordination with HIV services, advocacy, community and social mobilisation are usually effective (Liverpool School of Tropical Medicine 2009:1).
Apart from policies, voluntary counselling and testing (VCT) is a key element that identifies HIV infected persons who may benefit from life prolonging anti-retroviral drugs (Yahaya, Jimoh & Balogun 2010:2).

However, access to VCT is not always without barriers. Jerene, Endale and Lindtjorn (2007:3) mention willingness to be tested does not guarantee acceptance of an HIV test as 42% of clients who indicated willingness to be tested refused to be tested for HIV. In addition, factors such knowledge, and attitude are barriers to HIV testing, according to Ayenew, Leykun and Delibew (2010:3). Further, Mahendradhata, Ahmed, Lafevre, Boelaert and Vanderstuyft (2008:6) are of the opinion that provider education coupled with counselling is important in order to increase access to VCT.

Jerene et al (2007:3) further explain that hospitalised unemployed females, and people with no previous exposure to HIV testing are likely to accept VCT, while Yahaya et al (2010:4) mention ignorance, poverty, inadequate number of VCT centres, stigma, discrimination and most especially location of residence as attributes to low HIV testing amongst the youth of Kwara State in Nigeria and not gender and religion. In a systematic review of literature on the barriers of VCT, Deblonde, De Koker, Fontaine, Luchters and Temmerman (2009:9) reveal that the absence of structured administrative and legal information, provider attitude and patient perceptions are also barriers to HIV testing. Mahendradhata et al (2006:8) in an HIV prevalence study established that VCT uptake improves in an unlinked anonymous testing and counselling amongst tuberculosis patients in Jogjakarta, Indonesia by over 75%.

1.3 RESEARCH PROBLEM

The HIV and AIDS pandemic continues to cause devastative effects in Malawi, a country in the Sub-Saharan Africa with the prevalence of 10% (Ministry of Health, Malawi 2012: iii). HIV testing in tuberculosis patients is as low as 47% (WHO 2007:1). This means that over 50% (over 11,268 tuberculosis patients) do not test for HIV. Yet the presence of the HIV virus in tuberculosis patients contributes to poor prognosis in tuberculosis patients, while tuberculosis leads to high mortality and morbidity in HIV infected patients (Chinzizi & Harries [s.a.]:1). Long, Huston and Hershfield (2003:2) and the WHO (2009:1) lament that since the 1990s HIV has undermined efforts to control tuberculosis. If a country has to reduce tuberculosis morbidity and mortality then all
tuberculosis patients have to be tested for HIV. The researcher discovers that barriers to HIV testing include provider attitude, long distance of travel to the health centre and patient perception (Ayenew et al 2010:3). There is no information on the patient’s perceptions that facilitate or inhibit acceptance of HIV testing amongst tuberculosis outpatients in Lilongwe, Malawi. This calls for an investigation of the perceived factors that facilitate of pose as a barrier to HTC among TB patients.

1.4 RESEARCH PURPOSE

The purpose of the study is to explore and describe the common perceived barriers and contributing perceptions to acceptance of HIV testing amongst male and female adult tuberculosis outpatients at an urban hospital in Malawi.

1.5 RESEARCH OBJECTIVES

The research objectives of the study are to

- explore factors contributing to under-utilisation of HIV testing services among adult (aged between 25 and 65 years) TB patients in Malawi
- identify perceived barriers to HIV testing amongst tuberculosis patients

1.6 FOUNDATION OF THE STUDY

The assumption of this study, based on the Health Belief Model is that people’s behaviours and practices are determined by their perceptions. Before taking any action one goes through a process of weighing whether taking the action will bring any benefits. In deciding whether to test for HIV, people are guided by their perceptions. Understanding perception of people going through HIV testing and counselling would assist care providers in providing quality care.
Figure 1.6 A conceptual framework adopted from the Health Belief Model illustrating how different individual perceptions may affect behaviour of taking up an HIV test

1.7 SIGNIFICANCE OF THE STUDY

The results of this study may assist nurse managers and policy makers in developing guidelines for motivating newly diagnosed tuberculosis patients to test for HIV, hence moving towards achieving high HIV testing coverage. Early HIV testing in tuberculosis patients leads to early initiation of anti-retroviral drugs in HIV and TB co-infected patients and improved prognosis. Only healthy people will contribute to the development of developing countries like Malawi.

The information generated in this research may also be applied to other departments such as medical or general outpatient’s clinics where HTC is required. Over all, this study will contribute indirectly to the attainment of the Millennium Development Goal
number 6 of combating HIV/AIDS and other diseases and ensure universal access to treatment of HIV and AIDS for all who need it.

1.8 ETHICAL CONSIDERATION

Ethical research, which begins from topic identification through publication, leads to generation of sound knowledge and practice (Burns & Grove 2005:176). Permission to conduct the research was sought from the Higher Degrees and Ethics Committee of the Department of Health Studies at UNISA, Lilongwe District Health Office and from the management of the clinic where data collection was conducted. The researcher assured all the participants that they would be protected from all harm including physical and psychological harm during data collection. The research is beneficial as it may contribute to better management of clients undergoing HIV testing. The participants were told to choose whether or not to participate in the study. An informed consent was sought from all participating clients. During training, the emphasis to treat participants fairly during data collection was explained.

1.9 RESEARCH METHODOLOGY

1.9.1 Research design

A quantitative descriptive exploratory survey was chosen to explore and describe the perceived barriers and contributing perceptions to acceptance of HIV testing amongst male and female adult tuberculosis outpatients aged between 25 and 65, at an urban hospital in Malawi.

1.9.2 Setting

The study was conducted at a tuberculosis outpatient clinic in Lilongwe, Malawi.

1.9.3 Study population and sample

The study population were 282 male and female TB patients and suspects aged between 25-65 years in Malawi.
1.10 OPERATIONAL DEFINITIONS USED IN THE RESEARCH

Brief descriptions of concepts used in the study are as follows:

**HIV:** An acronym for Human Immune Virus. “HIV is a retrovirus belonging to the Lentivirus genus of the Retroviridia family” (Durham & Lashley 2010:321).

**AIDS:** An infectious disease caused by Human Immune Virus (HIV). The virus that affects and destroys the immune system to make people prone to opportunistic infections and other conditions (Lindsey 2001:4).

**Counselling:** According to Alexander, Fawcett and Runciman (2008:707) is assisting people overcome emotional barriers or psychological problems.

**Perception:** Is defined by Streubert Speziale and Carpenter (2007:320) as “a way of observing and processing those things that are present to the self within the context of one’s lived experience”.

Glanz, Rimer and Lewis (2002:52) define perceived susceptibility, perceived severity, perceived benefits, perceived negative attributes, cues to action and self efficacy as follows:

**Perceived susceptibility:** One’s opinion of chances of getting the condition.

**Perceived severity:** One’s pinion on how serious a condition and its consequences are.

**Perceived benefits:** One’s belief in the efficacy of the advised action to reduce risk of seriousness of impact.

**Perceived negative attributes:** One’s opinion of the tangible and psychological costs of the advised action.

**Cues to action:** Strategies to activate “readiness” (to take to the recommended action).
Perceived self-efficacy: Confidence in one’s ability to take action.

1.11 ORGANISATION OF THE DISSERTATION

The research report is structured in the following chapters:

Chapter 1: Introduction background information and orientation of the study

Chapter 2: Literature review for the research study

Chapter 3: Research methodology

Chapter 5: Discussion of the summary of the research findings.

Chapter 6: Conclusions, limitations and recommendations

1.12 CONCLUSION

This chapter provides an overview of the study, it contains an introduction to the chapter, the background to the study based on global regional and local context of HIV testing and counselling in relation to tuberculosis, research problem, research aim, purpose and objectives, significance of the study, operational definition of terms used in the study and the research methodology.
CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

The purpose of this chapter is to provide an overview of literature relevant to the study on factors contributing to under utilisation of HIV testing services amongst TB patients. Available literature was searched to place the current study in the context of previous studies done in related fields. The review incorporates studies and related literature supporting factors contributing under utilisation of HIV testing services among adult TB patients and perceived barriers to HIV testing among adults with TB. The information in this chapter is expected to guide the study’s objectives.

The researcher consulted various sources to obtain relevant and up to date literature for the current study. Electronic sources, journal articles, books and policy documents on factors contributing to underutilisation of HIV testing services among TB adult patients were used.

During the literature review process, the researcher focused on global and Malawi situation of HIV and AIDS particularly among adults with TB. In addition, the HIV testing and counselling and HIV and AIDS and tuberculosis co-infection and factors contributing to underutilisation of HIV testing and perceived barriers to testing among TB patients were reviewed. The outline of the chapter is as follows:

- Global HIV and AIDS
- HIV and AIDS in Malawi
- HIV and AIDS and tuberculosis co-infection
- HIV testing services
- Factors contributing to underutilisation of HIV testing services
- Perceived barriers to HIV testing amongst tuberculosis patients
- Conclusion
2.2 GLOBAL HIV AND AIDS

Thirty-four million people around the world are living with HIV. Two million seven hundred thousand people in the whole world acquired new HIV infections in the year 2010. In the same year deaths due to HIV and AIDS were 17% higher than the deaths that occurred in 2001. The number of people living with HIV has been increasing from 7 million in 1990, peaking in 2004 and levelling off from 2004 to 2010 (UNAIDS 2011:6). In Africa alone, 30 million people have died of AIDS related diseases. When deaths due to HIV and AIDS reached highest levels in 2004, 2.2 million people all over the world died (UNAIDS/WHO 2009:7).

The spread of HIV in the world peaked in 1996 when 3.5 million new infections occurred (UNAIDS/WHO 2009:7). As a result of significant access to antiretroviral drugs, AIDS related deaths have reduced, despite continued new HIV infections. The number of people dying from AIDS related causes fell to 1.8 million by the year 2010, from a peak of 2.2 million in the 2000s (UNAIDS/WHO 2009:9).

The incidence of new HIV infections in the world have declined by 15% from 1997 and by 21% from the year 2001 to 2.7 million new infections in the year 2012. This reduction in incidence occurred in a total of 33 countries all over the world and out of the 33 countries 22 countries are from the Sub-Saharan Africa (UNAIDS 2011:7).

The rate of decline varies from country to country. Overall, the proportion of women who have HIV has remained stable at 50%. However, a different trend is seen in the Sub-Saharan Africa were more women (59%) are HIV positive, while in the Caribbean 53% of HIV positive adults are women (UNAIDS 2011:6).

2.2.1 Regional HIV and AIDS overview

The Sub-Saharan Africa Region constitutes 70% of all new infections worldwide and in the year 2012 AIDS had already claimed one million lives. The Southern African Region is most severely hit, despite the declining rate of new infections. For example, there are 5.6 million people living with HIV in South Africa, more HIV persons than any other country in the world (UNAIDS 2011:7).
In terms of HIV prevalence the Caribbean is the second highest from the Sub-Saharan Region. The Caribbean Region HIV epidemic has slowed regularly since mid 1990s. New HIV infections have reduced by one third since the year 2001 with varying declining rates among countries of the region. For example, the rate of decline in the Dominican Republic and Jamaica was 25% while in Haiti the rate was at 12% (UNAIDS 2011:8). The slowing HIV incidences in the region have been as a result of access to HIV prevention services for pregnant women (UNAIDS 2011:8).

The Asian Region contains the lowest HIV prevalence compared to the rest of the world. However, the absolute size of the Asian population makes it to be the second largest grouping of people living with HIV. In many Asian countries, national epidemics concentrate in relatively few provinces (UNAIDS 2011:8).

In China, five provinces account to 53% of the total number of people living with HIV in Asia. On the other hand, India has the largest number of people living with HIV compared to countries in the rest of Asia, with 56% of new infections in 2010. In South and South East Asia declining incidences of HIV have gone 40% lower than the peak in 1996 (UNAIDS 2011:8).

Between 2001 and 2010 there was a 25% increase in the number of people living with HIV in East Europe and Central Asia. Ninety percent of those infected were from the Russian federation and Ukraine with little indication of a stabilised HIV epidemic. The leading cause of the epidemic in this region is drug injections amongst drug users (UNAIDS 2011:8).

The prevalence, the incidence and AIDS related deaths vary in the Middle East and the North African Region. In general the epidemic is low, except in Djibouti and Southern Sudan where the epidemic is generalised (UNAIDS 2011:9).

There are generally stable epidemics in Latin America. Steady increases in annual HIV new infections have occurred in these regions since 1996 and levelled off in the early 2000s at 100,000 new infections per year (UNAIDS 2011:9).
In the Oceania the number of annual new infections increased slowly until the 2000s and declined. This resulted in the reduction of AIDS related mortality. By the end of 2010 there were 54,000 people living with HIV in Oceania (UNAIDS 2011:9).

Since 2004 the North America and West Central Europe witnessed a stubbornly steady epidemic despite universal access to antiretroviral drugs, care and support and awareness activities. By the end of 2010, 2.2 million people were living with HIV in this region. Half the total number of the people living with HIV in the region was from United States of America. Between 2000 and 2009 the rates of new infections doubled in Bulgaria, Czech Republic and Slovenia and a 20% decrease in new infections in Latvia, Portugal and Romania (UNAIDS 2011:9).

2.3 HIV AND AIDS IN MALAWI

Between 1995 and 1998 there was a significant increase in the HIV prevalence of 2.4% in Malawi. By the year 2005 there were 930,000 people living with HIV and AIDS (National AIDS Commission (NAC), Malawi Government 2009:4; Ministry of Health, Malawi 2012:2). The HIV prevalence rates started to lower down to 12% in 2008. There were 1,000 new HIV infections occurring in Malawi in the year 2007 (Office of President and Cabinet (OPC), Malawi Government 2009:15).

High risk groups, such as truck drivers, sex workers, fishermen, young vendors, male and female school teachers, male and female police officers and border traders have an average HIV prevalence of 14%, with highest HIV prevalence (70%) amongst sex workers (Ministry of Health, Malawi 2012:4).

Poverty, low literacy levels, high rates of unprotected sex, particularly among youth aged 15 to 24 years, low utilisation of male and female condoms, cultural and religious practices and stigma are the major factors contributing to the high incidence and prevalence of HIV in Malawi (Ministry of Health, Malawi 2012:4).

In response to the HIV and AIDS epidemic Malawi put in place a national HIV and AIDS policy, an HIV and AIDS strategy and legislative measures. The 2006 to 2011 Malawi Growth and Development Strategy (MGDS), whose related goal is to prevent the spread of HIV and AIDS and mitigate the health, social, economic, and psychological impacts
of HIV and AIDS is currently in place. It has three medium-term expected outcomes of reducing the HIV transmission, improving dietary practices of people living with HIV, orphans and other vulnerable children, affected individual and households and improved quality of lives of people living with HIV, orphans and other vulnerable children, and affected individual and households (Ministry of Health, Malawi 2012:9).

In addition to the MGDS, the country developed the 2005 to 2009 National HIV and AIDS Action Framework (NAF) to guide development and implementation of HIV and AIDS interventions. Its goal was to prevent HIV infection and provide access to treatment for people living with HIV and mitigate health, socio-economic and psychosocial impact of HIV on individuals, families, communities and the nation (Ministry of Health, Malawi 2012:9).

Mid way through the implementation of the NAF, a mid-term evaluation was done which instructed extension of the NAF to 2012. The second NAF had seven priority areas namely, (1) Prevention and Behaviour Change, (2) Treatment Care and Support, (3) Impact Mitigation, (4) HIV Mainstreaming and Decentralisation, (5) Research Monitoring and Evaluation, (6) Resource Mobilisation and Utilisation and (7) Policy and Partnerships. The aim of the new NAF was to reduce HIV infection by 20% and AIDS deaths by 8% including 50% deaths in children, increase access to treatment, mitigate health, social-economic and psychosocial impact of HIV and AIDS on individuals, families communities and the nation (Ministry of Health, Malawi 2012:9).

In responding further to the HIV and AIDS epidemic in Malawi, a National HIV and AIDS Policy was also developed. The policy was regarded as a major milestone in the response to the HIV and AIDS epidemic. The National HIV and AIDS Policy incorporate most international policy principles at the time. It lays down administrative and legal framework for all HIV and AIDS interventions in Malawi. The goal of this policy is to reduce infections and vulnerability, improve provision of treatment, care and support for people living with HIV and mitigate social-economic impact of HIV (Ministry of Health, Malawi 2012:10).

With regard to legislation of HIV, there is no specific law that deals with HIV and AIDS issues in Malawi. However, the HIV policy in Malawi has been guided by other HIV and AIDS related instruments at the regional and global levels. They include International

2.4 HIV AND AIDS AND TUBERCULOSIS CO-INFECTION

People living with HIV and also infected with tuberculosis causing bacteria have 34 times more likely to develop tuberculosis disease. In the year 2010 1.1 million people who were living with HIV developed tuberculosis disease, most (82%) of who were from Africa. Twelve percent of tuberculosis patients worldwide are co-infected with HIV (Diedrich & Flynn 2011:1407).

Tuberculosis of the lungs is transmitted via droplet infection from an infected person to another. In most circumstances 50% of the population has been exposed to tuberculosis by early adulthood. Most of these primary tuberculosis infections remain latent because the immune system seals off the tuberculosis bacteria in the lungs and prevents clinical manifestation of tuberculosis. Only 5% to 10% of such primary tuberculosis infections directly lead to clinical tuberculosis (Knigge, Morr & Kilian 2000:1).

Thirty to forty percent of people who are co-infected with HIV and tuberculosis develop clinical tuberculosis within 7 to 10 years. The risk that tuberculosis in the newly infected will develop directly into its primary clinical form is significantly increased in HIV infected persons. This leads to acceleration of tuberculosis transmission since the number of cases with smear-positive, infectious pulmonary tuberculosis is increased considerably (Knigge et al 2000:2).

Since the key effect of HIV and AIDS on the tuberculosis epidemic is increased reactivation of latent tuberculosis and acceleration of transmission, the amount of tuberculosis cases will strongly depend on the level of HIV prevalence (Knigge et al 2000:2).
The clinical profile of tuberculosis patients might be affected by HIV in three ways. Firstly, the proportion of normally rare clinical occurrences of tuberculosis such as pleural effusion and other extra pulmonary forms of tuberculosis will increase. Secondly, tuberculosis co-infected with HIV patients has significant increased risk of skin reaction to anti-tuberculosis drug, Thiacetazone. Lastly, tuberculosis HIV co-infected patients are likely to suffer from many opportunistic infections if tuberculosis treatment is not started or completed (Knigge et al 2000:3).

HIV and tuberculosis co-infection worsens the disease progression of each other. The HIV virus increases the susceptibility to tuberculosis and also increases the risk of tuberculosis. Progression from tuberculosis infection to disease in HIV infected clients is much faster than in those without the HIV virus. The presence of HIV in the body re-activates latent or dominant tuberculosis infection (Ministry of Health, Malawi 2010:1).

HIV virus reactivates the tuberculosis bacteria which was acquired before the HIV infection but remained in the body, without causing tuberculosis disease. HIV further increases the likelihood of re-infections and relapses of tuberculosis. In the same manner, the presence of tuberculosis disease accelerates the development of AIDS among young people living with HIV (Ministry of Health, Malawi 2010:1).

As a result of immune deficiency caused by HIV and AIDS a number of opportunistic infections often attack HIV infected clients. Tuberculosis is rated as the commonest opportunistic infection and the leading cause of death among people living with HIV and AIDS (Ministry of Health, Malawi 2010:1).

2.5    HIV TESTING SERVICES

An HIV counselling and testing service is beneficial to the individual because it enhances the ability to reduce the risk of acquiring or transmitting HIV infect to others, increase access to treatment, care and support and protection of unborn babies, in the case of pregnant women (WHO 2005:1). HIV counselling and testing services are gate ways to HIV prevention care and treatment. Knowing one’s HIV status benefits not only the individual but also the community and the population as a whole.
The community benefits from HIV testing and counselling because the service is linked to reduction in denial, stigma and discrimination and increased collective responsibility and action in HIV prevention (WHO 2005:1).

HIV counselling and testing benefits the population as it increased the knowledge of HIV epidemiological trends to influence policy environment, moralise HIV and reduce stigma and discrimination (WHO 2005:1).

The term “voluntary counselling and testing” (VCT) is widely used in HIV counselling services. However, HIV testing and counselling is a term that covers a variety of interventions in different service settings:

1. Testing and counselling in clinical treatment setting where sick people are offered HIV testing that may possibly aid their clinical diagnosis and management. This type of testing and counselling, with the option of “opting out” of testing is a standard care in tuberculosis, and hospital in-patients and out-patient services.

2. Testing and counselling services for antenatal care prevention of mother to child transmission of HIV and sexually transmitted infection clinics are targeted interventions for vulnerable and marginalised populations such as men who have sex with men, sex workers and injecting drug users.

3. Voluntary counselling and testing services for people who do not have symptoms of HIV but would like to know their HIV status. This is client initiated HIV counselling and testing (WHO 2003:2).

However, the United Nations AIDS organisation (UNAIDS) recommends four types of HIV counselling and testing as follows:

1. Voluntary counselling and testing which is client initiated. This type of testing service is critical for effectiveness of HIV prevention. Pre-testing services may be provided to an individual or group with individual follow ups. UNAIDS encourages use of rapid tests for timely results and immediate follow up.

2. Diagnostic HIV testing services are done whenever a person shows signs and symptoms that are consistent with HIV related disease or AIDS for clinical diagnosis and management. This includes testing all tuberculosis patients as part of their routine management.
(3) Routine offer of HIV testing initiated by a service provider is done in all patients being assessed in sexually transmitted infections (STI) clinics or elsewhere for tailored counselling based on knowledge of HIV status. This service is done in pregnancy to facilitate initiation of antiretroviral drugs. This testing is indicated by injecting drug user’s hospital emergencies and consultations.

(4) Mandatory HIV screening is supported by UNAIDS for organ, tissue transfers and blood donors but does not support mandatory testing for public health grounds (UNAIDS/WHO 2004:7)

The three conditions, commonly called the three “Cs”, have remained important since HIV testing began in 1985 and are they the underpinning principles. The three ‘Cs’ guide that HIV testing must be confidential, accompanied by a counsellor and conducted with informed consent (UNAIDS/WHO 2004:7).

2.6 FACTORS CONTRIBUTING TO UNDER-UTILISATION OF HIV TESTING SERVICES

A number of factors are known to contribute to the underutilisation of HIV services. Some are structural, psychological and economic in nature. In a cross-sectional study conducted in Uganda, the feelings of a person after going through the whole process of counselling and testing brings shock, is also accompanied with high transport costs, limited post-test facilities as a result of as a result of poor distribution, shortage of staff and lack of laboratory facilities which pose as barriers to HIV testing (Bwambale, Ssali, Byaruhanga & Kalyango 2008:1; Sebudde & Nangendo 2009:491).

In Malawi, the fear to be found HIV positive and the resultant stigma are the reasons why some people do not go for HIV testing. Stigma and discrimination do exist in the Malawi societies (Ministry of Health, Malawi 2012:28).

Another study which was conducted in Malawi confirms that stigma is a major cause of underutilisation of HIV testing services. Other barriers are opposition from the spouse, fear of disclosure of HIV status and lack of knowledge by service providers as reasons for low VCT attendance (Nyasulu 2007:21-26).
From a cross-sectional descriptive study on factors affecting voluntary counselling and HIV testing done in Namibia, it is learned that fear of stigma, discrimination and rejection from family and community members, fear of confidentiality about test results, attitude of health workers and community counsellors negatively affects voluntary counselling and testing (Shangula 2006:42-46).

A cross-sectional study conducted in Kenya reveals that social and health system barriers such as gender inequality, the cost of taking the service, service operational hours, accessibility, misconceptions about HIV and perception of not being at risk of HIV are the causes of underutilisation of VCT services (Muchiri 2010:2).

In a case controlled study conducted in Ethiopia, low awareness and stigma were the major causes of low HIV testing amongst tuberculosis patients (Ayenew et al 2010:1).

2.7 PERCEIVED BARRIERS TO HIV TESTING AMONG TB PATIENTS

The word “perceive” is a verb in form of a noun, “perception”. The word “perception” comes from a Latin word “perception” or “percepio” meaning the organisation, identification and interpretation of sensory information in order to fabricate mental representation through the process of transduction, in which sensors of the body transform signals from the environment into encoded neural signals (Samrith, Rahman, Rashid & Sakamoto 2012:230)).

Like every other person, tuberculosis patients undergo the process of organising, identifying and interpreting in their minds on the implications of going through an HIV test and receiving the results of the test. Psychologist designed models to explain perceptions people are likely have before they accept or decline a health procedure, like HIV testing.

One of the models is the Health Belief Model (HBM). This model was originally developed by United States Public Service psychologists with the aim to understand why people failed to make use of screening tests that helped detect disease in the early stages (Gross & Kinnison 2007:72).
The HBM attempts to explain and predict healthy behaviour. This is done by focusing on attitudes and beliefs of individuals. The HBM focuses on six main determinants of one’s decision to take an action, namely perceived susceptibility; perceived severity; perceived benefits; perceived barriers (negative attributes of doing the action); cues for action and perceived self efficacy (Glanz et al 2002:52).

The assumptions are: A person will take a health related action (e.g. accepting an HIV test) if he / she feels that a negative health condition (e.g. AIDS) can be avoided; one is contained with a positive expectation that by taking the recommended action he or she will avoid a negative health condition; One believes that he or she can successfully take a recommended health action (in this case feeling comfortable or confident to accept HIV test) (Glanz et al 2002).

The HBM was later applied to patients’ responses to symptoms and compliance with or adherence to prescribed medication among acutely and chronically ill patients. Recently, it has been used to predict a wide range of health related behaviours (Ogden 2004 cited by Gross & Kinnison 2007:72).

The HBM assumes that the likelihood that people will engage in particular health behaviour is a function of the extent to which they believe they are susceptible to the associated disease and their perception of severity of the consequences of getting the disease (Gross & Kinnison 2007:72).

Together these beliefs and perceptions determine the perceived threat of the disease. With the threat in mind, people will consider whether or not the action will bring benefits that will out-weigh the costs that associate with the action. Cues to actions help to increase the chances that the action will be adopted. On another point, cues for an action might be advice from other people, mass media campaigns, and reminders from written media such as posters or billboards (Gross & Kinnison 2007:72).

Other important concepts include general health motivation, the person’s readiness to be concerned about health matters, perceived control or confidence from within that one can take up the health action (Gross & Kinnison 2007:72).
The following are definitions of the HBM perceptions according to (Glanz et al 2002:52):

- **Perceived susceptibility**: One’s opinion of chances of getting the condition. In other words, “Am I susceptible to HIV infection?”
- **Perceived severity**: One’s opinion on how serious a condition and its consequences are. For example, “how serious will be the implication of finding me HIV positive?”
- **Perceived benefits**: One’s belief in the efficacy of the advised action to reduce risk of seriousness of impact. For example, what will be the benefits of the HIV test?
- **Perceived barriers**: (Negative attributes of doing the action, i.e. of accepting to have an HIV test.) For example “will people discriminate me for being HIV positive?”
- **Cues for action**: Strategies to activate “readiness” (to take to the recommended action. What will remind me to follow instructions?
- **Perceived self efficacy**: Confidence in one’s ability to take action. Do I have the confidence to stand the test and the results?

2.8 **CONCLUSION**

This chapter on literature review covers a wide range of review of literature on the globe, regions and Malawi related to factors contributing to under utilisation of HIV testing services amongst TB patients. It focuses on introduction, HIV and tuberculosis co-infection, HIV testing services, factors contributing to underutilisation of HIV testing services and perceived barriers of HIV testing amongst tuberculosis patients.
CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

Streubert Speziale and Carpenter (2011:366) define research methodology as “the technique and methods that a researcher uses to structure a study and to gather and analyze information in a systematic fashion”. Research methodology considers principles of investigation including philosophical foundations of the choice of methods (Green & Browne 2011:7).

This chapter discusses the methodology that was used in the research design, research population, sample and sampling techniques, data collection instrument used, data collection method, data analysis and ethical consideration.

3.2 RESEARCH DESIGN

Burns and Grove (2011:49) define research design as “... the blueprint for the conduct of a study that could interfere with the study’s desired outcome”. Research design is not only data collection methods used but also the logic of how data is collected (Green & Browne 2011:32). The researcher of this study used a quantitative descriptive exploratory survey.

Quantitative descriptive exploratory surveys involve more rigor for increased validity as they encourage objectivity in the process of implementation. This type of research reduces the involvement of researcher’s feeling and emotions but follows strict rules of logic, laws axioms and predictions. The design adopts elements of descriptive surveys which include description of variables (factors contributing to tuberculosis patient’s on acceptance of an HIV).
The purpose of the study was to explore and describe the common perceived barriers and contributing perceptions to acceptance of HIV testing amongst male and female adult tuberculosis outpatients at an urban hospital in Malawi.

3.2.1 Rationale for choosing quantitative exploratory descriptive design

Quantitative research designs are designs that produce "hard" science that involve rigor, objectivity and control. In quantitative research truth is absolute and that there is a single reality that could be defined by careful measurement (Burns & Grove 2011:34). The following are the characteristic of a quantitative design (Burns & Grove 2011:34, 36):

- There is critical examination of reasoning
- Attention is placed on precision
- Essential to quantitative method is logical and deductive reasoning
- The steps in the research undergo critical examination and re-examination to spot errors in the design, treatment implementation, measurement, sampling, statistical analysis and generalisation
- Includes detail and order
- There is reliability and validity of the data collection instrument

Descriptive research provides an accurate portrayal or account of characteristics of a particular individual, situation or group (Burns & Grove 2011:34). The study sought to provide an account of perceived factors that facilitated or acted as barriers to HIV testing among tuberculosis clients.

Descriptive exploratory surveys increase knowledge of the field of study and assist researchers to increase knowledge in the field understudy. Exploratory surveys involve investigating the full nature of a phenomenon (Polit & Beck 2010:20). The researcher used the design to explore the perceptions of tuberculosis clients in relation to HIV testing and use the information to increase knowledge about beliefs and perception of clients undergoing HIV testing had.
3.3 RESEARCH METHODOLOGY

Research methodology is defined as the entire strategy for the study, from problem identification to final plans of data collection or techniques used to structure a study, gathering and analysing information systematically (Streubert Speziale & Carpenter 2011:366) This section describes the study setting, population, sample size and sampling procedure.

3.3.1 Research setting and period

The setting for the study was an outpatient tuberculosis clinic of Lilongwe, in the Central Region of Malawi. Lilongwe is the Capital City and is situated in the Central Region of Malawi. The setting was chosen because it is based in Lilongwe, the highest populated city with 669,021 inhabitants and an annual population growth of 4%. Lilongwe city located at the centre of Malawi and is inhabited by people representing all ethnic groups in Malawi and migrants from all over the world (National Statistical Office (NSO), Malawi Government 2008:3, 6). The study period was April 2012 and December 2012.

3.3.2 Study population

The research population is all elements which can be individuals, objects or substances that meet certain criteria for inclusion in a given universe (Burns & Grove 2011 290). The population is described in terms of target population, inclusion criteria and sampling method. The target population was male and female tuberculosis suspects and clients aged between 25 and 65 years attending a tuberculosis outpatient clinic in Lilongwe. The study population was 22,536 tuberculosis clients in Malawi (Ministry of Health, Malawi 2011:1) and the accessible population was male and female out-patient tuberculosis suspects and clients’ suspects aged between 25 and 65 years old, who were not very weak and not bedridden.

3.3.3 Inclusion and exclusion criteria

The inclusion sampling criteria are defined as the required characteristics that participants or elements must have to become part of the target population (Burns &
Establishing the inclusion criteria help in delineation of study sample. The inclusion criteria for the research participants were as follows:

- Mobile male or female tuberculosis clients or suspects who are not too weak or bed riddled.
- Age range of between 25 and 65 years.
- Outpatients of attending the TB clinic.

The exclusion criteria are those characteristics in an individual or element that can determine the individual or element is included in the target population (Burns & Grove 2008:338). In this study the exclusion criteria were the following:

- Very sick clients
- Clients aged less than 25 and over 65 years old

### 3.3.4 The sample size, sampling and sampling procedure

#### 3.3.4.1 Sample size

The sample size for the study was 282. This sample size of 282 gives sufficient power of the experiment at 5% level of significance. The figure of 282 was arrived at by using the formula by Lemeshow and Lwanga (1991:33) as follows:

\[
\text{Sample size (n)} = \frac{Z^2 P (1-P)}{e^2}
\]

- Where: \(Z=1.9\)
- \(P=\)the proportion of targeted population out of the total population (i.e. \(5,848/22,536=0.26\))
- \(e=\)the maximum allowable error which is 0.05. \(n=\frac{Z^2 P (1-P)}{e^2}=3.61 \times 0.26 \times 0.75/0.0025=281.5=282\)

#### 3.3.4.2 Sampling

A sampling process is the approach of selecting, a group of people or events or behaviours or elements with which to conduct a study (Polit & Beck 2012:59). A sample
is the selected group of people or elements included in the study (Polit & Beck 2012:59).

### 3.3.4.3 Sampling procedure

Simple random sampling is one of the most basic probability sampling method where participants are selected at random from a sampling frame (Burns & Grove 2010:51; Polit & Beck 2010:313). The purpose for sampling is to generalise the findings to the accessible population and the target population (Burns & Grove 2010:40, 51).

The simple random sampling method was used to select research participants, after developing a sampling frame consisting of codes representing 2009 names of tuberculosis patients who are registered at the clinic. In this study it was required to ensure that the sample represents the study population.

The summary for selecting the sample is summarised as follows:

- The researcher created a sampling frame using codes representing 2009 names of tuberculosis clients who were registered at the clinic.
- The researcher randomly selected participant codes using simple random by picking every seventh number in the series of 1 to 2009.
- The participants were told that they were randomly selected to answer questions from a questionnaire.
- The process continued until 282 questionnaires were filled.

### 3.4 DATA COLLECTION, DATA COLLECTION INSTRUMENT AND PROCEDURE

#### 3.4.1 Data collection

Data collection is the “precise, systematic gathering of information relevant to research purpose or specific objectives, questions or hypothesis of the study” (Burns & Grove 2010:52). In structured data collection the same information is collected from all participants in comparable, pre-specified way (Polit & Beck 2010:340). Data collection was conducted using a self designed structured questionnaire. The structured questionnaire was administered to randomly selected participants who chose to
participate in the study. The clients had to sign on the consent form or print with their thumbs if they could not write. Data collection was conducted in enclosed rooms and outside on quite spaces behind the buildings of the clinic. The collection of data was done by the researcher and 4 other trained university leavers in a period of three weeks. The same data collectors were involved in pre-testing of the questionnaire. Each question was asked and responses were checked on the appropriate given space of the questionnaire. No probing was done, the recording of responses that the client mentioned were recorded in the appropriate places of the questionnaire. Participants were allowed to ask questions regarding purpose and objectives of the survey and told that all information was anonymous.

3.4.2 The research instrument

The researcher designed a structured questionnaire with close-ended questions. The questionnaire was structured to capture demographic data and perception of clients regarding HIV testing and counselling, and what the participants suggested health personnel and other HTC providers have to do to encourage people to go for HIV testing. The data collection instrument had three sections. The first section was about participant’s particulars, mainly age and gender and the purpose of the study. There was no provision for asking participant’s name on the questionnaire. The first section of the questionnaire had instructions that instructed participants to be free to answer questions or withdraw from being asked questions, and that those who wanted to continue answering the questionnaire confidentiality would be assured.

The second part of the questionnaire included questions which were developed from perceptions of the client on his or her susceptibility to HIV infection, the client’s perceived severity of consequences of taking an HIV test and his or her perceived severity of the consequences of HIV testing. Other questions dwelt on perceived negative attributes of testing for HIV, barriers and benefits, perceived cues to the action of testing for HIV. Further, questions were generated from the client’s perceived self efficacy that can lead to accepting an HIV test and what clients would recommend to those who initiate HIV testing should do to ensure that clients accept HIV testing easily.

These questions were guided by the Health Belief Model as described in the following table:
Table 3.1 Health Belief Model Elements

<table>
<thead>
<tr>
<th>Health Belief Model Elements</th>
<th>Nature of questions asked</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Perceived susceptibility</td>
<td>• Whether the client perceived himself or herself as susceptible to HIV infection.</td>
</tr>
<tr>
<td></td>
<td>• The perceived or believed degree of susceptibility.</td>
</tr>
<tr>
<td>• Perceived severity</td>
<td>• The perceived or believed severity of taking up an HIV test.</td>
</tr>
<tr>
<td></td>
<td>• The perceived measure or degree of severity.</td>
</tr>
<tr>
<td>• Perceived negative</td>
<td>• Whether the client perceived any negative attributes of testing for HIV.</td>
</tr>
<tr>
<td>attributes</td>
<td>• What the perceived negative attributes were.</td>
</tr>
<tr>
<td>• Perceived benefits</td>
<td>• The perceived or believed benefits of testing for HIV.</td>
</tr>
<tr>
<td>• Cues to action</td>
<td>• The happenings or factors that activate readiness for one to take up an HIV test.</td>
</tr>
<tr>
<td>• Perceived self-efficacy</td>
<td>• What the client perceived could make him or her confident to take up a test.</td>
</tr>
</tbody>
</table>

The third part of the questionnaire was a checklist to assist the supervisor in ensuring that all questions were answered.

Structured questionnaires give researchers room to explore patterns and trends, help describe what is happening and provide a measure of participant’s attitude and knowledge. The questionnaires’ objectivity is clear in the standard way of information collection like in interviews participant’s anonymity is assured (Polit & Beck 2008:324).

3.4.3 Reliability of the research instrument

Reliability dwells on the consistency and meaning of the measure obtained (Polit & Beck 2010:37, 373). The questionnaire was pilot tested on 10 participants with similar characteristics as survey participants in order to ensure consistency in data collection. The following steps were followed to ensure reliability of the instrument used in the study:

- The researcher conducted a pilot study on participants similar to those on the study to refine the instruments according to responses on the pilot.
The researcher participated throughout the entire study to clarify issues and answer questions regarding the study.

The researcher explained the purpose of the study to participants to gain their cooperation and participation in the study.

The asking of questions was practiced during training.

The questionnaire was translated in vernacular to make the understanding of technical words easy for participants.

3.4.3.1 Pre-testing of the instrument

The questionnaires were pre-tested using the same procedure and with similar target group. The participants involved in the pretesting did not participate in the actual study. The pre-tested findings showed that the questionnaires were well developed, except for few modifications in structuring the questionnaire where headings such as demographic data were made and questions on perceived benefits refined for easy understanding.

3.4.4 Validity of the research instrument

The degree to which the instrument measures what it is supposed to measure is termed as validity of the instrument (Polit & Beck 2010:377). Validity refers to the degree to which the instrument has an appropriate sample of items for the construct being measured and adequately covers the construct domain (Polit & Beck 2010:377).

3.4.4.1 Content validity

The degree to which the instrument has an appropriate sample of items for the construct being measured and adequately covers the construct domain is termed as content validity (Polit & Beck 2010:377).

Since the study was conducted to explore and describe the perceived barriers and contributing perceptions to acceptance of HIV testing, content validity was considered through the relevant literature on the topic and the HBM. The questionnaire was also reviewed by the researcher and other experts in the medical and research field.
3.4.4.2 Face validity

Face validity is concerned about whether the instrument looks as though it is measuring the appropriate construct, especially to the people completing the instrument (Polit & Beck 2008:377). Face validity was assured by:

- Thorough review of the questionnaire to see if it adequately addresses the content of the research.
- Pre-testing the questionnaire on 10 tuberculosis clients who were found at the same setting the research was conducted.

3.5 DATA COLLECTION PROCEDURE

After participants were selected using simple random sampling they were given a consent form to sign. They were told about the purpose of the study and that the study was anonymous. Participants were also told to withdraw at any point during data collection. After data collection questionnaires were kept in marked sealed envelopes and locked safely in the researcher’s office where there was limited access. No any other person except the researcher and the statistician could access them.

3.6 ETHICAL CONSIDERATION

The researcher maintained the ethical protection of participant’s right from the beginning, to the end of the entire study. The permission to conduct the study was sought through written letters of permission to the Ethics Committee, College of Human Sciences at UNISA, (Annexure 1), Lilongwe District Health Office and the hospital management (Annexure 2). The following ethical principles were followed:

3.6.1 Informed consent

The participants were informed about the purpose, objectives and the benefits of the research. A consent form was given to participants to sign (Annexure 4).
3.6.2 Maintaining privacy and anonymity

The researcher did not provide space in the questionnaire for participant’s names. All participants were assured that the research would not require knowing participant names. After data collection was complete questionnaire were placed in sealed envelopes.

3.6.3 Consent to conduct the study

The researcher sought permission to conduct the study from the Lilongwe District Health Office where the district Health Office gave permission to conduct the study (DHO Letter dated 12 September 2012). The researcher also requested for permission from the clinic management to collect data at the TB Outpatients Department. This was granted a week before data collection began (Annexure 2).

3.6.4 Ethical clearance

The Research and Ethical Committee of the Department of Health Studies gave permission to conduct the study (Ref HSHDC66/2011) (Annexure 1).

3.7 DATA ENTRY AND ANALYSIS

The researcher checked each questionnaire one by one for completeness and appropriateness in filling of the required spaces. The questionnaires were coded and kept on safe place. Data was entered in the computer using the Statistical Package for Social Sciences (SPSS) version 16.0 software, which also run data analysis. Microsoft Office Excel 2007 was also used to do the analysis. On the association between sex and acceptability of HIV testing the researcher calculated the Chi-Square Analysis as follows:

The numbers of male and female participants who said they were ready to test for HIV and those who said no were tabled as in table below to assist in calculation of the Chi-square.
### Table 3.2 Chi-square/expected frequency

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Males</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O=91</td>
<td>O=30</td>
<td></td>
</tr>
<tr>
<td>E=89.24</td>
<td>E=118.75</td>
<td></td>
</tr>
<tr>
<td><strong>Females</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O=117</td>
<td>O=44</td>
<td></td>
</tr>
<tr>
<td>E=31.75</td>
<td>E=42.28</td>
<td></td>
</tr>
</tbody>
</table>

O=Observed frequency  
E=Expected frequency

- Firstly, Expected frequency (E) was calculated: E=(Tr)(Tc)/N
- Where Tr= Roll total and Tc=Column total and N=Sample size =282
- Cell 1,1: E=(Tr)(Tc)/N=(121 x 208)/282=89.24
- Cell 2,1: E=(Tr)(Tc)/N=(161 x 208)/282=118.75
- Cell 2,1: E=(Tr)(Tc)/N=(121 x 74)/282=31.75
- Cell 2,1: E=(Tr)(Tc)/N=(161 x 74)/282=42.28

\[X^2 = \sum \frac{(O - E)^2}{E}\]

- \[X^2 = \frac{(91-89.24)^2}{89.24} + \frac{(30-118.75)^2}{118.75} + \frac{(117-31.75)^2}{31.75} + \frac{(44-42.28)^2}{42.28} = 1.97\]
- To calculate degree of freedom (df):
  - df=(R-1)(C-1)=(2-1)(2-1)=1
- \[X^2 = 1.97; \text{df}=1; \text{level of significance}=0.05\]

The value of the calculated statistic is greater than the value of the Chi-square table.

Therefore a difference exists between males and female and there is an association between gender and acceptability of HIV testing (Katzenellenbogen, Joubert & Karim 2004:114-117).

### 3.8 CONCLUSION

The chapter on research methodology focused on the methodology used to address the research objectives. In the chapter population sampling, data collection, the instrument,
ethical consideration and analysis were discussed. The next chapter provides the presentation and description of the research findings.
CHAPTER 4

RESEARCH FINDINGS

4.1 INTRODUCTION

The findings from the study are presented in the same sequence with the questionnaire layout in the following order of sub-headings: demographic data, perceived susceptibility, perceived severity, perceived negative attributes, perceived benefits, cues to action and what participants thought medical personnel should do to motivate people to go for HIV testing and counselling. The findings are presented in charts and figures.

4.2 DEMOGRAPHIC DATA

4.2.1 Age of participants

Two hundred and eighty two participants participated in responding to questions laid down on the questionnaire. Seventy eight (27.65%) were in their twenties, 109 (38.6%) were in their thirties, 65 (23%) were in their figure 4.1 illustrates age distribution of participants.

![Figure 4.1 Age of participants (N=282)](image)
4.2.2 Gender of participants

Out of 282 participants, 161 (57%) were females and 121 (43%) were males as depicted in figure 4.2.

![Gender of participants](image)

Figure 4.2 Gender of participants (N=282)

4.3 PERCEIVED SUSCEPTIBILITY

4.3.1 Perceived susceptibility to HIV infection

Two hundred and twenty two participants (80.5%) believed that they could be infected with the HIV virus, while 55 (19.5 %) believed they could not be HIV positive. Figure 4.3 illustrates the perceived susceptibility of participants.
4.3.2 Perceived degree of susceptibility

One hundred and nineteen (48.42%) perceived themselves to be most susceptible to HIV, 12 (4.9%) more susceptible, 111 (45.1%) perceived to be least susceptible and the minority, 4 (1.6%) mentioned “other “.
4.4 PERCEIVED SEVERITY

4.4.1 Perceived severity of HIV testing

One hundred and twelve (39.7%) do not believe there are severe consequences of HIV testing and counselling and 170 (60.3%) believed HIV testing and counselling has severe consequences.
4.4.2 Degree of severity

The participants were asked of how severe (most severe, more severe, less severe and least severe) the consequences of HIV testing would be. Out of the 170 participants who said there were consequences of HIV testing, 64 (37.6%) mentioned of the consequences as “less” severe, 24 (14.1%) mentioned “more” severe consequences, 24 (14.1%) were for “most” severe consequences and 67 (39.4%) said the consequences could be “unbearable”. Figure 4.6 depicts the degrees of severity.
Figure 4.6 Degree of severity (N=170)

4.5 PERCEIVED NEGATIVE ATTRIBUTES

4.5.1 Perceived negative attributes of testing for HIV

The participants were asked if they believed there could be negative attributes of accepting an HIV test. One hundred and twenty seven participants (45%) said “no” and 155 (55%) said “yes”.

40%
38%
14%
9%
0% 10% 20% 30% 40% 50%
Most unbearable
Most severe
More severe
Less severe
Degree of severity
Series1
The participants who said there were negative attributes of HIV testing were further asked to mention what the actual negative attributes were. Thirty eight (24.5%) mentioned “anxiety”, 45 participants (29%) mentioned “isolation and discrimination”, 24 (15.5%) mentioned “depression”. “Suicide” was the answer from eleven participants (7.1%), 1 participant (0.6%) said the provider might reveal the HIV status to other people, while 20 (12.9%) felt the one’s health condition might deteriorate and 1 participant (0.6%) said one might lose his or her job, while 15 (9.7%) mentioned other negative consequences such as discrimination, fear of death, anxiety and unhappiness, loss of weight, loss of self esteem, loss of marriage, and quarrelling with spouse.
4.6 **PERCEIVED SELF EFFICACY**

4.6.1 Whether testing for HIV can bring confidence that can reduce negative feelings and thoughts

Thirty five (12.4%) did not believed testing can bring confidence in a person and reduce negative feelings and thoughts, while 247 (87.6%) believed that HIV testing brings confidence.
4.7 PERCEIVED BENEFITS

4.7.1 Perceived benefits of HIV testing

On the benefits of HIV testing, 215 (76.8%) said she or he would know his or her HIV status and plan life accordingly. Thirty six (12.9%) said he or she could start treatment early, 9 participants (3.2%) said they could tell close friends or relatives for their support, one participant said he/she would join HIV support clubs or groups and benefit from the group support. Seventeen (6.1%) said she or he would be counselled appropriately on the issues affecting their health, while 2 (0.7%) though if they were found HIV negative anxieties would be allayed. Missing were responses of 2 (0.7%) participants.
4.8 CUES TO ACTION

4.8.1 Reminders of HIV testing

When asked what would remind them to think or make a decision of HIV testing, 21 participants (7.4%) mentioned counsel from a known HIV positive person. Twenty (7.1%) said hearing testimonies of people living with HIV. Nine (3.2%) said praying could make one feel strong. Thirty-eight (13.5%) mentioned going to testing site with a loved one. Twenty one (7.1%) mentioned going for a physical examination, 18 (6.4%) mentioned about reading about living positively with HIV, 24 (8.5) talking about HIV testing with friends.

One hundred and thirty one mentioned “other” reminders such as the desire to know one’s HIV status, sickness or poor health, when one suspects himself or herself of having tuberculosis, mental recall of one’s promiscuous lifestyle, when the partner is
unfaithful, when one wants to get married, the sight of a health facility and being convinced in one’s thoughts that AIDS is a disease like malaria.

4.9 PERCEIVED SELF EFFICACY

4.9.1 Perceived self efficacy and HIV testing

The participants were asked to find out if they were confident enough to go for HIV testing with ease. Ninety seven (34.4%) said “no” while the majority 185 (65.6%) said “yes”.

Figure 4.11 Things that remind people to go for HIV testing (N=282)
Responding to the question on what could bring confidence in a person to decide to go for an HIV test, 42 (14.9%) said one’s the physical appearance, when ones looks healthy, 28 (9.9%) mentioned “testimonies”, 20 (7.1%) mentioned they would go for testing if their friends have done so, 11 (3.9%) they had gone through other tests before, 10 (3.5%) mentioned prayer, 8 (2.8%) said seeing people recovering, 1 (4%) said “if privacy is offered”, another participant (4%) mentioned “the welcoming attitude of the provider” and the majority 161 (57.1%) said other motivators such as wanting to know one’s HIV status, being encouraged by others, being sick on and off, the availability of antiretroviral drugs, strong feeling that one cannot be HIV positive because of one’s past history of not being promiscuous.
4.10 WHAT MEDICAL PERSONNEL SHOULD DO TO MOTIVATE PEOPLE TO GO FOR HIV TESTING

4.10.1 What medical personnel can do to encourage HIV testing

Lastly, the participants were asked to say what medical people should do to motivate more people to come for HIV testing. Sixteen (5.7%) said “offer community based counselling and testing”, another 16 (5.7%) said health personnel should take time with patients, 15 (5.2%) said providers should provide private rooms for counselling clients, 5 (1.8%) said “female providers must counsel male patients” another 5 (1.8%) said the providers should listen to patients, another 5 (1.8%) said “counselling rooms should not be labelled as such”, 4 (1.4%) said, 3 (1.1%) said “non-health personnel should do counselling for HIV”, another 3 (1.1%) said “male providers must counsel male patients” and 183 (64.9%) said “other” things.
Table 4.1  Suggestions for medical personnel to encourage HIV testing

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Provide private rooms for HIV counselling</td>
<td>15</td>
<td>5.3</td>
</tr>
<tr>
<td>• Provider must be good, kind and caring</td>
<td>27</td>
<td>9.6</td>
</tr>
<tr>
<td>• Male providers should counsel male clients</td>
<td>5</td>
<td>1.8</td>
</tr>
<tr>
<td>• Female providers must counsel female clients</td>
<td>3</td>
<td>1.1</td>
</tr>
<tr>
<td>• Males must counsel female, female counsel males</td>
<td>4</td>
<td>1.4</td>
</tr>
<tr>
<td>• HIV TC be done by non-health workers</td>
<td>3</td>
<td>1.1</td>
</tr>
<tr>
<td>• Providers must listen to clients</td>
<td>5</td>
<td>1.8</td>
</tr>
<tr>
<td>• Providers must take time with clients</td>
<td>16</td>
<td>5.7</td>
</tr>
<tr>
<td>• HIV counselling rooms should not be labelled as such</td>
<td>5</td>
<td>1.8</td>
</tr>
<tr>
<td>• Integrate HIV testing with other services</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>• Offer community-based counselling</td>
<td>16</td>
<td>5.7</td>
</tr>
<tr>
<td>• Other</td>
<td>183</td>
<td>64.9</td>
</tr>
</tbody>
</table>

“Other” additional things that medical personnel and HTC provider may do encourage HIV testing as illustrated in figure 4.14.

Figure 4.14  Other things that medical personnel may do to encourage HIV testing among clients (N=183)
4.11 CONCLUSION

This chapter’s main contents were demographic data, information on perceived susceptibility, perceived severity, perceived negative attributes, and perceived self-efficacy cues to action of HIV testing and what medical personnel may do to encourage HIV testing.
CHAPTER 5

DISCUSSION OF SUMMARY OF RESEARCH FINDINGS

5.1 INTRODUCTION

The previous chapter focused on the presentation of the findings of the study. This chapter discusses the summary of the research findings presented in chapter 4. In the chapter the researcher discusses demographic characteristics, perceived susceptibility, perceived severity, perceived negative attributes and perceived self efficacy in HIV testing, cues to the action of HIV testing and what medical personnel may do to encourage people to go for HIV testing.

5.2 DISCUSSION ON DEMOGRAPHIC DATA

The majority (89.84%) of the participants were less than forty years old. In Malawi, HIV affects mostly men and women people aged between 15 and 49 years. The age blanket 24-39 years carries the most burden of HIV, with the prevalence of 21%. The people of the age group are also vulnerable to tuberculosis, as 70% of tuberculosis clients are HIV positive (Ministry of Health, Malawi 2012:12; WHO 2011:235-420). Age is therefore an important demographic factor which needs consideration in HIV and AIDS programming.

The researcher targeted participants in the age group (25-65) because they are adults, with years of experience to provide information on their perceptions of HIV testing and counselling. The age group in which participants of the study fall is also considered to be within sexually active stage, confirming the fact that in Malawi HIV is spread mostly through heterosexual contact (Ministry of Health, Malawi 2012:12, 27).

The finding that most of the participants are in relatively young age also support the shape of the population pyramid of Malawi and other developing countries which consist mostly of a young age (National Statistical Office (NSO), Malawi Government 2012:9).
Advocating for HIV prevention interventions that target younger people, at tender ages before they start indulging in sexual activity with behaviour change communication messages and Life Skills education will help prevent the spread of HIV in Malawi where sexual debut is common before age 15 (Ministry of Health, Malawi 2012:33).

The majority of the participants 161 (57%) were females. Women are more vulnerable to HIV than men. There are more (51%) females in Malawi than men (National Statistical Office (NSO), Malawi Government 2008:2). The finding confirms the fact that sixty percent of people with HIV are females. Sexual risky behaviours are common in women than in men as a result of their biological and social vulnerability to HIV infection (George & Sprague 2011:295). This calls for implementation of gender sensitive interventions for prevention of HIV and tuberculosis in women to address the needs female clients who are in the majority. Male dominance may contribute to women’s inability to access HTC services (National AIDS Commission (NAC), Malawi Government 2009:13).

The finding contradicts with a study in Kenya where gender inequalities caused underutilisation of VCT services and the claim that male dominance in certain cases acts as a barrier against accessing HTC services without their approval (Nyirenda 2006:150; National AIDS Commission (NAC), Malawi Government 2009:13).

5.3 DISCUSSION ON PERCEIVED SUSCEPTIBILITY

Most of the participants (80.5%) believed that they could be infected with the HIV virus. This finding corresponds with the high coverage of HIV and tuberculosis messages to the populace in Malawi which utilises print media and electronic media to create awareness on HIV and its opportunistic infections which include tuberculosis (Ministry of Health, Malawi 2012:27).

This finding is also supported by the increasing numbers of people testing for HIV in Malawi which has reached close to 2 million in the past three years (Ministry of Health, Malawi 2012:36). It is therefore required to scale up HIV testing services beyond health facility level to reach more people even in their homes and outreach sites (WHO 2012:2).
This finding contradicts with the fact that perceptions by people that they are not risk of HIV, which also cause underutilisation of VCT services (Muchiri 2010:2).

Some participants (19.5%) did not perceive themselves to be HIV positive. The only way to be certain of one’s HIV status is through HIV testing which benefits both HIV positive and HIV negative persons. World Health Organisation policy recommends HIV testing and counselling of TB patients Tuberculosis poses a big challenge to one third of the world’s population especially poor countries (Rajasekaran, Mahilmaran, Annadurai, Kumar & Rajar 2007:58-60; WHO 2004:10).

People who live positively with HIV should be encouraged to share testimonies their lives despite being HIV positive to get rid of denial in certain sections of the society and encourage them to access HIV testing and counselling services.

5.4 DISCUSSION ON PERCEIVED SEVERITY

Many participants (60.3%) perceived that testing for HIV has severe consequences. HIV and AIDS messages from the eighties and nineties communicated fear about HIV and AIDS. The use of fear appeals to persuade people with high levels of pre-existing fear is not recommended as it is ill-advised and ineffective (Muthusamy, Levine & Weber 2009:317-344). The reluctance to test for HIV is also related to the severity of consequences (fear of stigma, discrimination and rejection from family and community members, fear of confidentiality about test results, attitude of health workers and community counsellors affected voluntary counselling and testing (Shangula 2006:42-46). A person’s perceived severity of HIV testing may lead to late starting of HIV and tuberculosis treatment (National AIDS Commission (NAC), Malawi Government 2009:13).

The finding also confirms another finding in Malawi where people express fear of being found HIV positive and stigma related to HIV (Ministry of Health, Malawi 2012:28). In addition, a cross-sectional study conducted in Uganda revealed that the process of going through HIV testing and counselling bring shock, high transport costs and limited post test facilities (Sebudde & Nangendo 2009:49).
Research-based interventions and targeted messages on advantages of HIV testing, messages that dispel fears and encourage HIV testing should therefore be promoted. The provision of unlinked anonymous HIV testing services to encourage people to test as the fear of their results being known by other people will be reduced. HIV testing in men and women is encouraged by interventions designed to increase AIDS knowledge, to raise perception of risk and promote positive copying style (Stein & Nyamathi 2010:343-356).

5.5 DISCUSSION ON PERCEIVED NEGATIVE ATTRIBUTES

More participants (55%) believed that there were negative attributes of HIV testing. The following were mentioned as negative attributes of HIV testing: anxiety, isolation and discrimination, depression, suicidal thoughts, fear that the provider may reveal their HIV status, deteriorating health, loss of job, discrimination, fear of death, loss of weight, loss of self esteem and loss of marriage.

The finding supports results of a study conducted in Malawi that stigma, discrimination, opposition from the spouse, fear of disclosure of HIV status and lack of knowledge by service providers as reasons for low VCT attendance (Nyasulu 2007:21-26).

To address these perceived negative attributes of HIV testing health providers need to come out with positive messages that dispel negative picture of HIV testing and promote positive life after HIV testing. The messages can be aired on television and radio followed by one on one counselling. Rural Malawians are responsive to door-to-door HIV testing because it is convenient, confidential and credible (Angotti, Bula, Gaydosh, Kimchi, Thornton & Yeatman 2009:2263-2270).

5.6 DISCUSSION ON DISCUSSION ON BENEFITS OF HIV TESTING

On the benefits of HIV testing, most (76.8%) of the respondents said one would know his or her HIV status and plan life accordingly. One of the benefits of HIV testing and counselling is that it may lead the next step of accessing to antiretroviral drugs if one is HIV positive (Yahaya et al 2010:2). Clients are aware of the benefits of HIV testing because a lot of campaign messages and testimonies of people living with HIV have emphasised on the advantages of HIV testing. However, the intensity and quality of
behaviour change communication interventions leaves a lot to be desired as the rural and hard to reach areas are least served (National AIDS Commission(NAC), Malawi Government 2009:22). Policy makers may use this finding to scale up client-friendly HIV testing centres all over the country. The additional testing centres will meet the increasing demand for HTC services (WHO 2012:2).

The finding is confirmed by increased numbers of people testing for HIV, as evidenced in a longitudinal study conducted by the Malawi BRIDGE II Project in 2011, where Malawi realised a 25.8% increase in HIV testing (Rimal, Mkandawire, Dothi, Roberts, Brown & Limaye 2012:17).

5.7 DISCUSSION ON PERCEIVED SELF EFFICACY

Most (65.6%) of the participants said they were confident to go for HIV testing with ease. However, this finding is not supported by a study conducted in Malawi where HIV testing amongst tuberculosis clients was low (WHO 2007:1). In Malawi HIV and AIDS awareness is high but to translate it into behaviour, like HIV testing becomes a problem. It is for this reason that Malawi HIV prevention strategies changed to behaviour change communication and behaviour change interventions as Information, education and communication alone did not bring about behaviour change (Ministry of Health, Malawi 2012:36).

There is need to build HTC provider knowledge and skills counselling, communication and care for people going through HIV testing. HTC services should be combined with provider education if they are to be effective (Ayenew et al 2010:2; Mahendradhata et al 2008:8).

There was an association between gender of participants and acceptability to be tested for HIV, where more males are likely to accept HIV testing than females.

The finding means that more males are ready to go for HIV testing than females. Gender inequality has been identified as a barrier to HIV testing (Campbell & Bernhardt 2003:544-551). Because of male dominance in certain situations women are not able to access HTC service before approval from their spouses (National AIDS Commission (NAC), Malawi Government 2009:13).
The findings concur with the fact that than half of all HIV infections occur in young women of the 15-24 age blankets than in males of the same ages. HIV prevalence is also higher in women (13.3%) than in men (10.8%), regardless occupation, other than biological cultural and other factors. (Office of President and Cabinet (OPC), Malawi Government 2007:14).

Information, education and communication, and behaviour change communication messages for promoting HIV testing should therefore segment males and females separately to address the differences in readiness to accept HIV testing. Opportunities to adequately explore and respond to important, yet sensitive topics are compromised in primary health care settings (Denny, Farrant, Cosgriff, Hart, Cameron, Johnson, McNair, Utter, Crengle, Fleming, Ameratunga, Sheridan & Robinson 2013:13).

5.8 WHAT MEDICAL PERSONNEL MAY DO TO ENCOURAGE HIV TESTING

Participants want health personnel and HTC providers to do more education or provide health talks on HIV testing. This finding confirms the report that messages have not reached rural and hard to reach areas (National AIDS Commission (NAC), Malawi Government 2009:22). Again, scaling up HTC services beyond existing health facilities to remote area and providing personnel to conduct HIV testing and counselling will increase access to HIV testing.

Other participants want health personnel to test for HIV all the patients who come to the hospital for consultation. This finding contradicts with UNAIDS and World Health Organisation’s guidelines that HIV testing should be voluntary and not mandatory (UNAIDS/WHO 2004:7).

It is therefore important to inform the public properly and clarify misconceptions the general public might have concerning HIV testing and counselling.

5.9 CONCLUSION

The chapter contained discussion of study findings using various literature sources. The subheadings used in the chapter were introduction, discussion on demographic data, discussion on perceived susceptibility, discussion on perceived severity, discussion on
perceived benefits of HIV testing, discussion on perceived self efficacy, discussion on what medical personnel may do to encourage HIV testing and finally conclusion.
CHAPTER 6

CONCLUSIONS, LIMITATION OF THE STUDY AND RECOMMENDATIONS

6.1 INTRODUCTION

The aim of the study was to explore and describe the common perceived barriers and contributing perceptions to acceptance of HIV Testing amongst male and female adult tuberculosis outpatients at an urban hospital in Malawi. This chapter presented conclusions based on results of a study to answer objectives formulated in chapter 1 as follows:

- To explore factors contributing to under-utilisation of HIV testing services among adult (aged between 25 and 65 years) TB patients in Malawi
- To identify perceived barriers to HIV testing amongst tuberculosis patients

The chapter also presented some possible limitations of findings on tuberculosis clients who live in Malawi. It contains the recommendations for better future HIV testing services especially for tuberculosis patients, by tracking perceived factors that encourage or act as barriers to HIV testing in this chapter, were based on the research findings in chapter 4.

6.2 CONCLUSIONS CAN BE MADE IN THIS STUDY

- Participants in this study believed that they could be infected by HIV. This is evidenced by 80.5% of them indicating that they might be HIV positive. The participants must have learned about the high prevalence of HIV in tuberculosis from HIV and tuberculosis messages through various channels such radios, television and health talks by health personnel. These messages were understood and the participants made the judgement that they too could be HIV positive. It is important for tuberculosis clients to understand the relationship
between HIV and tuberculosis so that denial may not cause them refuse HIV testing. The earlier the results of HIV testing are known, the better the prognosis because treatment is started early.

- The majority of the participants believe that going through HIV testing comes with consequences which sometimes can be unbearable. This is evidenced by over 60% of the participants indicating that HIV testing has consequences and 39% of them who said the consequences could be unbearable. This finding is very important for health managers responsible for running HIV testing and counselling clinics. Perceived fear of HIV testing may lead to postponement or even refusing HIV test which may result in late starting of medication. Understanding the finding and addressing the problem will reduce mortality rates due to tuberculosis and other diseases.

Most (87.6%) of the participants believed in themselves that they could take an HIV test with ease. This is an indication of assertiveness in most participants. It is crucial to HTC providers to take advantage of this readiness to counsel such clients for HIV testing. The ones that are still not ready require encouragement and support.

- The benefits of HIV testing are appreciated by most participants as evidenced by 76.8% who said so. They said HIV testing is beneficial because one can start the relevant treatment early (12.9%), one benefits from counselling (6.1%) and if found positive you can tell a close relative or friend about it to gain their support (3.2%). The advantage of understanding the benefits is that patients come for testing willingly. This calls for HTC providers to continue reminding their clients about the benefits of HIV testing.

- Participants prefer to learn more about HIV testing. This was expressed by the majority. This shows that issues related to providers can influence access to services. Other participants want to see providers who demonstrate caring attitude. This information is should assist HTC providers to provide quality services.
6.3 LIMITATIONS OF THE STUDY

Possible threats to generalisation of the study:

- The study was conducted with participants aged 25 to 63 limiting generalisation to other ages.
- The participants were out patient attendees and this might limit generalisation to in patients.
- Only one setting was used to conduct the study, participants from other settings might have different opinions.
- Some participants were asked questions outside the building instead of enclosed rooms.
- The researcher separated responding participants so that they could not hear each other’s responses.

6.4 RECOMMENDATIONS FOR IMPROVING ACCESS TO HTC SERVICES BY TUBERCULOSIS CLIENTS IN MALAWI

- Information education, communication and behaviour change interventions for HIV and AIDS should be targeted for all ages especially young people.
- Development of research based, gender-sensitive TB and HIV and AIDS Communication materials for all ages.
- Health providers and HTC providers should continue educating clients on HIV and HIV testing with positive messages.
- Deliberate efforts should be made to dispel rumours and misconceptions about HIV testing and counselling.
- Scale up life skills education to out of school youths and adults especially in rural communities.
- Health managers should advocate for resources to scale up HTC services beyond health facilities prioritising hard to reach areas.
- Expand door-to-door HIV testing by using trained health and non health personnel to increase coverage of HIV testing.
- Promote HIV testing through positive living testimonies of people living with HIV.
• Health managers to advocate for training of more cadres of HTC counsellors to reduce congestion in HTC clinics.
• Establish linkages for referral of community HTC services with health facilities.
• Scale up integrated HTC services to include all out patients and outreach clinics.

6.5 RECOMMENDATION FOR FURTHER STUDIES

• Duplication of the same study in other cities of the country.
• Conduct a study on factors contributing to differences in HIV testing acceptance between males and females.
• Factors contributing to underutilisation of HTC services by teenagers.
• Effectiveness of non health providers in provision of HTC services.
• Health provider opinion on underutilisation of HTC services.
• Acceptability of HIV testing among primary and secondary school pupils.
• Perceptions of HIV positive persons on HTC.

6.6 CONCLUSIONS

The findings of this study indicate that tuberculosis clients perceive themselves to be infected with the HIV virus. HIV testing is beneficial mainly for one to know his or her HIV status and plan accordingly. However, perceived negative consequences amongst clients appear to exist and likely to cause underutilisation of HTC services, delaying the start of treatment. It is therefore required to increase the number of, and improve the quality of rendering HTC services.
LIST OF REFERENCES


Liverpool School of Tropical Medicine. 2009. Tuberculosis.


Shangula, MN. 2006. Factors affecting voluntary counselling and testing among pregnant women in Tsumeb district Oshikoro region, Namibia. University of Western Cape.


WHO see World Health Organization.


INFORMED CONSENT FORM

I understand that I have the right to revoke this authorisation and withdraw from this interview at any time. Furthermore, I understand that:

- the information discussed in this interview is strictly confidential and there will not be any disclosure of names or identity.
- the information obtained from this interview is the sole purpose of research and development of a program to assist patients.
- the research will involve an interview which will take place at Bwaila Hospital – TB Out Patient Department.
- during the interviews each participant will be asked a series of questions relating to demographic and perceptions on HIV testing and your recommendations for better management of HIV Testing and Counselling programmes.

In light of this, I hereby volunteer to participate in the study and grant the researcher / research team permission to contact me for the purpose of collecting data.

PARTICIPANT’S SIGNATURE / THUMB PRINT ---------------------------------------------

DATE:--------------------------------------

INTERVIEWER’S SIGNATURE-----------------------------------------------

DATE------------------------------------------------
UNIVERSITY OF SOUTH AFRICA
Health Studies Higher Degrees Committee
College of Human Sciences
ETHICAL CLEARANCE CERTIFICATE

HSNDC 06/2011

Date of meeting: 12 December 2011
Student No: 3643-077-3

Project Title: Factors contributing to under-utilization of HIV testing services among TB patients in Moreson.
Researcher: Grace Shoran Maggie Kaniba
Degree: Masters in Public Health
Code: DIS4968

Supervisor: Prof GB Thupayagae-Tshweneegae
Joint Supervisor: D Lit at Phi

DECISION OF COMMITTEE
Approved [✓] Conditionally Approved [ ]

Prof E Potgieter
CHAIRPERSON: HEALTH STUDIES HIGHER DEGREES COMMITTEE

Dr MM Moloki
ACTING ACADEMIC CHAIRPERSON: DEPARTMENT OF HEALTH STUDIES

PLEASE QUOTE THE PROJECT NUMBER IN ALL ENQUIRIES
ANNEXURE

PERMISSION LETTER CONDUCT RESEARCH

Aficare Malawi,
P O Box 2346,
Lilongwe.

District Health Officer
Lilongwe DHO
P O Box ,
Lilongwe.

20th Aug 2012.

Dear Sir or Madam,

RE: PERMISSION TO CONDUCT RESEARCH

I am Grace Kamba, Health and Nutrition Manager, Africare Malawi. I am a registered Master of Arts (Public Health student) at University of South Africa (UNISA).

I wish to apply for permission to carry out a study “Factors Contributing to Under Utilisation of HIV Testing Services Among TB Patients in Malawi”. This is part of the requirement for my Master’s Dissertation.

To ensure high coverage of HTC services for TB patients there is need to about perceived barriers and factors that encourage people to go for HIV testing amongst tuberculosis patients. It is my hope that the findings of this study will assist in understanding perceptions of people who are to undergo HIV testing and learn about how to improve the quality of care for TB patients.

I shall be pleased if you can grant me the permission to carry out the study. Should you have any queries, please do not hesitate to contact me or my supervisor on the contact details below.

Regards,

Grace Kamba

Cell: 0999925058 (Researcher)

Supervisor: Prof. Gloria Thupayagale Tshweneagse, P O Box 392, UNISA 003
12th September, 2012

The In-charge
T.B. Office

RE: PERMISSION TO CONDUCT A RESEARCH STUDY AT
Bwalla T.B Out Patient, Lilongwe, Malawi

Permission has been granted to the bearer of this letter
Mrs. Grace Kamba

To conduct study in Lilongwe District
"Factors Contributing to Under Utilisation of HIV Testing Services among TB Patients in Malawi"

Any assistance rendered would be appreciated.

D: T. Banda
DISTRICT MEDICAL OFFICER
Lilongwe
**INTRODUCTION**

Hi Muli bwanji? My name is (Dzina langa ndi)........... I have come to this clinic to meet you today because your name has been randomly chosen to participate in a survey (Nambala yanu yasankhidwa kuti ikhale nawo pa kafuku-fuku potsatira ndondomeko zoyenera). We are trying to learn more about the perceptions that people have with regards to taking an HIV test. (Kafukufukuyu ndi wothandidzira kudziwa maganizo, kapena kumvetsa kwanu pa nkhani yoyetsetsa magazi ngati muli zilombo zoyambitsa matenda a EDZ! We will not let anyone know your name and we will not tell anyone what you have tell us.
(Kafukufukuyu ndi wachinsisi. Sitiuza wina aliyense za dzina lanu). If you can answer our questions today as honestly as possible it will help in future management of people undergoing an HIV test (Mayankho amene mutapereke ndiofunikira powasammalira anthu amene amabwera kudzayezeetsa magazi ngati ali ndi chirombo chaEDZI, chonde yankhani zoona zokhazokha). You should not be afraid to say you do not understand a question, or do not know the answer. (Ngati funso simukulimvetsa, funsani kuti mulimvetsetse.) Would you be willing to talk to me for about one hour (Mungandilore kuti tikambirane ola limodzi?).

Thank you / Zikomo
**PERCEIVED SUSCEPTIBILITY**

Q 1. Do you think a person like you may be infected with HIV?

Go through the list with the respondent and tick the No/Yes column with a (✓) as appropriate

<table>
<thead>
<tr>
<th></th>
<th>No = 0</th>
<th>Yes = 1</th>
</tr>
</thead>
</table>

Q2. In your opinion how susceptible may someone like you to HIV?

1.1 Most susceptible
1.2 More susceptible
1.3 Least susceptible
1.4 Other (Specify)

**PERCEIVED SEVERITY**

Q 2. Do you think people who take HIV test can face consequences because they have chosen to test for HIV?

<table>
<thead>
<tr>
<th></th>
<th>No = 2.1</th>
<th>YES = 2.2</th>
</tr>
</thead>
</table>

If No, skip next question (Q4). If yes, Q 3. How severe will the consequences become? (tick the appropriate response in the right column (√))

3.1 Less
3.2 More
3.3 Most
3.4 Most unbearable

Q 4. What do you think are the actual consequences people may face after taking an HIV test? (tick the appropriate response in the right column (√))

4.1 Suicidal feelings
4.2 Self blaming, self guilt
4.3 Blaming others
4.4 Anxious / depressed
4.5 Others (specify)……………………………………………………………….
### PERCEIVED NEGATIVE ATTRIBUTES OF TAKING UP AN HIV TEST

<table>
<thead>
<tr>
<th>Q 5. Do you think there are any negative consequences that may follow if one goes for an HIV test?</th>
<th>No = 5.1</th>
<th>Yes = 5.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q 6. If “yes” what are the negative consequences of getting an HIV test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.1 Anxiety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.2 Isolation, discrimination</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.3 Depression</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.4 Suicide</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.5 Provider might reveal your status to other people</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.6 Health condition might deteriorate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.7 You might end up losing your job</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.8 Other (specify)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### PERCEIVED BENEFITS

<table>
<thead>
<tr>
<th>Q 7. Do you believe your taking up an HIV test can give you the confidence to reduce or get rid of undesirable consequences of taking up an HIV test?</th>
<th>No = 7.1</th>
<th>Yes = 7.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q 8. What are the benefits of taking an HIV test?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.1 You know you status and plan life accordingly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.2 You can start treatment early</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.3 Tell close friends and relative for their support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.4 Join HIV and AIDS support group and benefit from group support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.5 You can be counselled appropriately on issues affecting you health.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.6 If you are tested HIV negative your anxieties may be allayed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### CUES TO ACTION

Q 9. What strategies should one use to activate his or her readiness to take up an HIV test?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>9.1</td>
<td>Seek counsel from a known HIV positive person or people</td>
</tr>
<tr>
<td>9.2</td>
<td>Hear testimonies of health people living positively with HIV</td>
</tr>
<tr>
<td>9.3</td>
<td>Pray to become strong</td>
</tr>
<tr>
<td>9.4</td>
<td>Go for the test with a bellowed one</td>
</tr>
<tr>
<td>9.5</td>
<td>Go for general physical examination to assess you health status</td>
</tr>
<tr>
<td>9.6</td>
<td>Read about people who live positively with HIV</td>
</tr>
<tr>
<td>9.7</td>
<td>Talk about testing for HIV with friends</td>
</tr>
<tr>
<td>9.8</td>
<td>Other (Specify)...............................</td>
</tr>
</tbody>
</table>

### PERCEIVED SELF EFFICACY

Q 10. Do you feel confident in yourself that you can go for an HIV test with ease? (Circle either yes or no)

<p>| | |</p>
<table>
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<th></th>
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</thead>
<tbody>
<tr>
<td>10.1</td>
<td>No</td>
</tr>
<tr>
<td>10.2</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Q 11. What can motivate or bring confidence in a person to go for an HIV test?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>11.1</td>
<td>Hear testimonies of health people living positively with HIV</td>
</tr>
<tr>
<td>11.2</td>
<td>Pray to become strong</td>
</tr>
<tr>
<td>11.3</td>
<td>My physical appearance if I look healthy</td>
</tr>
<tr>
<td>11.4</td>
<td>If privacy is offered at the clinic</td>
</tr>
<tr>
<td>11.5</td>
<td>If provider attitude is welcoming</td>
</tr>
<tr>
<td>11.6</td>
<td>If my friends have done the same</td>
</tr>
<tr>
<td>11.7</td>
<td>I have gone through other blood test</td>
</tr>
<tr>
<td>11.8</td>
<td>If I see many people recovering</td>
</tr>
<tr>
<td>11.9</td>
<td>Other (Specify)..................................................................</td>
</tr>
</tbody>
</table>
Q 12. What should you think should be done by medical people to motivate people to test for HIV?

<p>| | |</p>
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>12.1</td>
<td>Provide private rooms for counselling people for HIV</td>
</tr>
<tr>
<td>12.2</td>
<td>The provide must be good, kind or of a caring attitude</td>
</tr>
<tr>
<td>12.3</td>
<td>Male providers must counsel male patients</td>
</tr>
<tr>
<td>12.4</td>
<td>Female providers must counsel female patients</td>
</tr>
<tr>
<td>12.5</td>
<td>Male must counsel female or female council male</td>
</tr>
<tr>
<td>12.6</td>
<td>Use non health providers such as (priests, peer counsellors, and other able people)</td>
</tr>
<tr>
<td>12.7</td>
<td>Listening to the patient</td>
</tr>
<tr>
<td>12.8</td>
<td>Taking time with the patient</td>
</tr>
<tr>
<td>12.9</td>
<td>HIV counselling rooms should not be labelled as such</td>
</tr>
<tr>
<td>12.10</td>
<td>Integrate HIV testing services with other services</td>
</tr>
<tr>
<td>12.11</td>
<td>Offer community based counselling services</td>
</tr>
<tr>
<td>12.12</td>
<td>Other (specify)..................................................................</td>
</tr>
</tbody>
</table>

To be completed after interview has been done!

Name of supervisor__________________________       Date ---------------------------
---checked__________________________

Is questionnaire complete? No |___|       Yes |____|

Data entry clerk_______________________     Date of data entry___________________________

CHECK THAT ALL THE QUESTIONS HAVE BEEN ANSWERED

PLEASE THANK THE INTERVIEWEE(S) FOR HIS/HER TIME. ASK IF THEY HAVE ANY QUESTIONS AND ANSWER THEM POLITELY BUT WITHOUT RAISING EXPECTATIONS OR MAKING PROMISES.
PERSONAL DATA
1. Last Name
   KAMBA
2. Year of Birth (Optional)
   1963
3. Country of Citizenship
   Malawi
4. Present Mailing Address
   Street address:
   Africa Malawi, P O Box 2346, Lilongwe
   City
   Lilongwe
   Future Mailing Address
   Street address:
   Area 9 Plot 9/343
   City
   Lilongwe
   Effective date for future mailing address (mm dd yy)
   June, 30 2014
   E-mail address: gracekamba@yahoo.com

MASTER'S DEGREE DATA
5. Full name of university conferring degree, and college or division if appropriate
   University of South Africa, College of Human Sciences
6. Abbreviation for degree awarded
   MPH
7. Year degree awarded
   2013

TITLE/SUBJECT AREA
8. Enter the title of thesis. If thesis is written in a language other than English, please specify which language and
   translate title into English. Language of text: English
   Title: FACTORS CONTRIBUTING TO UNDER UTILISATION OF HIV TESTING SERVICES AMONG TB PATIENTS IN MALAWI
9. Subject category of thesis. Please enter four-digit code from "Subject Categories" on following page.
   0573
10. Please append an abstract of no more than 150 words describing the contents of your thesis. Your
    completion and submission of this form through your graduate school indicates your assent to UMI publication
    of your abstract. Formulas, diagrams and other illustrative materials are not recommended for abstracts appearing in Masters Abstracts International.

Author Signature:

Date: 30th July 2013