

**ACCEPTABILITY OF HAART BY HIV-POSITIVE TUBERCULOSIS
PATIENTS IN LIVINGSTONE DISTRICT**

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2010

DECLARATION

I Ruth Wahila, declare that this Dissertation represents my own work and that all the sources I have quoted have been indicated and acknowledged by means of complete references. I further declare that this Dissertation has not previously been submitted for a Degree, Diploma or other qualifications at this or another University. It has been prepared in accordance with the guidelines for Master of Science in Nursing Dissertations of the University of Zambia.

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CERTIFICATE OF APPROVAL

The University of Zambia approves this Dissertation on Acceptability of HAART by HIV-positive tuberculosis patients in Livingstone District in partial fulfillment for the requirements for the award of Degree of Master of Science in Nursing.

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ABSTRACT

The convergence of TB and HIV epidemics is a deadly threat to gains in survival among populations (Corbett et al., 2003). The dual epidemics are particularly pervasive in Africa, where HIV has been the single most important factor contributing to the incidence of TB over the last 10 years. In Zambia, approximately 70% of the people with TB are co-infected with HIV (MOH, 2006).

With the high TB/HIV co-infection prevalence in Zambia, the majority of the population is at a great risk of dying unless the TB/HIV control measures are supported. TB/HIV co-infected persons also have a higher chance of TB recurrence (Zambia AIDS law Research and Advocacy Network, 2007).

In response to the effect of the TB/HIV co-infection, WHO established the TB/HIV working group of the Stop TB Partnership in 2001 with the aim of coordinating the global response to the HIV associated TB epidemic (WHO, 2005). Four critical program components that serve as entry points for HIV case detection and treatment were identified as part of the TB/HIV collaborative activities. One of these components is people diagnosed with TB as TB is the most common opportunistic infection in HIV patients worldwide (WHO, 2005). According to the British HIV Association (2005), starting Highly Active Antiretroviral Therapy (HAART) early in severely immunosuppressed HIV positive patients presenting with TB is associated with decreased mortality and a lowering of the rates of progression from HIV to Acquired Immune Deficiency Syndrome (AIDS).

The TB/HIV collaborative activities were initiated in Livingstone district in 2004. Despite that the percentage of TB patients who accepted HIV counseling and testing increased drastically in the district, those accepting and utilizing HAART is as low as 17% (Livingstone District Health Management Team – LDHMT, 2007). This study was therefore conducted in Livingstone district to explore the factors that influence acceptability of HAART by eligible TB patients.

An explorative descriptive study was conducted among the HIV/TB co-infected clients aged between 18 and 49 years in Livingstone district. Systematic sampling method was

used to come up with individual respondents and a sample size of 131 HIV/TB co-infected clients was selected. Data were collected using a structured interview schedule and a focus group discussion guide for a period of one month. Participants for the focus group discussion were selected purposively from among the other TB/HIV co-infected patients who met the inclusion criteria and were not be part of those interviewed individually. A total number of six focus group discussions were held, two at each of the three ART sites. The first group for the focus group discussion involved participants aged between 18 and 32 years while the second group included participants aged between 33 and 49 years to facilitate free discussion. At Livingstone General Hospital, the first group was composed of four males and two females while the second group comprised five females and four males. The first group at Sepo health centre comprised five males and two females while in the second group, there were six males and two females. At Mahatma Gandhi health centre, the first group had five males and one female participants while the second group had six females and four males. The total number of participants for all the six focus group discussions was forty six (46).

Epi-info version 6 and SPSS 12.0 for windows software computer packages were used to analyze the quantitative data. Chi-square was used to measure association between the dependent variable (acceptability of HAART by TB patients) and the independent variables (TB/HIV and HAART knowledge, TB- and HIV-associated stigma and discrimination, amount and depth of counseling, support from health care providers, sex, age, marital status and educational level). With the confidence interval set at 95%, the p value was used to ascertain the degree of significance by using the decision rule which rejects the null hypothesis if p value is equal or less than 0.05. Qualitative data was presented in narrative form and a full report of the focus group discussions was written using the participants' own words. Key statements and ideas expressed for each topic of discussion were listed down. Data was categorized and responses from the two subgroups (participants aged between 18 and 32; and those aged between 33 and 49) were compared. A summary was then written in narrative form. The most useful quotations that emerged from the discussion were selected to illustrate the main ideas.

The study revealed low levels of knowledge on TB and HIV relationship (28.1%) and safety of taking HAART while on TB treatment (42.3%). Majority (93.3%) of the respondents also felt that they were being stigmatized by health workers because they

had TB disease while 66.7% noted that their concerns regarding HAART were not addressed by health care providers.

In this study, the most significant factors found to be associated with acceptability of HAART by TB patients and accessibility of HAART were knowledge of TB and HIV relationship including HAART, HIV-related stigma and discrimination and support from health care providers regarding HAART.

A significant association was found between knowledge of TB and HIV relationship and safety of taking HAART while on TB treatment, 77.9% of the respondents who did not know the relationship between TB and HIV indicated that it was not safe to take HAART concurrently with TB treatment (Chi square value = 13.585; df = 1; p value 0.000). there was also a significant association knowledge of commencement of HAART in TB patients and discussion of HAART and its benefits with the counselor. Of the 52 respondents who did not know that HAART could be commenced in TB patients, majority (71.2%) did not discuss HAART and its benefits with the counselor (Chi square value = 10.880; df = 1; p value 0.001). In addition, there was a significant association between HIV-related stigma and discrimination and acceptability of HAART. Majority (78.7%) of the respondents who were treated differently because of HIV reported that they would not go back to the ART clinic for medication (Chi square value = 9.270; df = 1; p value 0.002). Furthermore, respondents whose HAART concerns were not addressed (74.1%) would not go back to the ART clinic for HAART (Chi square value = 9.785; df = 2; p value 0.008).

The results further showed that factors such as TB-related stigma and discrimination, sex, age, marital status and level of education were not significantly associated with acceptability of HAART. Probably, TB-related stigma and discrimination is not associated to acceptability of HAART because TB is curable. The demographic characteristics were also not associated with acceptability of HAART probably because of personality attributes of an individual.

Key words: Acceptability, Highly Active Antiretroviral Therapy (HAART), HIV positive, Tuberculosis, Eligible.

DEDICATION

I dedicate this study to my late father **Amos** and my late sister **Rebecca** for the love that we shared together; and to all those who died of concurrent HIV and TB infection as a result of not accessing HAART.

To my husband, **Enock Ngoma** for his undivided love and encouragement to complete this study successfully.

To my mother, **Jenipher** and siblings, **Pumulo, Judy** and **Paul** for their continuous support, love and prayers.

To all my nephews and nieces especially **Ruth (Lulu)** for making my life meaningful.

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LIST OF ABBREVIATIONS

ABC	– Abacavir
AIDS	– Acquired Immune Deficiency Syndrome
ART	– Antiretroviral therapy
ARV	– Antiretroviral
CD4 count	– Cluster of Differentiation Antigen Expression (Helper T-cells)
CSO	– Central Statistical Office
DOT	– Directly Observed Therapy
EFV	– Efavirenz
EPI-INFO	– A word-processing database and statistics program for Public Health
FTC	– Emetricitabine
HAART	– Highly Active Antiretroviral Therapy
HIV	– Human Immuno Deficiency Virus
JICA	– Japanese International Corporation Agency
LDHMT	– Livingstone District Health Management Team
MOH	– Ministry of Health
PLWHA	– People Living with HIV/AIDS
SAFAIDS	– Southern Africa HIV/AIDS Information Dissemination Service
SPSS	– Statistical Package for Social Sciences
TB	– Tuberculosis
TDF	– Tenofovir
UNAIDS	– Joint United Nations Program on HIV and AIDS
VCT	– Voluntary Counseling and Testing
WHO	– World Health Organization
ZCC	– Zambia Counseling Council
ZKW	– Zambian Kwacha
3TC	– Lamivudine

CHAPTER 1: INTRODUCTION

1.1 BACKGROUND INFORMATION

The convergence of Tuberculosis (TB) and Human Immuno Deficiency Virus (HIV) epidemics is a deadly threat to gains in survival among populations (Corbett et al. 2003). TB control efforts have been hampered by the escalating HIV epidemic to the extent that TB has now been declared an emergency on the African continent (World Health organization {WHO}, 2004). TB is also one of the most common causes of morbidity and one of the leading causes of mortality in People Living with HIV and AIDS (Ministry of Health {MOH}, 2006). Currently, about 42 million people are HIV infected and almost one third are also infected with TB worldwide (WHO, 2005). The dual epidemics are particularly pervasive in Africa, where HIV has been the single most important factor contributing to the incidence of TB over the last 10 years. Approximately, 50% of patients with active TB disease in many African countries are HIV positive (WHO, 2005). The dual epidemics are also of growing concern in Asia, where two-thirds of TB infected people live and where TB accounts for 40% of Acquired Immune Deficiency Syndrome (AIDS) deaths (WHO, 2005).

The TB/HIV co-infection rate has been reported to be greater than 80% in KwaZulu Natal district of South Africa (Handy et al. 2006). In Zambia, approximately 70% of the people with TB are co-infected with HIV (MOH, 2006). These percentages are extremely high and mean that the majority of the populations are at a greater risk of dying if HIV positive unless the TB/HIV control measures such as ensuring acceptability of antiretroviral therapy (ART) by TB patients are supported. Uptake of ART by TB/HIV positive patients also reduces the incidence rates of TB in the community, thereby reducing the risk of transmission of TB to the entire community including HIV negative people. This is because TB is an airborne disease and TB/HIV co-infected persons have a higher chance of TB recurrence if HAART is not utilized (Zambia AIDS law Research and Advocacy Network, 2007).

Several important associations between epidemics of HIV and TB especially if untreated contribute to the high mortality rates among people who are dually infected. Some of these associations include:

- HIV positive persons are more susceptible to exogenous re-infection by a second strain of TB, even after adequate anti-TB treatment has been provided.
- The risk of poor response to TB treatment, that is, failure, relapse and death is greater among HIV positive individuals.
- Once a person who has HIV develops active TB, the progression to AIDS and death is more rapid than for HIV positive patients who do not have active TB because TB enhances replication of HIV (WHO, 2006).

In populations where TB/HIV co-infection rate is common, health services struggle to cope with the large and rising numbers of TB patients with the following consequences:

- Difficulties in diagnosis of TB. This is because as HIV related immunosuppression increases, the clinical pattern of TB changes, with increasing numbers of smear-negative and extra pulmonary cases. In addition, TB is more likely to be disseminated.
- HIV infected TB patients can also suffer from other HIV-related diseases.
- Inadequate supervision of anti-TB chemotherapy.
- High mortality rates during treatment.
- High default rates because of adverse drug reactions due to the use of second line anti-TB drugs.
- High rates of TB recurrence.
- Nosocomial infections

(WHO, 2006; Zambia AIDS law Research and Advocacy Network, 2007).

Therefore, when indicated, ART can improve survival in co-infected patients and decrease the risk of the progression of HIV to AIDS (WHO, 2006). According to the British HIV Association (2005), starting Highly Active Antiretroviral Therapy (HAART) early in severely immunosuppressed HIV positive patients presenting with TB is associated with decreased mortality and a lowering of the rates of progression. Researchers also carried out another study due to the conflicting data from resource-limited settings regarding the impact of active TB on the risk of death in HIV positive patients starting HAART in Johannesburg between April 2004 and August 2007. The

results showed that there was no difference in the risk of death for patients with or without active TB in the 12 months after HAART was initiated (www.stoptb.org/wg/tb-hiv/).

In response to the burden of TB/HIV co-infection, WHO established the TB/HIV working group of the Stop TB Partnership in 2001 with the aim of coordinating the global response to the HIV associated TB epidemic (WHO, 2005). The WHO also expanded HIV care by integrating HIV prevention, testing and treatment with Primary Health Care in health care facilities. Four critical program components or pillars that serve as entry points for HIV case detection and treatment were identified. One of these pillars is people diagnosed with TB. The TB/HIV working group of the Stop TB Partnership and the expansion of HIV care were necessitated because TB is the most common opportunistic infection in HIV patients worldwide (WHO, 2005).

A policy was thus formulated which stated that all HIV patients should be screened for both active and latent TB. On the other hand, all active TB patients regardless of their perceived risk of HIV infection should be offered an HIV test as part of their TB treatment package and as part of the control of TB and HIV in the community. When the two screening services are provided concomitantly, a greater number of co-infected individuals are identified, increasing the likelihood of achieving improved outcomes for both diseases. The screening services are entry points to the treatment of both diseases. Evidence of success stories of outcome of the treatment of the two diseases have been reported in Latvia and Peru where HAART was started early in TB patients (Gandhi et al. 2006). Improvement in the immune function was noted in People Living with HIV and AIDS (PLWHA).

The burden of TB/HIV co-infection put on the health care system in terms of re-admissions of patients, treatment with anti-TB drugs and the use of other services such as laboratory tests and transfusion can be averted by simply supporting TB patients who are eligible for HAART so that they accept and consequently utilize this service effectively. Furthermore, TB is the only major AIDS-related opportunistic infection that poses a risk to HIV negative people (Zambia AIDS law Research and Advocacy Network, 2007). Therefore, acceptability of HAART by TB patients may

reduce this risk and consequently reduce the added economic burden on the health care system.

For patients with active TB, HAART is normally indicated based on the patient's CD4 count and clinical status. Usually, this is after the patient is no longer on rifampicin because many antiretro viral (ARV) medications particularly protease inhibitors and nevirapine interact with rifampicin. Consequently, this results in lower levels of both the ARV drug and rifampicin, potentially generating drug-resistant HIV and TB (WHO, 2006). In Zambia, table 1 outlines the ARV recommendations for patients with HIV and TB co-infection not on HAART for category I patients where CD4 count is available. Category I patients includes all new TB cases (smear positive, smear negative, extra pulmonary TB and smear negative relapse).

Table 1: Recommendations for patients with HIV and TB co-infection not on ART for category I patients

Newly diagnosed TB and HIV co-infection		Recommended HAART regimens
CD4 count available (>350/mm)	<ul style="list-style-type: none"> - Start category I TB treatment immediately. - Reassess as per TB review schedule and consider initiation of ART if clinical condition of patient deteriorates while on TB treatment. - If patient's condition is stable, consider ART after TB treatment (after 8 months). 	<ul style="list-style-type: none"> - If patient stable and completes TB treatment, follow normal criteria for initiating ART.
CD4 count available (200-350/mm)	<ul style="list-style-type: none"> - Start category I TB treatment immediately. - Start ART after completion of intensive phase of category I TB treatment. 	<ul style="list-style-type: none"> - After intensive phase of category I TB treatment, follow normal guideline criteria for initiating ART.
CD4 count available (<200/mm)	<ul style="list-style-type: none"> - Start category I TB treatment immediately. - Start ART as soon as TB medications are tolerated (usually within 2-3 weeks). 	<ul style="list-style-type: none"> - Use Tenofovir (TDF) / Emtricitabine (FTC) + Efavirenz (EFV). - If patient has anaemia (<10g/dl), treat anaemia and use TDF + Lamivudine (3TC) +EFV (preferred) or Abacavir (ABC) +3TC +EFV (alternative)

Source: MOH, 2007

The TB/HIV collaborative services were initiated in Livingstone in 2004. Livingstone General Hospital in particular initiated the program in September, 2004 while the

Livingstone District Health Management Team (LDHMT) initiated the program in November, 2004 with the support of Centre for Disease Control and Prevention (CDC). The TB/HIV collaborative activities initially involved voluntary counseling and testing for HIV as an entry point to HIV care and treatment. The number of patients who accepted counseling and testing increased drastically at both Livingstone General Hospital and the health centers (Livingstone General Hospital, 2007; LDHMT, 2007). However, since HAART services were introduced for eligible TB patients in 2005, the percentage of TB patients accepting HAART is as low as 11% (LGH, 2007).

1.2 STATEMENT OF THE PROBLEM

The percentage of TB patients who accepted HIV testing and tested positive ranged between 73.3% and 82% for Livingstone General Hospital and those for the health centers ranged between 62.5% and 75% from 2004 to 2006 in Livingstone district (Livingstone General Hospital, 2007; LDHMT, 2007). These percentages are very high signifying the high levels of TB/HIV co-infection rate in the district (refer to tables 2 and 3).

Table 2: Showing the number and percentage of TB patients who tested HIV positive at Livingstone General Hospital (September, 2004 – February, 2007).

	TB patients	TB patients who received counseling	TB patients who accepted HIV testing among those counseled	TB patients who tested HIV positive among the tested
September – December, 2004	252	178 (70.6%)	92 (51.7%)	68 (73.8%)
January – December, 2005	624	366 (58.7%)	239 (65.3%)	196 (82.0%)
January – December, 2006	709	608 (85.5%)	553 (91.0%)	412 (74.5%)
January – December, 2007	944	769 (81.5%)	740 (96.2%)	541 (73.1%)

Source: Livingstone General Hospital, 2007

Table 3: Showing the number of TB patients who tested HIV positive and those who commenced HAART at health centers (2004 – 2007).

Year	Pre-counseled	Tested	Tested positive	Tested negative	On HAART
2004	27	27	15	9	-
2005	247	247	148	60	18
2006	531	531	289	96	86
2007	1602	1449	916	533	119

Source: LDHMT, 2007

In 2006, the TB staff at Livingstone General Hospital referred 370 (89.8%) of the 412 TB patients who tested HIV positive to the ART site for HAART treatment. The patients who were referred met the eligibility criterion of the Zambian National HIV/AIDS program as shown in table 1. However, when follow up was done, only 106 (28.6%) of the patients accepted to be commenced on HAART and were consequently started on HAART (Livingstone General Hospital, 2007). The number of TB/HIV co-infection patients who commenced HAART in 2007 has also shown a marked decrease. Of the 430 patients who were referred for HAART, only 49 (11.4%) commenced HAART. The health centers also recorded a low number of TB patients who commenced HAART despite that the patients who met the eligibility criterion for HAART was more than half of those who were referred. Of the 230 HIV positive patients who met the eligibility criterion, only 86 (37%) commenced HAART in 2006 (LDHMT, 2007). Considering the global policy on TB/HIV collaborative services which includes commencement of all eligible TB patients who test HIV positive on HAART, these figures are extremely low and hence the need to establish and explore the factors leading to low acceptability of HAART by TB patients.

1.3 FACTORS INFLUENCING HIV POSITIVE - TUBERCULOSIS PATIENTS'

ACCEPTABILITY OF HAART

The factors that influence acceptability of HAART by TB patients can be classified into three broad categories namely disease/patient related, service provider and/or socio-cultural related and service delivery factors. According to Livingstone General Hospital (2007) yearly report on TB/HIV collaborative services, the low percentage of eligible TB patients on HAART could be attributed to the process of referral and follow-up of patients between TB and ART sites. Other factors could be due to fear of stigma and discrimination which is more common in HIV positive patients than any other condition as well as denial of the HIV status by the patient, inadequate knowledge about HAART, lifelong HAART therapy and fear of drug toxicity (UNAIDS, 2002; Dare, 2007; Modiba, Gilson and Schneider, 2006). These factors may hinder the control programs of the dual epidemics leading to high mortality rates. In the long run, development of the nation will be hampered because the majority of the patients affected are in the productive age group.

1.3.1 Disease/client Related Factors

Disease and/or client-related factors that may influence acceptability of HAART by HIV positive TB patients include; life-long therapy, fear of drug toxicity, denial of the HIV status, inadequate knowledge about HIV/AIDS and negative attitude towards HAART. These factors are closely linked to each other.

HAART needs to be taken for the rest of the patient's life and during therapy, adherence to medication is vital to prevent emergence of resistant strains of HIV. Adherence to medications used in other chronic conditions such as hypertension has been reported to be about 50-75% (Dare, 2007). The same reasons that are associated with adherence to other medications also affect adherence to HAART. These factors could be related to the patient, the medication such as side effects of drugs and pill burden. Since treatment outcome (measured virologically) is sensitive to slight changes in adherence, about 95% adherence is recommended for HAART (MOH, 2007; Dare, 2007). Getting such a high level of adherence may be problematic for some patients who may opt not to commence treatment because these patients need to take both anti-TB drugs and HAART at the same time.

Denial of one's serostatus is also one of the key factors underlying acceptability of HAART. Some patients may present themselves several times and at various health facilities for an HIV test after the initial diagnosis hoping that things might change or there was a mistake in the initial diagnosis. For others, the initial HIV diagnosis made in the TB clinic is clearly a very difficult thing with which to come to terms. Such patients may lose the hope to live and even contemplate suicide after the diagnosis. Male patients become very angry towards women while others resort to alcohol abuse as a means of ignoring and forgetting the diagnosis. Such behaviours are presumably linked to the individual's own, understandable denial, of the diagnosis. (Dare, 2007).

Understanding the natural course of HIV disease progression is important for decision making. In Kampala, Uganda, the decreased uptake of ART by patients was partly attributed to limited knowledge by patients (Barlett and Gallant, 2005). On the other hand, a negative attitude towards HAART is common as some patients feel hopeless because HAART does not cure HIV. A negative attitude may also be due to the knowledge of drug toxicity. Almost all ARVs have some adverse effects. For example, Nucleoside Reverse Transcriptase Inhibitors (NRTIs) cause toxicity by inhibiting a mitochondrial enzyme responsible for energy synthesis and the patient may thus complain of muscle aches, neuropathy or symptoms suggestive of liver or pancreatic injury. (Barlett and Gallant, 2005). Patients who are aware of such complaints may therefore not accept HAART.

1.3.2 Service Delivery Factors

Several service delivery factors influence acceptability of HAART by HIV positive-TB patients. They include the poor referral system, inadequate follow-up procedures for patients, overcrowding in health facilities and long waiting time.

Poor referral system has adverse effects for the uptake of HAART. Many ART and TB sites in Livingstone district are not located in the same premises. In addition, many patients are referred from the TB sites to the ART sites without the escort of health care providers. This is a challenge in that some patients may decide not to go to the ART sites because of the added stigma that they are likely to face. The poor referral system is attributed to inadequate staffing as at most times; the TB site is managed by one nurse. The ART sites are equally understaffed. (Livingstone General Hospital,

2007; LDHMT, 2007). The poor referral system also makes it difficult to follow up the patients who need a lot of support and encouragement before the initiation of HAART.

Patients may also be discouraged to commence on HAART because of the numerous follow-up plans during the pre-ART period. According to Dare (2007), most of the TB patients in Ethiopia were scheduled to have 12 weekly follow-up plans before the initiation of HAART and this discouraged the patients from accessing HAART. The follow-up plans which vary per patient are very necessary before initiation of HAART as routine investigations such as Liver Function Tests need to be done to avoid worsening of the patient's condition during therapy. In addition, lack of transport from home to the ART site has been cited as one of the barriers to the follow-up by patients and consequent uptake of HAART (UNAIDS/WHO/Alliance, 2004). This is attributed to the fact that TB/HIV co-infected patients are very weak due to the dual infection.

Overcrowding in ART sites may be another factor that hinders patient's acceptability of HAART. Livingstone district has been recording the highest HIV prevalence rate of 31.8% in the country since 1994 (Central Statistics Office, 2000). Currently, the district is still the highest in the country with the prevalence rate of 28.1% as of 2007 (Central Statistics Office, 2008). Despite the high prevalence rate of HIV in the district, LDHMT has only 3 ART sites and 1 CD4 cell count machine while Livingstone General Hospital has only 1 ART site and 1 CD4 cell count machine (LDHMT, 2007; Livingstone General Hospital, 2007). The ART sites caters for all HIV positive persons referred from various sites such as medical wards, out-patient departments and mobile VCT centres provided with support from NEW START centre. Livingstone General Hospital also receives some patients from other districts such as Kazungula. This causes overcrowding in the ART sites to the extent that patients need to queue up as early as 06:00 hours in order to be attended to on that particular day. Moreover, one patient may be attended to for more than 30 minutes because of the nature of the condition. Since the hours of service are limited (08:00 – 16:00 hours for approximately four days in a week), the congestion is overwhelming and discouraging to patients especially those co-infected with TB and HIV due to severe weakness. The inadequate staffing compounds the congestion as only one patient is attended to at one time since only one clinician may be available. As a result, the patient may opt not

to utilize the service. Patients also wait for a long time to be commenced on HAART because of the routine investigations which are required before treatment.

1.3.3 Service Provider and/or Socio-cultural Factors

The service provider and/or socio-cultural factors that may influence acceptability of HAART services include; attitude of health care providers, HIV/AIDS-associated stigma and discrimination, counseling skills and support from service providers, family and the community.

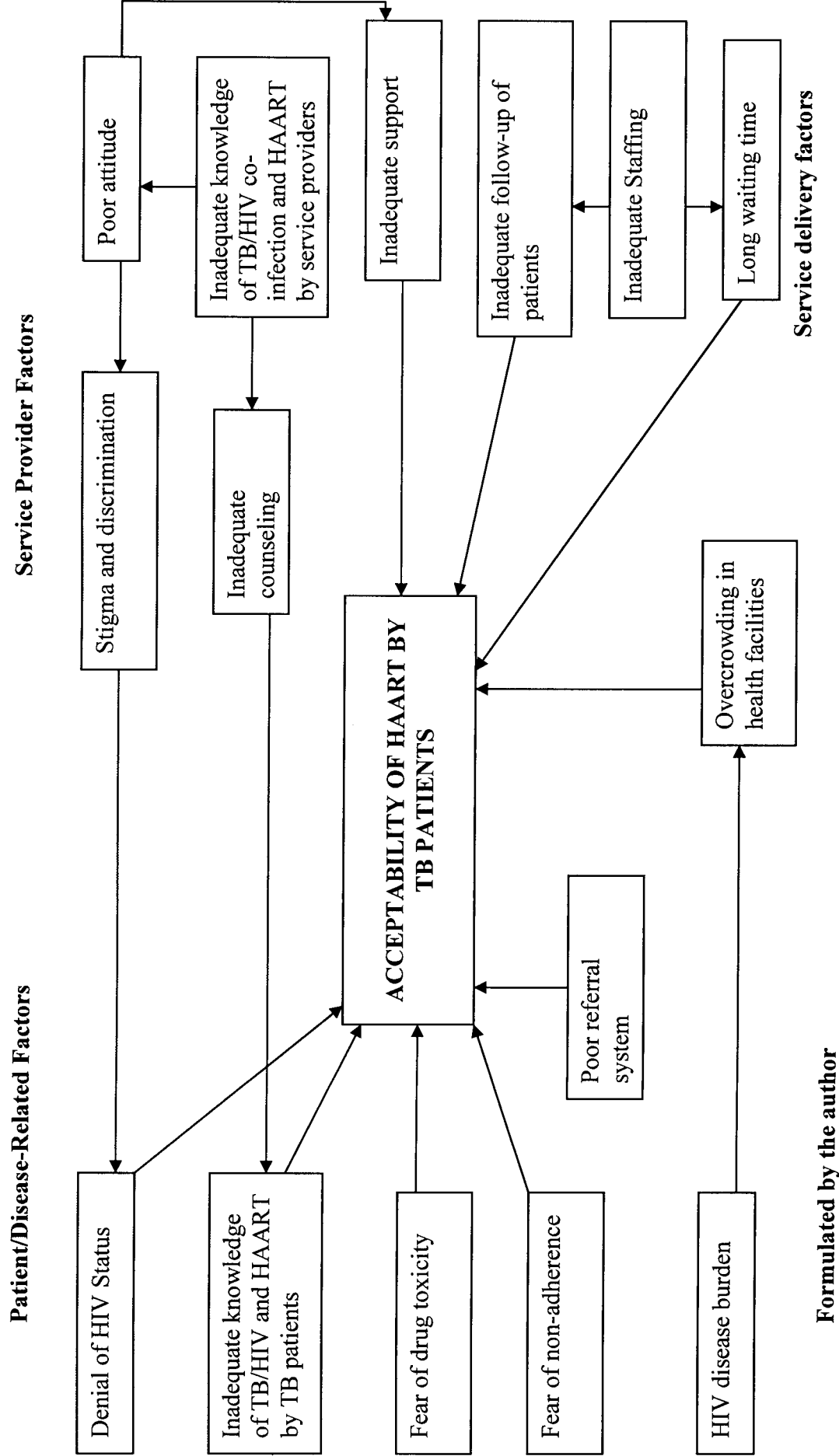
Stigma and discrimination, particularly in accessing health care remains a major problem for people infected with HIV in most parts of the world. Many doctors (19.4%) had refused treatment to people living with HIV/AIDS at least some of the time and nearly half (47.2%) identified and labeled them; 23.9% isolated them in separate care areas and 13.3% postponed treatment in most parts of South Africa (Mthetwa, 2004). For other patients the shock of being diagnosed HIV positive had only been made worse by the family's responses which included chasing them away from home or neglecting them (Mthetwa, 2004). Stigma is more common in people who are dually infected with TB and HIV. These experiences may hinder acceptability of HAART by TB patients.

In South Africa, poor attitudes of service providers were also identified as a common problem and were seen as reflected in poor confidentiality as well as provision of what is perceived as poor care. Patients felt undermined by the behaviour of health professionals they met at the time of their test because of the manner in which the patients were looked at. Other patients narrated that health care providers were often seen to victimize HIV positive people and to treat them callously or blame them. (Mthetwa, 2004). Such attitudes only contribute to the despair patients feel on diagnosis. Overall, the perception of patients was that health providers in ART clinics don't care about people and were quick in providing treatment no matter how sick a person is. Service providers who understand that they cannot be infected by HIV by simply talking to the patient may exhibit such type of an attitude because of fear of being infected with TB as the disease is spread through airborne.

Patients also reported poor confidentiality as being part of the negative attitude of health workers towards PLWHA (Mthetwa, 2004). Nurses were reported to be gossiping and was seen nudging at each other talking about patients. In addition, consultations were conducted without privacy, that is, with the door open. Several patients thought that the nurses' attitudes were because they feared contracting HIV themselves or because they perceived themselves as not being in danger of contracting HIV. Lack of privacy is also common at Livingstone General Hospital where patients are attended to with the door open or with other patients listening. A negative reception and poor attitude of staff undermine the people's trust in the service. Many patients feel that they are simply not wanted at health facilities and their privacy and anonymity are at risk; hence they become reluctant to utilize the service.

Appropriate counseling skills also play a key role in determining acceptability of HAART. The pre-test counseling may be persuasive instead of being voluntary. At times, the pre-test and post-test counseling may be inadequate in that patients are simply asked if they know about HIV or told that they have AIDS and there is no cure for HIV respectively. This means that the staff does not give adequate or appropriate knowledge especially on HAART. In such circumstances, patients lack the knowledge on HAART and feel hopeless. They feel there is no need to take HAART as it will not change anything (Modiba, Gilson and Schneider, 2006).

1.4 FIGURE I: FACTORS INFLUENCING ACCEPTABILITY OF HAART BY TB PATIENTS



1.5 RESEARCH QUESTION

Why are most HIV positive–TB patients who are eligible for HAART not accepting and utilizing HAART?

1.6 RESEARCH OBJECTIVES

1.6.1 General Objective

To determine the factors contributing to low acceptability of HAART by TB patients who are HIV positive.

1.6.2 Specific Objectives

1.6.2.1 To assess TB patients' level of knowledge on TB/HIV co-infection and HAART.

1.6.2.2 To determine if TB- and HIV-associated stigma and discrimination affect the level of acceptability of HAART.

1.6.2.3 To establish whether the amount and depth of information provided to the patient during the pre- and post-test counseling affect acceptability of HAART by eligible TB patients.

1.6.2.4 To assess if the provision of support to TB patients by health care providers affect acceptability of HAART.

1.7 JUSTIFICATION FOR THE STUDY

Zambia lies in sub-Saharan Africa where the prevalence rate of TB/HIV co-infection is 70% (Ministry of Health, 2005). The country has seen a 3 – 5 fold increase in the number of TB case notifications over the past decade as a result of the HIV pandemic which is estimated to be at 14% among the adult population (women and men aged 15-49) (World Health Organization, 2004; CSO, 2008). Southern Province in which Livingstone district is found is ranked third among the nine provinces of Zambia with a high prevalence rate of TB. Currently, the district has the highest prevalence rates of TB and HIV in the province. The HIV prevalence rate is currently 28.1% and Livingstone district is ranked as the highest in the country (CSO, 2008). It is estimated that the TB/HIV co-infection rate for Livingstone district by the end of 2007 was 73% (LDHMT, 2008). Since the majority of the cases are between the ages of 15 and 49 which represent the most productive age

group of society, the dual epidemics are likely to affect the economic development of the district if they are not properly managed. One of the ways of controlling the dual epidemics is through commencement of eligible TB patients on HAART. However, reports from Livingstone General Hospital and LDHMT show that less than 50% of eligible TB patients do not commence HAART (Livingstone General Hospital, 2007; LDHMT, 2007).

This study, therefore, intends to bring forth the factors that influence acceptability of HAART by eligible TB patients who are HIV positive. It is hoped that the information that would be realized from this investigation will be utilized to develop strategies that enhance acceptability of HAART by eligible TB patients. The strategies may involve improvement of the referral system of HIV positive-TB patients to ART sites, holding regular refresher courses of health care providers involved in TB/HIV collaborative activities.

It is also hoped that the results of the study will be used by Hospital and District Management Teams to source for funds from cooperating partners in order to improve the management of the dual epidemics. This would avert the dual epidemics and reduce the economic burden posed by the two diseases in the district and country at large. The findings would also be used by academicians and other researchers in the execution of their duties.

1.8 HYPOTHESIS

There is no association between acceptability of HAART by HIV positive-TB patients and the following:

- A. Knowledge of HIV/TB co-infection and HAART
- B. TB- and HIV/AIDS-associated stigma and discrimination
- C. Amount and depth of information provided during the pre- and post- test counseling
- D. Support offered to TB patients by health workers.

.9 DEFINITION OF TERMS

- 1.9.1 Acceptability:** this is when eligible TB patients agree to take HAART willingly.
- 1.9.2 Highly Active Antiretroviral Therapy (HAART):** this is a combination of at least three or more ARVs usually from two or more drug classes in order to achieve the greatest suppression of viral load for the most sustained period of time (Ministry of Health, 2007).
- 1.9.3 Antiretroviral drugs (ARVs):** these are drugs that specifically work to suppress HIV viral replication.
- 1.9.4 Antiretroviral Therapy (ART):** this is the management of the HIV disease with the use of ARVs.
- 1.9.5 Human Immuno Deficiency Virus (HIV):** this is the virus that causes HIV infection leading to AIDS, by destroying the biological ability of the human body to fight opportunistic infections such as TB (UNAIDS, 2002).
- 1.9.6 HIV positive:** this is the state of being sero positive to HIV.
- 1.9.7 Acquired Immune Deficiency Syndrome (AIDS):** this is an often fatal syndrome caused by a virus called HIV which is transmitted in most body fluids and is marked by severe loss of resistance to infection (UNAIDS, 2002).
- 1.9.8 Tuberculosis (TB):** this is an infectious disease that is caused by the TB bacillus (*mycobacterium tuberculosis* or *tubercle bacillus*)
- 1.9.9 Eligible:** this is when TB patients who are HIV positive can be able to commence HAART because they meet the criterion for the commencement of HAART.
- 1.9.10 Epidemic:** this is when a large number of TB or HIV cases are happening at the same time in a particular community.
- 1.9.11 Co-infection:** this is when TB disease and HIV infection are present at the same time in one individual.
- 1.9.12 Collaborative services/activities:** this is when TB and HIV sites work harmoniously.

1.10 VARIABLES, CUT OFF POINTS AND INDICATORS

Table 4: Variables

VARIABLES	CUT OFF POINTS	INDICATORS
INDEPENDENT VARIABLES		
Patient knowledge on TB/HIV co-infection and HAART.	High	If one scores 9- 12 on questions of knowledge on TB/HIV co-infection and concomitant TB and HIV treatment.
	Medium	If one scores 5-8 on questions of knowledge on TB/HIV co-infection and concomitant TB and HIV treatment.
	Low	If one scores 0-4 on questions of knowledge on TB/HIV co-infection and concomitant TB and HIV treatment.
Experience of TB and HIV-associated stigma and discrimination	High	If ones scores 5-6 on questions of stigma
	Moderate	If ones scores 3-4 on questions of stigma
	Low	If ones scores 0-2 on questions of stigma
Amount and depth of information received by the client during the pre- and post-test counseling	Adequate	If one scores 4-6 on questions of counseling
	Inadequate	If one scores 0-3 on questions of counseling

Patient support from health care providers	Good	If one scores all the 3 questions on support
	Poor	If one scores 0-2 on questions of support
DEPENDENT VARIABLE		
Acceptability of HAART	High	If one scores 7-12 on questions of acceptability
	Low	If one scores 0-6 on questions of acceptability of HAART

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

Commencing HAART when indicated, during the TB treatment phase can reduce the high morbidity and mortality in patients with HIV-related TB co-infection. The impact of HAART in reducing mortality have produced impressive results in Brazil, where universal access to treatment has reduced HIV-related mortality among TB patients by 50% and increased the survival rates from 18-58 months (Attawell and Mundy, 2006). Furthermore, the TB incidence of 8.4% was reduced by 80% with HAART. Universal provision of HAART in Brazil has also had a positive impact on health service expenditure, for instance, an estimated 358,000 hospital admissions were avoided between 1996 and 2005, saving \$2.2 billion (Attawell and Mundy, 2006).

In South Africa, TB incidence was reduced from 17% to 3% in a group of patients with CD4 counts below 200 when the patients started taking HAART (Attawell and Mundy, 2006). This shows that acceptability of HAART could significantly reduce the increase in TB rates. However, despite the provision of free ARVs in many countries, the majority of eligible TB/HIV co-infected patients do not commence HAART.

The literature review therefore focuses on the level of acceptability of HAART by TB patients and the barriers to uptake of HAART. Findings from this literature will give a rough idea on the barriers to uptake of HAART. The sources of literature include books, professional journals, articles, policy papers and dissertations. The literature has been organized into three categories; global, regional and local perspectives.

2.2 GLOBAL PERSPECTIVE

The separation of TB and HIV programs seem to have a significant effect on the acceptability of HAART by TB patients. Tsiouris et al (2005), in a report entitled "TB and HIV: Operational Challenges Facing Collaboration and Integration" in Columbia indicated that current national TB and HIV programs remain largely separate with varying levels of interaction and communication despite that these programs are often situated within the

structure of the Ministry of Health. This clearly shows that the separation of these programs poses a lot of challenges for TB patients in accessing HAART. This may be because of the frustration that patients face in queuing to be attended to at the TB site and then at the ART site. If the services are provided at the same site (either TB or ART sites), then the patient will only have to queue at one site and this may lessen the frustration that patients may have. The provision of TB services and HAART at one site also limits the number of staff who will know about the patient's health status. This may encourage the patient to access HAART because they are aware that their HIV status is only known by a limited number of health personnel. The report further indicated that an example of a collaborative model is one where ARVs are initiated in eligible patients during TB treatment at the TB clinic with subsequent transfer of the patient to the HIV program after completion of anti-TB treatment.

According to Tsiouris et al (2005), superior outcomes have been noted among patients with HIV-related TB who received their anti-TB treatment through the Directly Observed Therapy (DOT) model. Since the DOT model reinforces the importance of adherence with anti-TB drugs, the model also allows for its use with ARV therapy when treatment for both TB and HIV are provided at one site. In an integrated management of TB/HIV co-infected patients, a unique opportunity to achieve high rates of adherence with ARV therapy while on anti-TB drugs is created. This approach may further provide the patient with the skills to maintain life-long adherence with ARVs once TB therapy is completed. In addition, there will be utilization of other supportive and outreach efforts available through the DOT services. Close follow-up of patients through the frequent contact required for DOT will allow for more careful monitoring of patients to promptly identify adverse effects of ARVs, particularly during the early phase after initiation of HAART.

The provision of TB services and HAART at one site has also shown to improve acceptability of HAART by TB patients in Alabama. In a pilot TB/HIV project and a model of continuum of care for PLWHA introduced in Battambang in Alabama, United States of America, Eang et al (2007) reported that linkages between TB and HIV activities were developed in referral hospitals. Patients with active TB were counseled and tested at the

TB site through the opt out approach. At the same site, other opportunistic treatment and prophylaxis was given. Furthermore, ARV drugs were given to eligible TB patients. The results of this project call for an integrated management of TB/HIV co-infection patients where all the services that the patient requires are provided at one site instead of referring them to other sites for other treatment. When TB patients are managed at the TB site, they may face less stigma because the staff providing the service are already used to them. There is also less congestion and this is less frustrating to the patients as only TB patients are attended to at this site.

Baral (2007), in his study entitled, "Situational Assessment of TB and HIV Programs for TB/HIV patients in Nepal" also indicated that the DOT strategy increases acceptability of HAART probably because of the support rendered to patients and the provision of individualized care. The issues of the DOT services and collaboration between the TB and HIV programs cannot be overemphasized as results from other studies have already shown that they increase acceptability of HAART by TB patients.

Provision of adequate knowledge on HAART to TB/HIV co-infected patients is very important in increasing acceptability of HAART by TB patients. Eang et al (2007) established that over 80% of the TB patients commenced HAART in 2006 and 2007 and continued the medication even after the completion of the TB medication. The patients had received intensive drug education and were counseled by TB staff and PLWHA coordinators prior to the commencement of HAART. Over 80% of the TB patients commenced HAART in 2006 and 2007 and continued the medication even after the completion of the TB medication. This report clearly indicates that adequate drug education and proper counseling promotes the acceptability of HAART by TB patients. This is probably because adequate drug education and counseling dispels misconceptions about the drugs, equips the patients with knowledge of adverse effects and moreover, it is supportive.

On the other hand, inadequate counseling provided to TB patients by health professionals may hinder TB patients from accepting HAART. In a cross sectional study

conducted by Baral (2007) on Situation Assessment of TB and HIV Programs for TB/HIV patients in Nepal, it was established that inadequate counseling weakens service delivery utilization, placing enormous burden on the poor and vulnerable. This study indicates that patients may not receive the necessary information on the consequences of TB/HIV co-infection and the benefits of HAART. Therefore, the patients may not appreciate the use of HAART. In addition, patients may be scared to commence HAART because they lack the necessary information on the medication, on the adverse effects of HAART and what to do to counteract the effects.

Adequate provision of support to TB patients is likely to increase acceptability of HAART by TB patients. Santos (2007), in his publication, "What Helps, What Hurts: Client and Front Line Provider Perspectives on TB/HIV Integration" reported that people facing TB and HIV treatment have necessarily to deal with several difficulties. Santos noted that what hurts was the pill burden, high toxicity of concomitant TB and HIV schemes, malnutrition, limitation to access services and poverty whereas what helps was anything that aid overcoming these obstacles. According to him, although progress is being made to develop new drugs, reduce treatment length and introduce new diagnostic equipments which are faster, these novelties will take time. He emphasized that direct practical support to patients to complete successful treatments is permanently needed. The traditional approach in medicine tends to reduce treatment to provision of services and medication. These practices do not consider listening to patients or taking their limitations seriously into consideration, especially in low income countries. The publication of Santos (2007) suggests that, for example, the pill burden may discourage TB patients from accepting HAART and providing support to the patients may overcome the obstacle. The support may be offered in various ways such as providing emotional support and identifying support groups which the patient can join. A support group thus offers encouragement to the patient and provides opportunities for the patient to learn on how the other patients are coping with the pill burden.

To widely support the TB patients who are co-infected with HIV, Santos (2007) noted the following:

- Awareness-raising activities about the disease and patient's role are needed.
- Empowering community members and encourage peer support by people living with the two diseases is critical.
- Incorporate regular civil society monitoring and participation in policy making levels will accelerate the change.

The above initiatives may be very helpful in increasing the uptake of HAART as they are supportive to patients. For instance, awareness raising activities show that the health care provider cares about the patient in totality. This makes the patient feel accepted and thus he/she may be encouraged to commence on HAART.

Several reasons have also been known to be hindering the acceptability of HAART by HIV positive patients for a long time now. The reasons which could also be applicable to HIV positive-TB patients who are eligible for HAART include fear of side effects, not ready for adherence and lack of confidentiality. A study conducted by Maisels, Steinberg and Tobias (2001) also cited some of the reasons why eligible patients do not receive HAART. According to the study, of all patients who were eligible for HAART, 69% (60/88) had it prescribed in 1997-1998. Of the 28 patients who did not receive HAART, 3 (11%) stated that it was never discussed by the provider, 6 (21%) reported that although it was discussed, it was not recommended, 16 of the patients (57%) declined HAART although it was recommended, and 3 (11%) accepted HAART but never started. These results could be attributed to inadequate knowledge on HAART and inadequate support rendered to HIV positive patients. The physician did not discuss HAART with two of the patients because of active drug use. HAART was not discussed with one of the patients because the physician felt the patient was doing well although the patient's laboratory values indicated eligibility. This is likely to happen especially where the physician is not knowledgeable about HIV/TB co-infection or when the physician has a negative attitude towards HAART. Patient's reasons for declining HAART included not being ready for

strict adherence to a complex regimen and fear of side effects. Strict adherence by TB patients may be affected by the pill burden, side effects due to concomitant use of anti-TB and HAART as well as other factors which affect intake of life-long medications. Some patients were lost to follow-up. This can occur where patients are not properly counseled and adequately supported before and during HAART.

In the same study, 7 of the 16 patients had begun HAART in 1999 although they had initially refused. The reasons they gave for beginning HAART often referred to negative changes they had experienced in their health. When asked why they had refused initially refused HAART, they gave reasons similar to those given by the patients who had HAART prescribed in 1997-1998.

This study suggests that patients may be calculating the cost-benefit ratio, balancing the difficulties of adherence and likelihood of side effects against the possible benefits of these therapies. Patients doing well would less likely consider the benefits than the costs. However, patients who started HAART in 1999 gave reasons for doing so based on concrete effects on their health. For example, three patients said they started HAART “to feel better”, implying that they were experiencing unpleasant symptoms which they hoped HAART would relieve. This supports the hypothesis that patients balance their experience of their current health needs against the difficulties and dangers of therapy. Such a scenario is likely to occur if TB patients are knowledgeable about the effects of TB/HIV co-infection and the benefit of HAART. For patients who continued to refuse HAART, perhaps the fear of stigma of AIDS was a powerful deterrent.

The physician's reasons of not commencing patients on HAART based on patient's active drug use, homelessness, depression and lack of engagement in the care suggest that the physician thought that the patient was unlikely to adhere. In a setting like Zambia where addictive drug use or abuse is not common, the physician may not discuss HAART with TB patients whilst they are still on anti-TB treatment even if the patient is eligible. This may be due to fear of pill burden and side effects as a result of concomitant treatment which may affect adherence. However, this may not be so in some cases. It was reported

by Maisels, Steinberg and Tobias (2001) that in one study, 20% of patients believed to be non adherent by their physicians had adherence rates of better than 95%, and of one third thought to be adherent took fewer than 80% of their doses.

2.3 REGIONAL PERSPECTIVE

In Africa, limited knowledge on HAART by both health care workers and patients also influence acceptability of HAART by TB patients. The Mildway Centre in Kampala, Uganda conducted a survey to find out why uptake of ARVs by patients did not increase despite the ARV drugs being readily available. The survey found that limited knowledge on ARVs, on the part of the health workers and patients, was one of the main limiting factors (Attawell and Mundy, 2006). Following efforts to increase health care knowledge and to use people already taking ARVs to educate others about the therapy, the number of patients accepting HAART increased. The survey then concluded that making ARVs available is not enough to guarantee access. Educating communities about ART, its benefits and limitations is therefore an essential step in improving uptake of ARVs. Education provided by patients already taking ARVs has been shown to be an effective strategy in Uganda, for example. Community education is also essential to ensure adherence and dispel unrealistic expectations (Attawell and Mundy, 2006). This survey indicates that increasing the knowledge levels of health care workers and TB patients through education plays a pivotal role in increasing acceptability of HAART by TB patients. The use of peer educators is indeed a good initiative in increasing uptake of HAART by TB patients. Apart from educating their peers who have not yet commenced HAART, this program is also supportive and may therefore encourage the other patients to accept HAART.

Ghana is also one of the countries in Africa that has embarked on a program to increase the knowledge levels of health care providers on of TB/HIV co-infection and HAART in order to counteract the effects of the dual epidemic. According to Ghana Health Services (2007), hospital studies have shown that the prevalence of HIV in TB patients is 25-30%. At the Korle-Bu Teaching hospital in Accra, 30% of HIV patients present with TB and TB accounts for 40-50% of HIV deaths. In line with the country's policy of the "one stop

shopping” approach for managing TB/HIV patients, capacity building for clinicians in the TB centres have been initiated so that HAART is commenced in these centres (Ghana Health Service, 2007). This report indicates that when health care providers are equipped with knowledge on TB/HIV co-infection and HAART, they will face fewer problems in managing patients infected with the dual epidemic. In such circumstances, the health care providers will understand the consequences of the dual epidemic on patients and thus, they are likely to encourage eligible patients to commence HAART. On the other hand, the patients will be equipped with knowledge on TB/HIV co-infection and HAART because the health care providers will impart the knowledge to them. Since the consequences of TB/HIV co-infection and the benefits of HAART will be understood by the patients, uptake of HAART is likely to increase.

Several studies and reports have also shown that in settings where the integration of TB and HIV activities has been implemented, the uptake of HAART among TB patients is likely to increase in Africa. A review of TB registers and HIV data for the period January-December, 2006 was done at health facilities offering integrated TB/HIV care in Nairobi (Engelgen et al, 2007). Out of a total of 361 newly registered TB patients, 247 (68%) were HIV positive. A total of 125 (77%) patients accepted ART along with anti-TB treatment while 21 (13%) were still in the ART preparation phase. Only a few patients (16, 10%) refused ART. The high uptake of ART in this setting demonstrates the feasibility and value of an integrated approach to TB/HIV care and is of particular operational importance given the high HIV related mortality faced by TB programs in sub-Saharan Africa.

Integration of TB and HAART activities have also shown to be of a great benefit in increasing the uptake of HAART among TB patients in KwaZulu Natal in South Africa. However, in most parts of South Africa, the uptake of HAART has been limited (Naidoo, Weyer and Uys, 2007). This is largely because TB and HIV/AIDS programs have pursued separate courses, which result in co-infected patients having to access from separate facilities on separate days. Such an arrangement can result in difficulties in accessing ARVs due to transport costs and frustration caused by frequent visits to the health

facilities as the TB and HIV services are provided on separate days. Moreover, these patients are very weak because of the co-infection. Nonetheless, a different picture was observed at Richmond hospital in KwaZulu Natal where a comprehensive approach to integrated TB/HIV care was implemented. The approach consisted of HIV screening, ARV therapy for those who met the national treatment criteria, regular monitoring and follow-up of drug adverse effects and adherence to the dual therapy. All these services are provided at the site where the patient was first attended to. The program is proving to be successful as 238 TB patients of the 783 initiated HAART within the first month of starting TB treatment. The health of the patients improved tremendously. In addition, the mortality rate among TB patients had dropped from 37% prior to the integrated approach being implemented to 12% at the time of reporting. These results are very impressive considering that in most cases, HAART is deferred until after two months of anti-TB treatment for fear of side effects.

Overcrowding at ART sites which may be due to inadequate ART sites may also hinder TB patients from accessing HAART. During a special summit of African Union on HIV/AIDS, TB and Malaria held in Abuja, Nigeria from 2nd – 4th May, 2006, the Malawian officials reported that the TB/HIV joint care activities began in July, 2003 in 16 hospitals countrywide. A month later, another 19 hospitals were added. By the end of 2004, all hospitals in the country were implementing such interventions. The HIV prevalence rate among TB patients who were counseled and tested was significantly high (72%). According to the country's Ministry of Health's "Equity to ART" policy, TB patients have a high priority for accessing ART. Since the number of sites providing ART was only 24, the number of TB patients who commenced ART was limited due to barriers in accessing centralized ART services especially that the TB sites were decentralized. Where ART sites are centralized, the number of patients accessing the services may be limited because of possible overcrowding. The Malawian response shows that boldness, innovation and above all, action, are essential if the response to the accessibility of HAART by patients who are co-infected with TB and HIV is to be effective.

At the same summit, the International Union against TB and Lung Disease reported that it had launched a multi-phased operational research program aimed at identifying barriers to the implementation of TB/HIV collaborative services in 5 districts in Uganda. Phase 1 of the program was a qualitative study that used focus group discussions, key informants and in-depth interviews with TB and HIV positive patients, health providers and community members to identify barriers to TB/HIV collaboration. Barriers identified were poor coordination between TB and HIV clinics, limited provider knowledge TB/HIV, staff shortages and increasing workloads, lack of counseling rooms compromising patient privacy in facilities and high patient costs for CD4 testing, x-ray services and transport. In addition, stigma of HIV and male partners inhibiting women from HIV treatment were reported. Other findings that were noted were availability of limited copies of TB/HIV policy at health facilities. Where policies existed, they were not translated in action because no information was provided to providers. If policies are not readily available or are not translated into action, providers may lack knowledge on how to implement TB/HIV services. Understaffing amidst high TB/HIV service demand results in demotivated staff, workload and compromised quality of work, leading to missed opportunities for initiating HAART. Patients may equally become demotivated and consequently not accept to commence on HAART. The above qualitative results led to the development of a quantitative cross sectional study (phase 2) which also established similar findings.

2.4 NATIONAL PERSPECTIVE

Zambia has the fourth highest adult HIV prevalence rate in the world (National AIDS Council, 2006). Despite these high levels of infection, 75% of PLWHA still have no access to treatment (National AIDS Council, 2006). TB patients constitute the largest single group eligible for ART and thus the Zambian National TB Program adopted the WHO Interim Policy on Collaborative TB/HIV activities in 2004.

Inadequate integration of TB and ART activities has been cited to hinder the uptake of HAART by TB patients in many studies. A study conducted by Treatment Advocacy and Literacy Campaign (TALC) entitled “Monitoring TB/HIV collaborative activities in Mongu, Kapiri and Lusaka” revealed that three years after the implementation of the program it is

still not having an impact in Zambia, despite its potential to radically improve TB and HIV treatment. Through its study, TALC documented that the separation of TB and HIV treatment services persists at all levels in the health system in Zambia. Programs are planned and implemented separately from the MOH to the community clinics though a Joint Coordinating Body was established to respond to the needs around TB/HIV co-infection (Maimbolwa, 2007).

Harris et al (2007), in their survey entitled, "Experience in the integration of TB and HIV services in Lusaka", found that HIV integration activities require careful assessment of health services and modifications of infrastructure to address the needs of individual settings. The researchers reported that as of February 2007, TB/HIV activities were being implemented in 7 large primary care centers with 124 staff that were trained. There were 1,039 patients who were counseled. HIV testing uptake was high (73%) but only 54% of HIV infected patients accepted enrollment in HIV care which included the provision of HAART. However, the staff faced the challenges of understaffing, infrastructure limitations, large patient loads and insufficient documentation. Among the patients, fear of co-treatment with both ARVs and anti-TB drugs, and stigma against TB and HIV were important factors. This survey clearly indicates large patient loads and infrastructure limitations can lead to overcrowding at the ART sites. Moreover, patients may not be adequately educated on TB/HIV co-infection and HAART because the staffs are overwhelmed with work. As a result, the patients may not accept to commence HAART because they do not understand the effect of TB/HIV co-infection or the benefits of HAART. It may also not be possible for the health care providers to attend to the patient's concerns adequately. This shows lack of concern for the patient who may opt not to commence on HAART.

At the 38th World Conference on Lung Health of the International Union against Tuberculosis and Lung Disease held in South Africa from 8-12 November, 2007; Dube et al (2007) reported on the interventions that improve TB/HIV services in rural areas. The interventions were carried out in the rural districts of Choongwe and Mumbwa with the support from the Japanese International Corporation Agency (JICA). The districts had

only two ART sites which were also diagnostic centers for TB. Since the majority of the people in rural areas live scattered in vast land, it is very difficult for the community to access these health services. In order to provide better access to the health facilities for the communities, rural health centers were utilized as ART sites. However, the MOH has issued the accreditation guideline in 2006 which requires certain basic things for an ART site such as a certain number of staff, equipment and space. Therefore, JICA Integrated HIV/AIDS Care Implementation Project which started in April, 2006 and focuses on the improvement of ART services provided a 4 wheel drive vehicle to each district. This was done so that ART services can be provided at selected rural health centers by mobile ART teams. The mobile ART teams consists of a doctor, nurses, counselors, laboratory staff, pharmacist and other staff depending on the necessity of rural health centers. VCT service is provided including diagnostic counseling and testing of TB patients. The introduction of the mobile ART clinic has drastically improved the HAART services in both districts. This report shows that increasing the ART sites and bringing TB/HIV services as close as possible to the family can improve uptake of HAART especially for TB patients who are very weak to walk to health facilities and wait for a long time before being attended to.

Another factor that may hinder acceptability of HAART by TB patients is inadequate human resource in the health sector. According to the Post Newspaper No. 4227 of Wednesday May, 14, (2008); "Inadequate human resource affects health service delivery", Zambia Medical Association President, Dr. Swebby Macha reported that the shortage of nurses had made it difficult for nurses and health workers in general to perform to the expected standards. Commenting on the International Nurses Day under the theme "Delivering quality, service communities: Nursing leading Primary Health Care", Dr. Macha further said that one nurse was attending to 50 patients instead of the standard one to 10 patients. The manpower crisis is getting nurses overworked. He further reiterated that the perception of inefficiency was as a result of the high patient load because of the disease burden of malaria, HIV/AIDS and TB. The perception of inefficiency could thus be shown in inadequate counseling skills, failure to observe privacy when attending to patients and lack of concern and support for patients accessing

HAART, TB patients inclusive. These consequences could hinder TB patients from accessing HAART. In addition, long waiting time and congestion is likely to result where there is inadequate human resource leading to dissatisfaction of patients. In the long run, the patients especially those in dire need of services to prolong their health such as patients who are infected with both TB and HIV may resort to the use of herbal remedies which are readily available and accessible.

Gender-based violence has also been cited as a hindrance to the uptake of HAART by women. Human Rights Watch (2007), an international non governmental organization that carried out a survey in Lusaka and Copperbelt provinces in 2006 and 2007 to determine the impact of gender-based violence on women's HIV treatment established that women's ability to make informed decisions about their health and lives is seriously hampered by perceived and real control of men over their health. The report, "Hidden in the mealie meal, Gender-Based Abuses and Women's HIV treatment in Zambia", illuminates the hurdles faced by women to have access to life saving ART. The report indicates that some women only accessed HIV services and started ART after their husbands died at which point they could have long gone beyond their eligibility for treatment. Women always feel that they must obtain their husband's or partner's permission to enroll on ART, which partners normally refused.

The Human Rights Watch (2007) report further indicates that insecure property rights compounds women's access to HIV treatment. For women who are married under customary laws, their lack of property rights often mean having to remain in abusive marriages, which in turn can impede treatment. Fear of divorce in the context where women are economically dependent on men forces some women to abandon treatment. On the other hand, women who seek divorce and lose property suffer constraints that restrict their ability to afford transportation costs to attend clinic appointments and collect ARVs. This report indicates that women still adhere to cultural practices and norms such as being submissive to men. This often place women at a disadvantage and pose great risk to their health by not accepting to utilize HAART. The report also shows that the majority of women in Zambia are still not economically independent. Unless programs

that empower women are supported such as promotion of female education, women will continue to be economically dependent on men and hence put their lives at risk.

2.5 CONCLUSION

The above literature clearly indicate that most of the countries worldwide are supporting the uptake of HAART as part of the joint TB/HIV programs that were launched in 2001 in order to decrease the joint burden of HIV and TB. This is evident in measures such as the integration of TB and HIV services, capacity building for health care providers and provision of support to TB patients. However, despite the efforts that these countries have put in place to ensure the successful implementation of the programs, the uptake of HAART still remain low. This shows that there may be problems in how the programs are delivered.

Furthermore, it is also evident that most of the studies that have been done in relation to TB/HIV co-infection worldwide focus on integration of TB and HIV activities but very few on acceptability of HAART by TB patients. Therefore, the investigator thought it would be appropriate to establish the problems influencing acceptability of HAART from the point of view of the recipients of the program. This will assist health care planners to come up with solutions that will have a positive impact on the recipients and consequently on communities.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

Chapter three discusses the methodology that was used for the study. It includes the description of the instruments and techniques that was used to collect data. The researcher also described the study participants and how the sample was selected including the setting where the study was undertaken and the ethical/cultural considerations to be considered. The purpose of this study was to determine the factors contributing to low acceptability of HAART by TB patients who are HIV positive in Livingstone district.

3.2 RESEARCH DESIGN

A research design is “a plan, structure, and strategy of investigations of answering the research question, it is the overall plan or blue print the researchers select to carry out their study” (Basavanthappa, 2007). The study used mixed methods, that is, qualitative and quantitative methods. This was done to enable the researcher produce richer and more insightful analyses of “Acceptability of HAART by HIV-positive TB patients” and thus increase validity of the study.

For the purpose of this study, an explorative descriptive design was used. This research design was chosen because little is known about the problem. It was aimed at exploring in depth the level of acceptability of HAART by eligible HIV positive-TB patients and describing the factors influencing the uptake of HAART. It focused on TB patients who are eligible for HAART and had been referred to the ART sites for treatment in the last 1 month or more. Findings from this study have provided a clear picture on which to base the interventions for increasing acceptability of HAART by eligible TB patients who are HIV positive. The study further examined the association between the different variables. This design is useful in formulation of hypotheses that can be tested by other designs and thus it cannot be used to test hypotheses.

3.3 RESEARCH SETTING

Research setting is “the physical location and conditions in which data collection takes place” (Polit and Hungler, 1996). The study was undertaken in Livingstone District at Livingstone General Hospital chest clinic and two health centers, namely Mahatma Gandhi and Sepo centers. These sites had been purposively chosen because the sites possess similar characteristics in that they provide both TB and ART services. Livingstone District lies in the Southern part of the country about 486 kilometers away from Lusaka. It is the provincial capital of Southern Province as well as the tourist capital of Zambia. It has a population of 112, 275 according to the census of 2000 (LDHMT Action Plan, 2004). The District is almost surrounded by Kazungula District except for the Southern part where it shares the international boarder with Victoria Falls town of Zimbabwe. The area is urban and peri-urban with 85% of the population living in urban areas and 15% in the peri-urban area. The district has 14 health centers. Livingstone General Hospital serves both as a first referral and second referral hospital. Currently, Livingstone district has the 2nd highest HIV prevalence rate of 31.6% in the country and the highest TB prevalence rate in the province (CSO, 2003; LDHMT, 2007).

The study was conducted in Livingstone District for the following reasons:

- Livingstone being a border town and the tourist capital of Zambia is very busy with travelers most of whom spend nights and end up with risky behaviours with the locals. This has resulted in the high prevalence rate of HIV which fuels the TB epidemic.
- The district is urban and peri-urban and people who live in urban areas are twice likely to be infected with HIV. The 2007 Zambia Demographic and Health Survey (ZDHS) preliminary report indicate that 20% of the urban adult population is HIV positive as compared to 10% of the rural adult population (CSO et al, 2008).

3.4 STUDY POPULATION

A study population is “the total group of individuals or things meeting the designated criteria of interest to the researcher” (Dempsey & Dempsey, 2000). The study population consisted of the “target population” and “accessible population.”

3.4.1 Target Population

The target population is “the entire population in which the researcher is interested and to which he/she would like to generate the results of the study” (Polit & Hungler, 2001). The target population for this study was all the TB patients who are HIV positive and are eligible for HAART.

3.4.2 Accessible Population

This is “the population of people available for a particular study, often a non-random subject of the target population” (Polit & Hungler, 2001). For this study, the accessible population was all the TB patients aged between 18 and 49 who were diagnosed with HIV and are eligible for HAART. They were selected because they are regarded as the most productive members of the society. The impact of TB/HIV co-infection makes this age group to be less productive physically, socially and economically. In addition, if HIV is uncontrolled in people infected with the dual epidemic, it fuels the prevalence of TB in the community thereby posing a risk to the entire community.

3.5 SAMPLE SELECTION

Sample selection is “a process of selecting a portion of the population to represent the entire population” (Treece & Treece, 1986). The study participants were selected by systematic sampling method. This is “the selection of study participants such that every k th (e.g., every tenth) person (or element) in a sampling frame or list is chosen” (Polit, Beck & Hungler, 2001). First, the size of the study population was divided by the size of the desired sample to obtain the sampling interval width. The sampling interval is the standard distance between the selected elements. The first participant was selected randomly, using a table of random numbers. Thereafter, every k th participant where k refers to the sample interval was selected. This sampling method was used as it is

identical to random sampling and the results will be obtained in a more convenient and efficient manner (Polit, Beck and Hungler, 2001).

3.5.1 Inclusion Criteria

- a. All TB patients who had been residing in Livingstone district for 6 months or more, aged between 18 and 49 years and are HIV positive were eligible to be included in the sample.
- b. All the TB patients who were referred for HAART in the last 1 month or more and were not critically ill.
- c. All the TB/HIV co-infected patients who agreed to participate in the study.

3.5.2 Exclusion Criteria

- a. All TB patients referred to the ART sites for HAART from districts other than Livingstone were not be included in the study as such patients are not part of the population for Livingstone.
- b. All the TB patients who had been residents of Livingstone district for less than 6 months.
- c. All TB patients within Livingstone district aged either less than 18 or more 49 who were referred to the ART sites for HAART will also not be included as these are not considered to be productive members of society.
- d. All TB patients who were referred to the ART sites for other services other than HAART.
- e. All the TB/HIV co-infected patients aged between 18 and 49 who declined to participate in the study.

3.6 SAMPLE SIZE

Uys & Basson (2000) defines sample size as “the total number of subjects/objects to represent the population under study”. The sample size for quantitative data was calculated using Epi-Info version 6.0 statistical software. According to the LDHMT (2007) yearly report, the number of TB/HIV co-infected patients who met the eligibility criterion for HAART was 230. This constituted the population size. The expected frequency was

derived from a study that was conducted by Eang et al (2007) which revealed that over 80% of the TB patients commenced HAART in 2006 and 2007 in Alabama. Therefore, the worst acceptable frequency is +/- 5% which is 85% or 75%. At 95% confidence interval, the sample size for quantitative data was calculated as follows:

Population size = 230

Expected frequency = 80%

Worst acceptable = 75%

Confidence interval = 95%

n = 119

With the addition of a 10% non-response rate, the final sample size was adjusted as follows: $10/100(119) = 11.9$. Therefore, the sample that was interviewed individually was:
 $n = 119 + 12 = 131$

The sample size was calculated with the help of the Bio-stastician.

In addition, six (6) focus group discussions which comprised 6-12 participants each were conducted. The participants for the focus group discussion were selected purposively from among the other TB/HIV co-infected patients who met the inclusion criteria and were not part of those interviewed individually.

3.7 DATA COLLECTION TOOLS

A data collection tool is “a device that is used to collect data” (Polit & Hungler, 1997). Data were collected over a period of one month in December, 2008. A structured interview schedule was used as a checklist while a focus group discussion guide was used to guide the interview.

A structured interview is “a formal instrument, used in structured self report studies, that specifies the wording of all questions to be asked of the respondents” (Polit et al, 2001). The structured interview schedule comprised of questions that were both open and closed ended. Open ended questions permitted free responses and therefore information is likely to be more valid than answers provided in options from which informants must choose from. Closed questions allowed the answers to be recorded quickly and were not time consuming.

This instrument was used for the following reasons:

- The method was assumed to be the most efficient way of gathering data. It is accurate since it allowed the interviewer to probe and clear misunderstanding of questions during the interview.
- It was appropriate for illiterate respondents.
- It ensured that all questions are answered.
- The interviewer observed non-verbal cues and this validated the information collected.

However, the instrument had some drawbacks:

- The presence of the interviewer may have led to the interviewee not giving precise and accurate answers.
- There was need to train research assistants in data collection. Therefore, ensuring a uniform understanding and recording of responses could have been a problem. This drawback was taken care of by involving the research assistants in the pre-test study and re-training of research assistants.

A focus group guide was also be used to ask questions to a group of participants. Focus group discussion is “a method that allows the researcher to examine points of views of a number of individuals in a group as they share their opinions/concerns about a topic” (Dempsey and Dempsey, 2000). A focus group consists of 6-12 participants. There were two research assistants that were trained to help with note taking and time keeping while

the researcher asked questions. The researcher conducted two focus group discussions at each of the three ART sites, thus a total number of six focus group discussions were conducted. At each of the three ART sites where data was collected, the first group involved participants aged between 18 and 32 years while the second group included participants aged between 33 and 49 years to facilitate free discussion. The first group at Livingstone General Hospital comprised four male and two female participants while in the second group, there were five female and four male participants. At Sepo health centre, five males and two females formed the first group of participants while the second group had six male and two female participants. Lastly, at Mahatma Gandhi health centre, the first group comprised five male and one female participant while the second group had six female and four male participants. The total number of all the six focus group discussion participants were therefore forty-six (46).

Apart from accommodating illiterate participants, this method may have allowed more revelations than what would be obtained from a formal interview setting as in-depth exploration was done. At the same time, new ideas were generated that may assist in increasing the level of acceptability of HAART by TB patients. One of the disadvantages of a focus group discussion is that some people were uncomfortable expressing their views or describing their experience in front of a group. Encouraging all participants to participate and giving each one a chance to express his/her views freely may overcome this. Assuring confidentiality may also have helped to ensure maximum participation.

3.7.1 Validity and Reliability

To ensure the quality of the data collection tools, it is important to establish their validity and reliability.

Validity is defined as “determination of whether a measurement instrument actually measures is purported to measure” (Basavanthappa, 2007). In measuring the validity of the instruments used in this study, the questions in the questionnaire and focus group discussion guide were checked by experts in TB/HIV co-infection management, to see if they bring out the responses on the variables to be measured so that conclusions could

be drawn with respect to the sampled population. The instruments were also pre-tested in a pilot study held at Maramba Health Centre to determine whether they would bring forth the desired information and this was so. A variety of open-ended questions were also be used in the interview schedule to allow for spontaneous responses. This allowed for more valid answers than those obtained in closed ended questions. All the questions were asked to each participant in the same sequence.

Reliability is “the stability of the measuring instrument over time” (Dempsey & Dempsey, 2000). Reliability of the instruments was achieved by conducting a pre-test study in order to test the degree of accuracy with which the above tools measured the level of acceptability of HAART by TB patients. Any inaccuracies were overcome by making corrections to the instruments accordingly after the pre-test study. In addition, the use of open-ended questions and focus group discussions brought out new ideas and therefore ensured that all issues relating to acceptability of HAART by TB patients were discussed. The research assistants were trained to ensure consistency in data collection.

In addition, provision was made to have the data collection tools translated into the main local languages that are spoken in Livingstone district to uphold the validity and reliability of the instruments. These languages are Tonga, Lozi, Nyanja and Bemba. The translation was done by linguistics from the University of Zambia.

3.8 DATA COLLECTION TECHNIQUES

This is “a procedure of collection of data information needed to address a research problem” (Polit & Hungler, 1999). An interview and focus group discussion were used to obtain data from the participants.

The procedure followed while using the interview schedule was as follows:

- Three research assistants were engaged to assist with data collection.
- Introduction of self to the participant was done in order to make the participant feel at ease.

- The purpose, risks and benefits of the study was explained to the participant to enable the participant participate in a study that he/she was fully aware of.
- Confidentiality was assured to the participant to enable the participant participate in the study without fear.
- The nature of collecting data which is a face to face interaction done in a private room was explained to the participants.
- Permission was sought from the participant to conduct the interview.
- Questions were read out carefully thereby avoiding cross-examining the participant.
- Questions not understood were merely repeated without indicating the direction to the answer.
- Probing to questions not fully answered by the participant was done.
- All the responses were immediately noted down on the interview schedule to avoid missing out any information.
- The interview was conducted during working hours from 08:00 to 16:00hours and approximately 15 minutes was allocated to each participant.
- The researcher/research assistant thanked each participant at the end of the interview for his/her time and participation in the study.

For the focus group discussion, the procedure was:

- Two health workers, one from the TB clinic and the other from the ART clinic were engaged as research assistants to act as a recorder and time keeper respectively.
- The researcher was the facilitator.
- The researcher and research assistants introduced themselves to the participants. The tape recorder was also shown to the participants and its purpose explained.
- The participants were given chance to introduce themselves.
- The purpose, risks and benefits of the study were explained to the participants.
- Confidentiality was assured.

- Permission was then sought from the participants to be involved in the discussion.
- Using the focus guide, the researcher initiated the discussion.
- Each participant was given a chance to express his/her views freely to ensure that everybody participates in the discussion.
- The discussion took approximately 30 minutes.
- At the end of the discussion, each participant was thanked.

3.9 PILOT STUDY

A pilot study is “a small study or trial run, done in preparation for the major study” (Polit & Hungler, 1997). A pilot study was carried out at Maramba Health Centre which caters for a catchment population of 32, 425. The health center provides various services which include TB/HIV collaborative services. It is also the only health center in the district with a CD4 cell count machine in addition to other investigative procedures such as full blood count and blood sugar estimation which are required before the initiation of HAART. Maramba Health Centre is also a referral site for HAART services from some of the other health centers in the district that do not have ART sites. Using systematic sampling, 13 respondents were selected for the face-to-face interview, as these constitute 10% of the sample size which is 131. Two focus group discussions were also conducted, one involving the age group 18-32 and the other 33-49 to facilitate free discussion.

The pilot study was conducted to assess the feasibility of the study and make necessary adjustments to the questionnaire so that it is valid and reliable. It also helped to determine the reactions of the participants to the research procedure that the investigator watched for during the main study.

3.10 ETHICAL /CULTURAL CONSIDERATION

Ethics is defined as “a system of moral values that is concerned with the degree to which research procedures adhere to professional, legal and social responsibilities to the study participants” (Polit et al, 2001).

Ethical clearance to undertake this study was obtained from the University of Zambia Research Ethics Committee. Written permission was also obtained from the Management of Livingstone General Hospital and Livingstone District Health Office in Livingstone district.

Furthermore, written consent was sought from the participants. The participants were assured of confidentiality and privacy by explaining to them that their names will not be used in the study and instead serial numbers would be used. The purpose and nature of the study was explained to the study participants so that the participants understood the purpose and nature of the study to which they were consenting to as well as enable them participate in the study willingly. The interview and discussion was conducted in a private room and no other person had access to the research data.

Participants were not subjected to any physical harm, as the study did not involve any invasive procedures. Care was taken to minimize any psychological harm that may have resulted from the interview or discussion by explaining to the participants that some questions may be sensitive. The researcher selected the research assistants who were counselors so as to take care of patient's psychological well being.

To ensure further confidentiality, all the questionnaires and tapes were kept under lock and key after each interview and focus group discussion session. The data was also analyzed in a private room.

CHAPTER 4: DATA ANALYSIS AND PRESENTATION OF FINDINGS

4.1 INTRODUCTION

This chapter presents both quantitative data derived from the structured interviews and qualitative data from the focus group discussions. It further describes the processing and analysis of the data. Data analysis is defined as the systematic organization and synthesis of research data and testing of research hypothesis using those data (Polit et al, 2001). Data was collected using a structured interview schedule and focus group discussion guide. A total of 131 respondents were interviewed and there was a 100% response rate. In addition, two focus group discussions were conducted at each of the three TB sites where data was being collected. The first group comprised of respondents aged between 18 and 32 years while the respondents in the second group were aged between 33 and 49 years.

4.2 DATA PROCESSING AND ANALYSIS

4.2.1 Quantitative Data

Following data collection, the structured interview schedules were sorted out and edited for internal consistence, completeness, legibility and accuracy. Closed ended questions were assigned numerical codes for easy entry and analysis using the SPSS soft ware computer package. Open ended questions in the interview schedule were processed by reading through the data in its entirety to identify and group answers that belong together. This process is known as categorization (Polit et al, 2001). The groups were then assigned numerical codes (1, 2, 3 and 4). The codes were then entered and analyzed using SPSS soft ware computer package.

With the same SPSS soft ware computer package, Chi-square was used to test association between variables. The quantitative variables included knowledge of TB/HIV and HAART, TB and HIV-associated stigma and discrimination, information given during pre- and post-test counseling and support from health care providers. The cut off point for

statistical significance was set at 5%. Therefore, only p values of less than or equal to 0.05 were considered to be statistically significant thereby rejecting the null hypothesis.

4.2.2 Qualitative Data

At the end of each focus group discussion, the recorder read the points to the focus group members who were asked to clarify them. This was done to check the information for accuracy and consistence. Data obtained was transcribed from the local languages to English with the help of linguistic experts from the University of Zambia. Using the participants' own words, the key statements, ideas and attitudes expressed for each topic were categorized. The researcher read through all the data to obtain a general sense of information and to reflect on its overall meaning.

Content analysis was used to analyze the data. According to Polit et al (2001), content analysis refers to "an analysis of the content narrative data to identify prominent themes and patterns among the themes". In this regard, the participants' own words were used to list the key statements and ideas expressed for each topic of discussion. Thereafter, answers of the two sub groups (participants aged between 18 and 32; and those aged between 33 and 49) were compared. The most useful information that emerged from the discussions was selected to illustrate the main ideas. The findings were then interpreted and a full report of the focus group discussion that reflected the discussion as much as possible was prepared. Answers to the two subgroups (those aged from 18-32 and those from 33-49 years) were compared.

4.3 PRESENTATION OF QUANTITATIVE DATA

The findings of this study are presented according to the sequence of questions and sections of the interview schedule. The findings have been presented in form of tables, figures and cross tabulations. The tables summarize the findings in meaningful ways thus giving easy understanding (Varkevisser, Pathmanathan & Brownlee, 1991). The cross tabulations are helpful in showing relationships between variables (Varkevisser, Pathmanathan & Brownlee, 1991).

The table under section A represents the demographic characteristics of the respondents, the tables and figure in section B represent the respondents' knowledge on TB/HIV and HAART while those in section C represent the respondents' opinion and experiences of TB and HIV associated stigma and discrimination. The amount and depth of information given to the respondents during the pre- and post-test counseling is represented in section D where as the respondents' views on the support rendered to them regarding HAART are presented in section E. The cross tabulations in section F represent the relationship between variables.

SECTION A

TABLE 5: SOCIO-DEMOGRAPHIC DATA (n = 131)

	FREQUENCY	PERCENTAGE
Sex		
Male	56	42.7
Female	75	53.3
Total	131	100
Age		
18 – 25	15	11.5
26 – 33	26	19.8
34 – 41	50	38.2
42 – 49	40	30.5
Total	131	100
Marital status		
Single	26	19.8
Married	63	48.1
Separated	2	1.5
Divorced	8	6.1
Widowed	32	24.4
Total	131	100
Level of education		
Primary	30	22.9
Secondary	44	33.6
College	45	34.4
University	6	4.6
None	6	4.6
Total	131	100
Occupation		
Housewife	13	9.9
Formally employed	50	38.2
Self employed	30	22.9
Unemployed	38	29.0
Total	131	100
Income		
Above K1,000,000 (High)	33	25.2
K500,000 – K1,000,000 (Medium)	24	18.3
Below K500,000 (Low)	74	56.5
Total	131	100
Sustainability from income		
Yes	30	22.9
No	101	77.1
Total	131	100

Table 5 shows that more than half 57.3% (75) of the respondents interviewed were females while 42.7% (56) were males. Most 38.2% (50) of the respondents were within the age group 34 – 41 years, 30.5% (40) were between age group 42 – 49 years and 19.8% (26) were between age group 26 – 33 years while the rest 11.5% (15) were in the age group 18 – 25. Most 48.1% (63) of the respondents were married while the least 1.5% (2) of the respondents were separated.

Most 34.4% (45) of the respondents had attained college education. Most 38.2% (50) of the respondents were in formal employment, 29.0% (38) were unemployed and 22.9% (30) were self employed while 9.9% (13) were housewives.

More than half 56.5% (74) of the respondents had a household income below K500, 000 per month while 18.3% (24) had medium household income. Majority 77.1% (101) of the respondents reported that they were not able to sustain their basic needs from their household income while the rest 22.9% (30) were able to sustain their basic needs from their income.

SECTION B: KNOWLEDGE OF TB/HIV AND HAART

TABLE 6: HEARD ABOUT HIV (n = 131)

Heard of HIV	Frequency	Percentage
Yes	128	97.7
No	3	2.3
Total	131	100

Table 3 shows that majority 97.7% (128) of the respondents had heard about HIV while only 2.3% (3) had not heard about HIV.

TABLE 7: SOURCE OF HIV INFORMATION (n = 128)

Source of information	Frequency	Percentage
Health personnel/media	93	72.7
Friends/relatives	35	27.3
Total	128	100

All the 128 respondents who stated that they had heard about HIV answered this question. Majority 72.7% (93) of the respondents' source of information on HIV was obtained either from the health personnel or the media while 27.3% (35) respondents' source of information was obtained either from friends or relatives.

TABLE 8: POSSIBILITY OF A TB PATIENT HAVING HIV (n = 128)

Possibility of HIV in a TB patient	Frequency	Percentage
Yes	95	74.2
No	33	25.8
Total	128	100

Table 8 shows that majority 74.2% (95) of the respondents stated that it was possible for a TB patient to be infected with HIV while 25.8% (33) indicated that it is not possible for a TB patient to be infected with HIV.

TABLE 9: TB AND HIV RELATIONSHIP (n = 128)

TB and HIV relationship	Frequency	Percentage
TB is an opportunistic infection among HIV positive clients	36	28.1
Do not know	92	71.9
Total	128	100

According to table 9 above, majority 71.9% (92) of the respondents did not know the relationship between TB and HIV where as only 28.1% (36) knew.

TABLE 10: TREATMENT/CONTROL OF HIV WITH DRUGS (n = 128)

Treatment/control of HIV with drugs	Frequency	Percentage
Yes	106	82.8
No	22	17.2
Total	128	100

Table 10 indicates that majority 82.8% (106) of the respondents were aware that HIV infection could be treated or controlled with drugs while 17.2% (23) were not aware that HIV infection could be treated with drugs.

TABLE 11: DRUGS USED TO TREAT HIV (n = 106)

Drugs used to treat HIV infection	Frequency	Percentage
ARVs	91	85.8
Traditional herbs	15	14.2
Total	106	100

Of the 106 respondents who indicated that HIV infection could be treated or controlled with drugs, 85.8% (91) said that ARVs are the drugs used to treat or control HIV in persons infected with the virus where as 14.2% (12) said that HIV could be treated or controlled with traditional herbs.

Figure 2: SOURCE OF DRUGS USED TO TREAT HIV

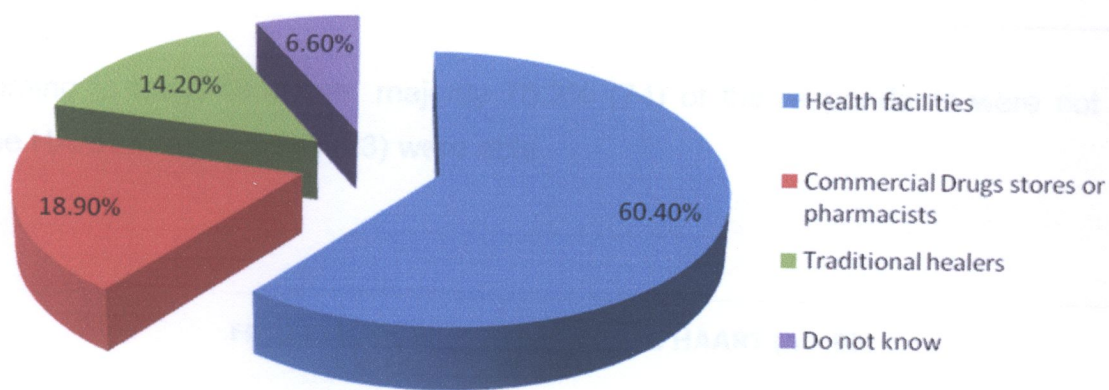


Figure 2 shows that 60.4% (64) of the respondents indicated that the source of drugs used to treat or control HIV was from health facilities while 6.6% (7) said that they did not know the source of drugs used to treat HIV.

TABLE 12: HEARD OF HAART (n = 131)

Heard of HAART	Frequency	Percentage
Yes	97	74.0
No	34	26.0
Total	131	100

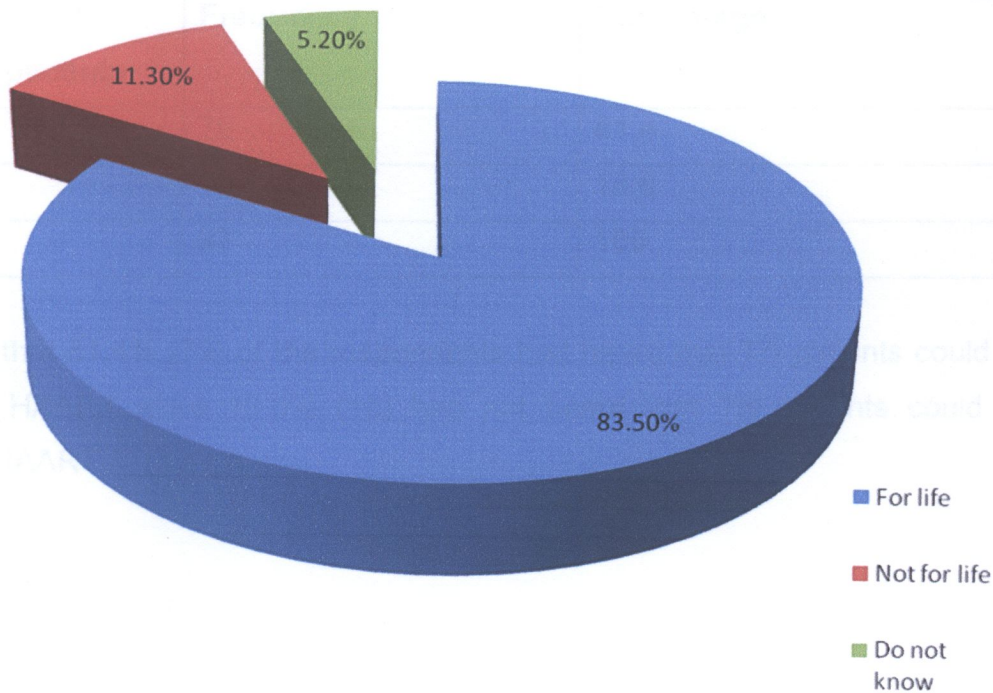
Majority 74.0% (97) of the respondents indicated that they had heard of HAART while 26.0% (34) had not.

TABLE 13: DEFINITION OF HAART (n = 97)

HAART definition	Frequency	Percentage
Drugs used to treat HIV	23	23.7
Do not know	74	76.3
Total	97	100

According to table 13 above, majority 76.3% (74) of the respondents were not able to define HAART while 23.7% (23) were able.

FIGURE 3: DURATION OF TAKING HAART (n = 97)



Majority 83.5% (81) of the respondents knew that HAART should be taken for life, 11.3% (11) believed that HAART should not be taken for life and 5.2% (5) had no idea of how long HAART should be taken.

TABLE 14: TREATMENT OF HIV IN TB PATIENTS WITH HAART (n = 97)

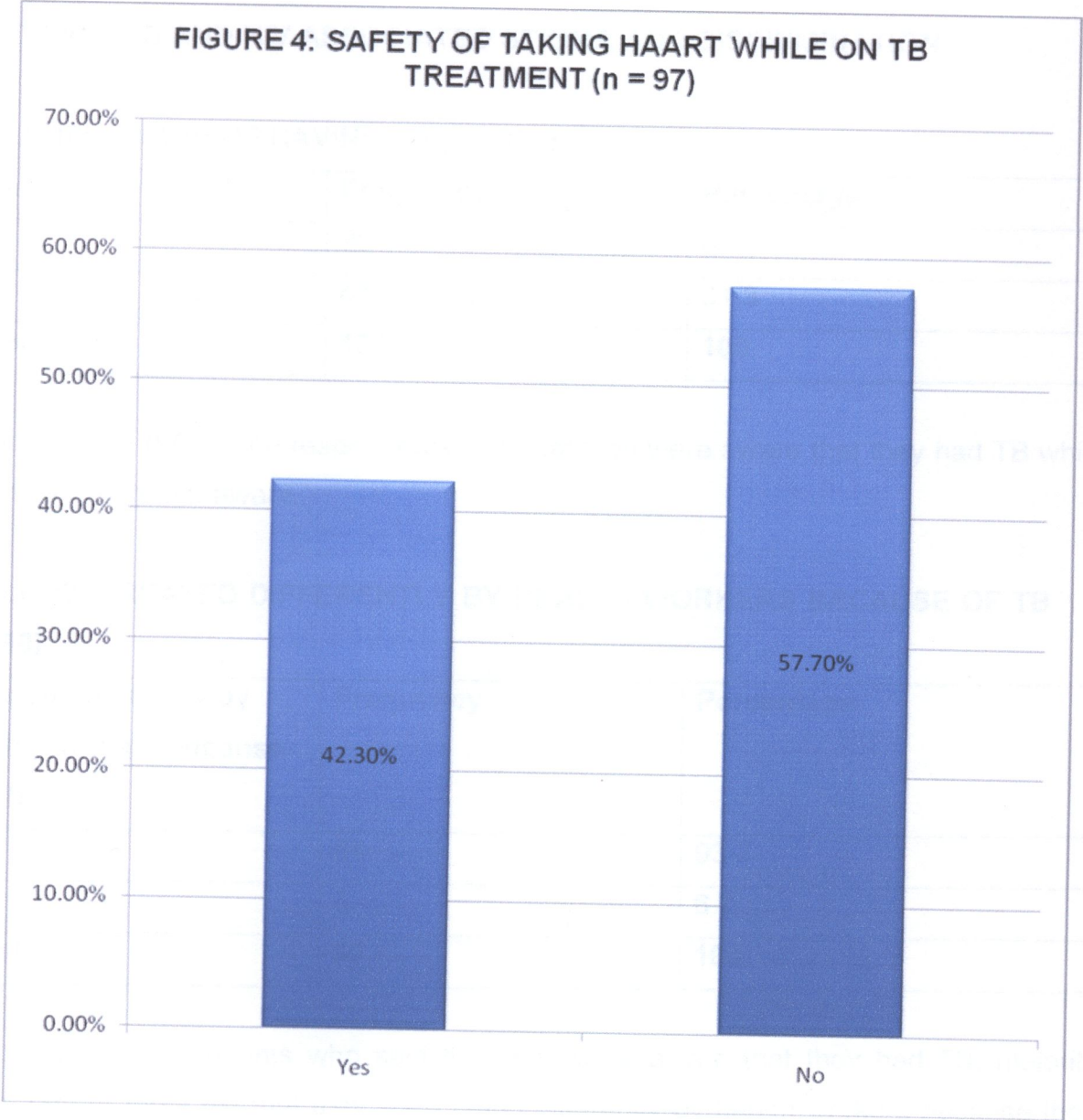
Treatment/control of HIV in TB patients with HAART	Frequency	Percentage
Yes	74	76.3
No	23	23.7
Total	97	100

Table 14 shows that 56.6% (74) of the respondents were aware that HAART could treat/control HIV in TB patients.

TABLE 15: COMMENCEMENT OF HAART IN TB PATIENTS (n = 97)

Commencement of HAART in TB patients	Frequency	Percentage
Yes	79	81.4
No	18	18.6
Total	97	100

Table 15 shows that 81.4% (79) of the respondents had heard that TB patients could be commenced on HAART while 18.6% (18) had not heard that TB patients could be commenced on HAART.



More than half 57.7% (56) of the respondents believed that it was not safe to take HAART concurrently with TB treatment while 42.3% (41) indicated that it was safe.

SECTION C: TB AND HIV ASSOCIATED STIGMA AND DISCRIMINATION

TABLE 16: AWARE OF HAVING TB (n = 131)

Aware of having TB	Frequency	Percentage
Yes	90	68.7
No	41	31.3
Total	131	100

Majority 68.7% (90) of the respondents said that they were aware that they had TB while 31.3% (41) were not aware.

TABLE 17: TREATED DIFFERENTLY BY HEALTH WORKERS BECAUSE OF TB (n = 90)

Treated differently by health workers because of TB	Frequency	Percentage
Yes	84	93.3
No	6	6.7
Total	90	100

Out of the 90 respondents who said that they were aware that they had TB, majority 93.3% (84) of them felt that they were being differently by health workers because they had TB disease. Meanwhile, only 6.7% (6) said that they were not being treated differently by health workers.

FIGURE 5: TREATMENT BY HEALTH CARE PROVIDERS (n = 84)

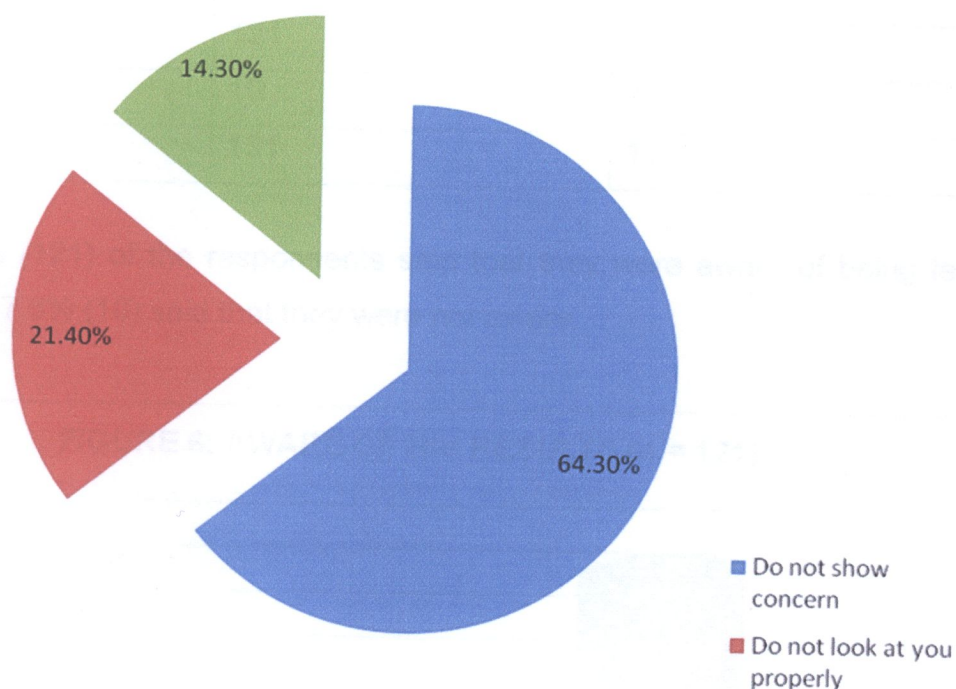
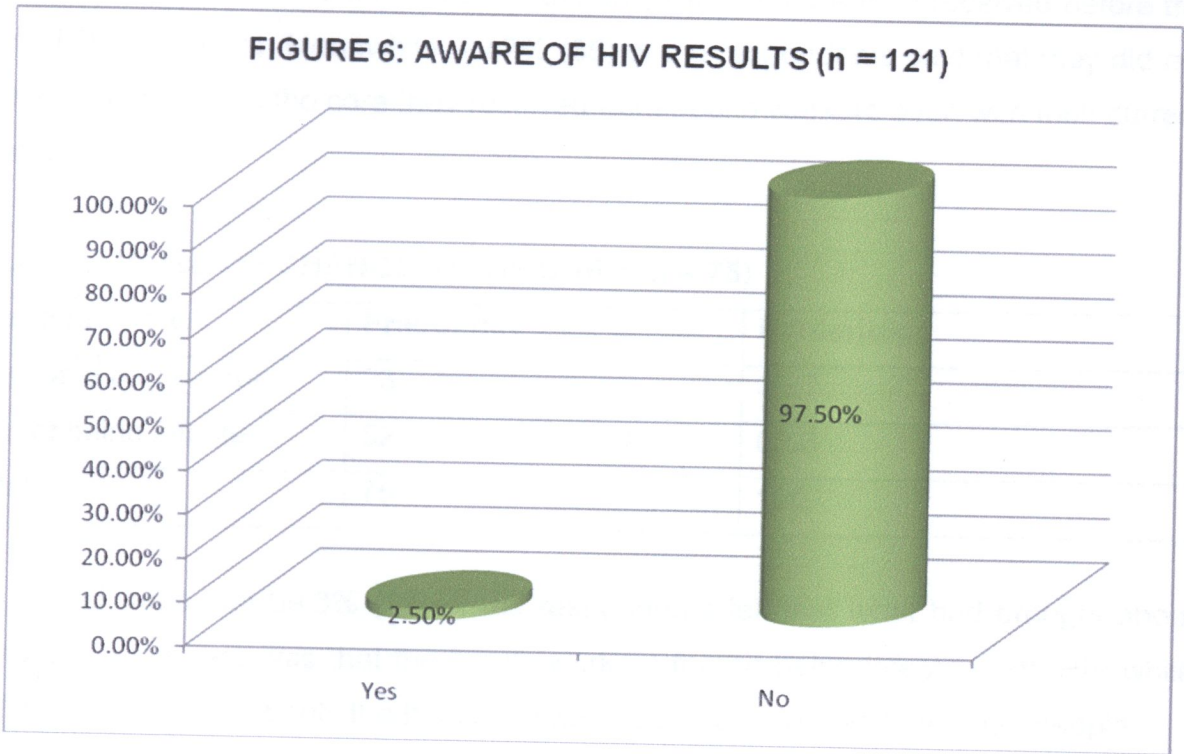


Figure 5 shows that 64.3% (54) of the respondents were of the opinion that the health workers did not show concern to them because of having TB, 21.4% (18) said that the health workers did not look at them properly and 14.3% (12) felt that the health workers were harsh to them.

TABLE 18: AWARE OF BEING TESTED FOR HIV (n = 131)

Aware of being tested for HIV	Frequency	Percentage
Yes	121	92.4
No	10	7.6
Total	131	100

Majority 92.4% (121) of the respondents said that they were aware of being tested for HIV while only 7.6% (10) said that they were not aware.



Of the 121 respondents who said that they were aware of being tested for HIV, majority 97.5% (118) of them were also aware of their results.

TABLE 19: CARE THE SAME AS BEFORE CURRENT (HIV) DIAGNOSIS
(n = 118)

Same care as before HIV diagnosis	Frequency	Percentage
Yes	35	29.7
No	75	70.3
Total	110	100

Table 19 shows that majority 70.3% (75) of the respondents felt that the care they received from the health workers was not the same as the care they received before the current (HIV) diagnosis. Meanwhile, 29.7% (35) of the respondents said that they did not notice any difference in the care they received from health workers even with their current diagnosis.

TABLE 20: CAUSE OF CHANGE IN THE CARE (n = 75)

Change in care	Frequency	Percentage
Seen as a bad person	23	30.7
Fear of being infected	52	69.3
Total	75	100

Table 20 indicates that 69.3% (52) of the respondents felt that what had brought about the change in the care was that the health workers feared being infected with HIV while 30.7% (23) said that probably the health workers regarded them as being bad people.

TABLE 21: ART REVIEW AFTER NOTICING POOR RELATIONSHIP FROM HEALTH WORKERS (n = 131)

Going back to the ART site	Frequency	Percentage
Yes	42	32.1
No	89	67.9
Total	131	100

All the 131 respondents were asked this question. Majority 67.9% (89) of the respondents reported that they would not go back to the ART site after noticing that health workers do not relate well to them while 32.1% (42) said that they would go back.

SECTION D: AMOUNT AND DEPTH OF INFORMATION GIVEN DURING PRE- AND POST-TEST COUNSELING

TABLE 22: RECEIVED COUNSELING PRIOR TO THE HIV TEST (n = 121)

Counseled prior to HIV test	Frequency	Percentage
Yes	93	76.9
No	28	23.1
Total	121	100

All the 121 respondents who were aware of being tested for HIV were asked this question. Majority 76.9% (93) of the respondents said that they had received counseling prior to the HIV test while 23.1% (28) had not.

TABLE 23: READY TO BE TESTED FOR HIV (n = 121)

Ready to be tested	Frequency	Percentage
Yes	93	76.9
No	28	23.1
Total	121	100

Majority 76.9% (93) of the respondents were asked by the counselor if they were ready to be tested for HIV while 23.1% (28) said that they were not asked.

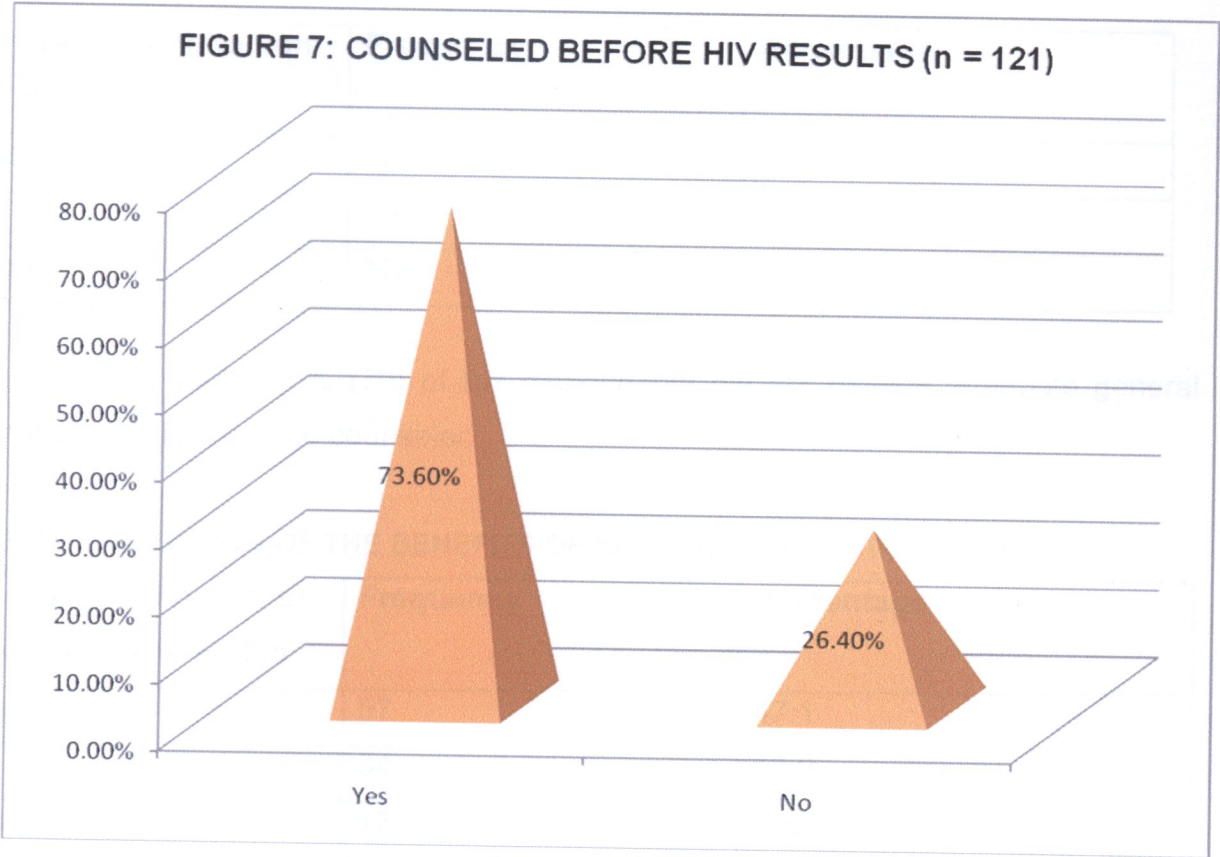


Figure 7 shows that majority 73.6% (89) of the respondents were counseled before receiving the HIV test results while 26.4% (32) were not.

TABLE 24: READY TO RECEIVE HIV TEST RESULTS (n = 121)

Ready for results	Frequency	Percentage
Yes	91	75.2
No	30	24.8
Total	121	100

Majority 75.2% (91) of the respondents said that the counselor asked them if they were ready to receive the HIV test results while 24.8% (30) said that they were not asked.

TABLE 25: GENERAL INFORMATION ON HIV DISCUSSED WITH COUNSELOR (n = 121)

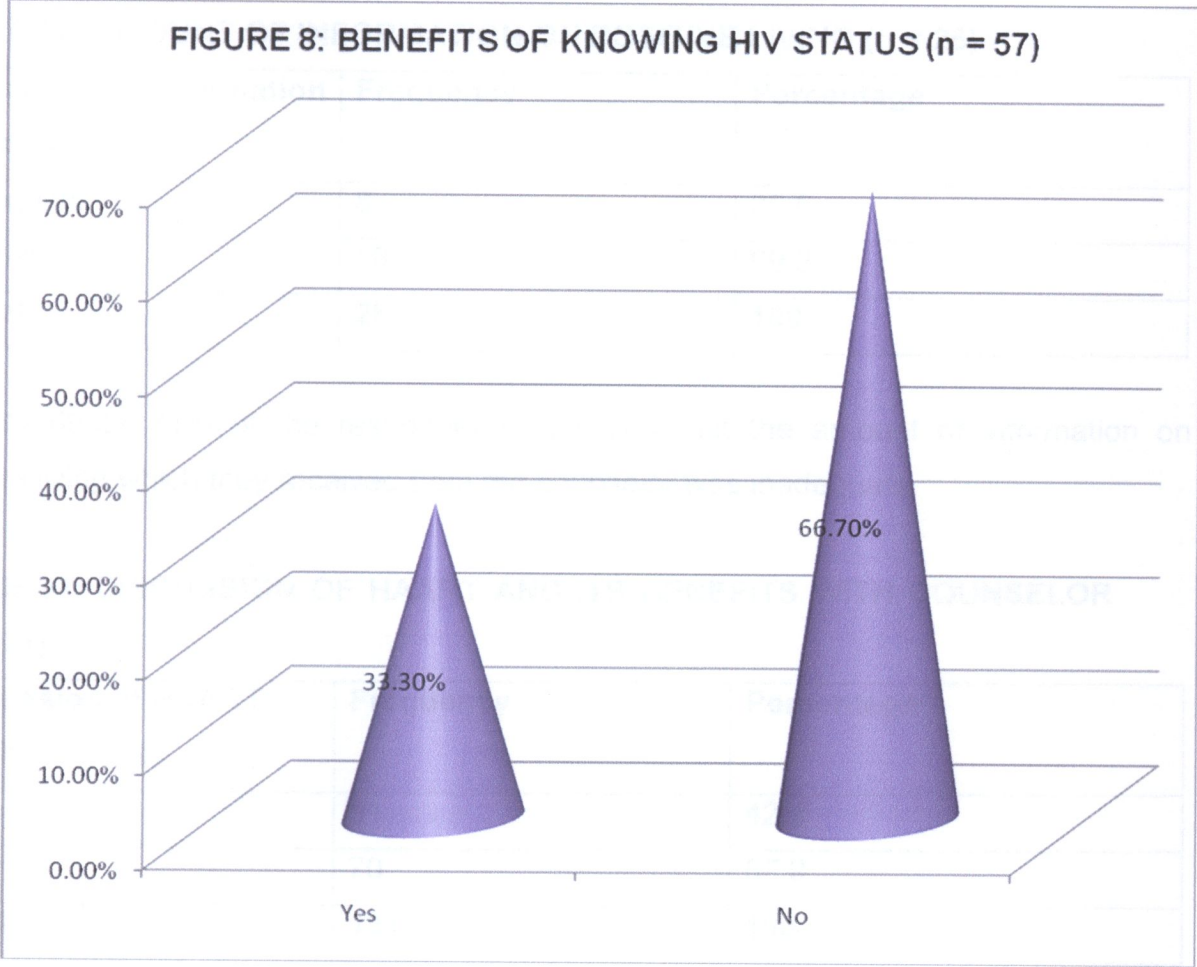
General information on HIV discussed	Frequency	Percentage
Adequate	42	34.7
Not adequate	79	65.3
Total	121	100

Table 25 shows that 65.3% (79) of the respondents did not receive adequate general information on HIV from the counselor.

TABLE 26: DISCUSSION OF THE BENEFITS OF KNOWING HIV STATUS (n = 121)

Discussion of benefits of knowing HIV status	Frequency	Percentage
Yes	57	47.1
No	64	52.9
Total	121	100

Slightly more than half 52.9% (64) of the respondents said that the counselor did not tell them the benefits of knowing their HIV status while 47.1% (57) were told about the benefits of knowing their HIV status.



Of the 57 respondents who were told about the benefits of knowing one's HIV status by the counselor, 54.4% (31) did not know the benefits while 45.6% (26) reported that they were told that knowing one's HIV status would assist someone to live positively.

TABLE 27: AMOUNT OF INFORMATION ON POSITIVE LIVING (n = 26)

Amount of information on positive living	Frequency	Percentage
Adequate	8	30.8
Inadequate	18	69.2
Total	26	100

Majority 69.2% (18) of the respondents indicated that the amount of information on positive living which they received from the counselor was inadequate.

TABLE 28: DISCUSSION OF HAART AND ITS BENEFITS WITH COUNSELOR (n = 121)

Discussion of HAART and its benefits	Frequency	Percentage
Yes	51	42.1
No	70	57.9
Total	121	100

Table 28 shows that more than half 57.9% (70) of the respondents said they did not discuss HAART and its benefits with the counselor while 42.1% (51) discussed HAART and its benefits with the counselor.

SECTION E: SUPPORT BY HEALTH CARE PROVIDERS

TABLE 29: CONCERNS REGARDING HAART (n = 97)

HAART concerns	Frequency	Percentage
Yes	90	92.8
No	7	7.2
Total	97	100

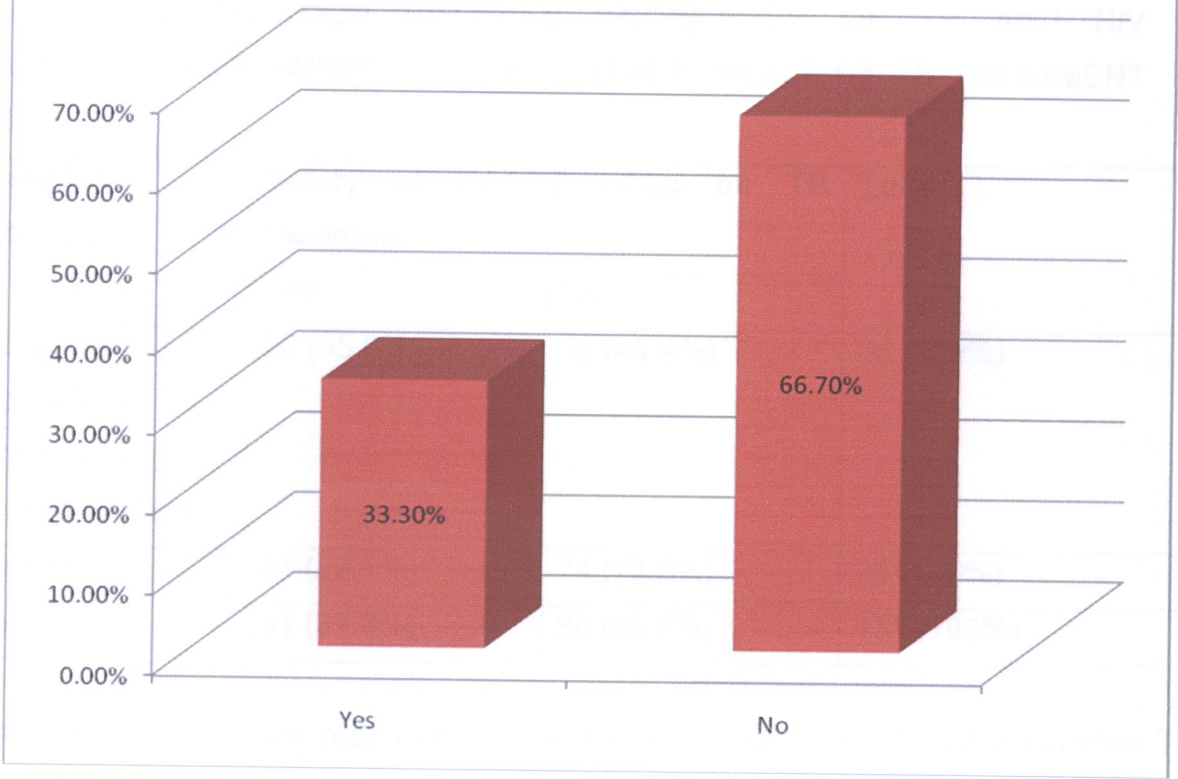
All the 97 respondents who had heard about HAART were asked this question (table 10). Majority 92.8% (90) of the respondents indicated that they had concerns related to HAART while 7.2% (7) said that they did not have any concerns regarding HAART.

TABLE 30: DISCUSSED HAART CONCERNS WITH HEALTH CARE PROVIDERS (n = 90)

Discussed HAART concerns	Frequency	Percentage
Yes	81	90.0
No	9	10.0
Total	90	100

Of the 90 respondents who had concerns regarding HAART, 90.0% (81) of the respondents discussed their concerns health care providers.

FIGURE 9: HAART CONCERNS ADDRESSED BY HEALTH CARE PROVIDERS (n = 81)



Majority 66.7% (54) of the respondents reported that their concerns were not addressed by health care providers while 33.3% (27) said that their concerns were addressed.

SECTION F

TABLE 31: ASSOCIATION BETWEEN KNOWLEDGE OF TB AND HIV RELATIONSHIP AND SAFETY OF TAKING HAART WHILE ON TB TREATMENT (n = 131)

TB and HIV relationship	Safety of HAART while on TB treatment		Total
	Yes	No	
TB is an opportunistic infection among HIV positive clients	20 (55.6%)	16 (44.4%)	36 (100%)
Do not know	21 (22.1%)	74 (77.9%)	95 (100%)
Total	41 (31.3%)	90 (68.7%)	131 (100%)

Majority 77.9% (74) of the respondents who did not know the relationship between TB and HIV indicated that it was not safe to take HAART concurrently with TB treatment while 22.1% (21) said that it was safe to take HAART concurrently with TB treatment. Chi square value was 13.585. The df was 1 and *p* value was 0.000 (significant).

TABLE 32: ASSOCIATION BETWEEN BEING TREATED DIFFERENTLY BECAUSE OF TB AND ART REVIEW (n = 131)

Treated differently because of TB	ART review		Total
	Yes	No	
Yes	23 (27.4%)	61 (72.6%)	84 (100%)
No	19 (40.4%)	28 (59.6%)	47 (100%)
Total	42 (32.1%)	89 (67.9%)	131 (100%)

Majority 72.6% (61) of the respondents who were treated differently because of TB said that they would not back to the ART clinic while 27.4% (23) said that they would go back. Chi square value = 2.354, df = 1 and *p* value = 0.125 (not significant).

TABLE 33: ASSOCIATION BETWEEN CARE THE SAME AS BEFORE HIV DIAGNOSIS AND ART REVIEW (n = 131)

Same care as before HIV diagnosis	ART review		Total
	Yes	No	
Yes	26 (46.4%)	30 (53.6%)	56 (100%)
No	16 (21.3%)	59 (78.7%)	75 (100%)
Total	42 (32.1%)	89 (67.9%)	131 (100%)

Out of the 89 respondents who indicated that they would not go back to the ART clinic for review, 59 (78.7%) reported that the care they received currently from health care providers was not the same as before the HIV diagnosis. Chi square value = 9.270, df = 1 and *p* value = 0.002 (significant).

TABLE 34: ASSOCIATION BETWEEN HAVING HAART CONCERNS ADDRESSED AND ART REVIEW (n = 131)

HAART concerns addressed	ART review		Total
	Yes	No	
Yes	15 (57.7%)	11 (42.3%)	26 (100%)
No	15 (25.9%)	43 (74.1%)	58 (100%)
Not applicable	12 (25.5%)	35 (74.5%)	47 (100%)
Total	42 (32.1%)	89 (67.9%)	131 (100%)

Table 34 shows the association between having HAART concerns being addressed and ART review. It indicates that majority 74.1% (43) of the respondents whose HAART concerns were not addressed would not go back to the clinic for ART review while 25.9% (15) would go back. Chi square value = 9.785, df = 2 and *p* value = 0.008 (highly significant).

TABLE 35: ASSOCIATION BETWEEN KNOWLEDGE OF COMMENCEMENT OF HAART IN TB PATIENTS AND DISCUSSION OF HAART AND ITS BENEFITS WITH COUNSELOR (n = 131)

Commencement of HAART in TB patients	Discussion of HAART and its benefits with counselor		Total
	Yes	No	
Yes	46 (58.2%)	33 (41.8%)	79 (100)
No	15 (28.8%)	37 (71.2%)	52 (100)
Total	61 (46.6%)	70 (53.4%)	131 (100)

Out of the 52 respondents who did not know that HAART could be commenced in TB patients, majority 71.2% (37) did not discuss HAART and its benefits with the counselor while 28.8% (15) discussed HAART and its benefits with the counselor. Chi square value = 10.880, df = 1 and *p* value = 0.001 (significant).

TABLE 36: ASSOCIATION BETWEEN SEX OF RESPONDENT AND ART REVIEW
(n = 131)

Sex of respondent	ART Review		Total
	Yes	No	
Male	21 (37.5%)	35 (62.5%)	56 (100%)
Female	21 (28.0%)	54 (72.0%)	75 (100%)
Total	42 (32.1%)	89 (67.9%)	131 (100%)

Table 36 shows the association between the sex of the respondents and ART review. Majority 67.9% (89) of the respondents said that they would not go back to the ART clinic for review. Of these, 72.0% (54) were females. Chi square value = 1.328, df = 1 and *p* value = 0.249 (Not significant).

TABLE 37: ASSOCIATION BETWEEN AGE OF RESPONDENT AND ART REVIEW
(n = 131)

Age of respondent	ART Review		Total
	Yes	No	
18-25	3 (20.0%)	12 (80.0%)	15 (100%)
26-33	5 (19.2%)	21 (80.8%)	21 (100%)
34-41	15 (30.0%)	35 (70.0%)	45 (100%)
42-49	19 (47.5%)	21 (52.5%)	40 (100%)
Total	42 (32.1%)	89 (67.9%)	131 (100%)

Table 37 shows the association between age range of respondents and ART review. Majority 67.9% (89) of the respondents said that they would not go back to the ART clinic for review. Of these, 80.8% (21) were aged between 26 and 33. Fisher’s Exact Test = 7.441, df = 3 and *p* value = 0.059 (Not significant).

TABLE 38: ASSOCIATION BETWEEN MARITAL STATUS OF RESPONDENT AND ART REVIEW (n = 131)

Marital Status	ART Review		Total
	Yes	No	
Single	5 (19.2%)	21 (80.8%)	26 (100%)
Married	25 (39.7%)	38 (60.3%)	63 (100%)
Separated	0 (0.0%)	2 (100.0%)	2 (100%)
Divorced	1 (12.5%)	7 (87.5%)	6 (100%)
Widowed	11 (34.4%)	21 (65.6%)	32 (100%)
Total	42 (32.1%)	89 (67.9%)	131 (100%)

Table 38 shows the association between the marital status of respondents and ART review. Majority 67.9% (89) indicated that they would not go back to the clinic for ART review. Of these, 65.6% (21) were widowed. Fisher’s Exact Test = 1.410, df = 4 and *p* value = 0.842 (Not significant).

TABLE 39: ASSOCIATION BETWEEN EDUCATIONAL LEVEL OF RESPONDENT AND ART REVIEW (n = 131)

Educational level	ART Review		Total
	Yes	No	
Primary	10 (33.3%)	20 (66.7%)	30 (100%)
Secondary	21 (28.0%)	54 (72.7%)	75 (100%)
College	15 (33.3%)	30 (66.7%)	45 (100%)
University	3 (50.0%)	3 (50.0%)	6 (100%)
None	2 (33.3%)	4 (66.7%)	6 (100%)
Total	42 (32.1%)	89 (67.9%)	131 (100%)

Table 39 shows the association between the educational level of respondents and ART review. Majority 67.9% (89) indicated that they would not go back to the clinic for ART review out of which most 72.7% (32) of them had attained secondary education. Fisher’s Exact Test = 1.410, df = 4 and *p* value = 0.842 (Not significant).

4.4 PRESENTATION OF QUALITATIVE DATA

Data obtained from focus group discussions was summarized in narrative form. The findings were interpreted and the most useful quotations that emerged from the discussions were selected to illustrate the main ideas.

4.4.1 Focus Group Discussion

4.4.1.1 Demographic Characteristics of the Participants

All the participants had been residents of Livingstone district for at least six (6) months prior to the study. They were all TB patients who were eligible for HAART and were prescribed HAART but never commenced HAART.

The interviews were conducted at three (3) TB sites namely; Livingstone General Hospital chest clinic, Sepo and Mahatma Gandhi health centers. The participants were divided into groups at each site. The first group comprised participants aged between 18 and 32 years while the second group comprised of participants aged between 33 and 49 years.

At Livingstone General Hospital chest clinic, the first group was composed of four males and two females. There were three married participants; two were single while one was widowed. Almost all the participants in this group had attained secondary education except for one who had obtained college education. Those in formal employment were three, two were unemployed and one was a housewife. All the participants had a household income of below K500, 000 and were not able to sustain their basic needs from their income. The second group comprised five females and four males; eight of whom were married and one was single. There were four participants with college education, three with secondary education and the rest had attained primary education. Among the nine participants, five were in formal employment, two were self employed and two were unemployed. Most of them (six) had a household income of below K500, 000; two had a household income of above K1, 000,000 while one had a medium household income of between K500, 000 and K1, 000,000. Majority (six) of the

participants were not able to meet their basic needs from their income while three were able.

The first group at Sepo health centre comprised five males and two females, five of whom were married and two were single. Amongst them, four had obtained secondary education, two had college education while one had university education. There were three participants who were self employed, two were housewives and two were unemployed. All the respondents had a household income of less than K500, 000 and were not able to meet their basic needs from their income. In the second group, there were six males and two females. All the participants were married. Those who had attained secondary education were six, one had university education and the other one was a grade seven drop out. Only two of the participants were in formal employment while three were self employed and the other three were unemployed. None of the participants was able to sustain their basic needs from their income as their income was below K500, 000.

At Mahatma Gandhi health centre, the first group had five males and one female participants. Amongst them, four were married and two were single. There were five participants who had attained secondary education while one was currently pursuing a course at the university. The majority (4) were in self employment, one was unemployed and the other one was in formal employment. All the participants had a household income of below K500, 000 and were not able to meet their basic needs from their income. The participants in the second group comprised six females and four males, seven of whom were married, one widowed, one single and one divorced. There were four participants who had attained college education, three had secondary education, two had university education and the other one had primary education. Those who were in formal employment were five, three were self employed while two were unemployed. Most (four) of the participants had a household income of above K1, 000, 000; three had an income between K500,000 and K1,000,000 while the income for the rest of the three was below K500,000. The participants who said that they were able to meet their basic needs from their income were two while the rest were not able.

The major themes predetermined for the focus group discussion were:

- TB/HIV and HAART knowledge
- TB and HIV associated stigma and discrimination
- Amount and depth of information given during the pre- and post-test counseling
- Support by health care providers.

4.4.1.2 TB/HIV and HAART Knowledge

The participants were asked what they knew about TB/HIV co-infection. Most of them were able to distinguish between TB and HIV. They stated that TB was an illness that mainly affected the lungs while HIV affected the blood. Some said that TB was an airborne disease while HIV was a blood borne disease. Others said that TB was found in everybody who had been in contact with someone who has symptoms of the disease and if the person contracted HIV, he/she will also develop symptoms of TB. A few participants especially those aged between 33 and 49 years said that TB was a disease caused by having sex with someone who had not been cleansed after an abortion or after having lost their spouse. Other participants said that both diseases were caused by witchcraft. This is evidenced by the following responses from these participants:

Participant 1 (age group 33-49) said;

“TB is in the chest and HIV is in the blood” meaning TB affects the chest and HIV affects the blood.

Participant 2 put it this way;

“TB is brought about through the air and HIV is brought about through blood”.

The 3rd participant said;

“Correct, TB ni ma tenda amene a bwela na moya but HIV i pezeka mu blood” meaning it is correct that TB is a disease brought about through the air but HIV is found in blood.

Participant 4:

“TB i fu maneha ku mang’i ni mang’i kono haiba u na ni ka kokwani ka HIV, u ka kala ku hotola ni ku luluha mahutu”

(meaning TB is found in everybody but if you have the HIV microorganism, you will start coughing and develop swollen feet).

Participant 5:

“HIV makes one to contract TB disease easily”.

In the age group 18-32 years, participants’ responses on TB/HIV co-infection were similar to the responses given by participants in the age group 33-49 years.

Participant 1:

“TB disease is found in the lungs while HIV is found in the blood.

Participant 2 further said ***“futi kuli na TB ya muma bbonzo, elo HIV naye inga pezeke muma bbozo olo mumala*** (meaning there is also TB of the bones and HIV can also be found in the bones or abdomen).

The other five participants said;

“if you have TB nowadays, you are also likely to have HIV and if you have HIV, you are also likely to develop TB”. Some participants said ***“TB occurs in a weak body like that of someone who has HIV”.***

However, some participants in the age group 33-49 years gave the following responses:

- TB is caused by having sex with a woman who has aborted as one of the participants narrated ***“Ni na gona na mukazi amene a na taya mimba, ku cokela apo ni pa mene ni ya mba ku kosomola na ku yonda so ba doctor bana kamba ati ni TB”*** (meaning I slept with a woman who had aborted and then started coughing and losing weight, so the doctor said it is TB).
- TB and HIV in someone can also be caused by having sex with a person who has lost his/her spouse as mentioned by another

participant who said ***“anso na ku gona na mu ka nfwila ku nga lete matenda a TB na HIV ku muntu”***.

- *“TB is a natural disease while HIV is witchcraft due to jealousy”*.
- TB and HIV diseases are caused by witchcraft as another participant said ***“matuku a TB ni HIV a tiswa ki ku loiwa”***.

With regards to what drugs are used to treat/control HIV in a patient with TB, most of the participants said that they were ARVs and these drugs could be obtained only be obtained from health facilities. Some participants, however, mentioned that traditional herbs from traditional healers could also help while others mentioned that these drugs could be obtained from commercial pharmacists. The following were the responses:

- *“There is neverapine, zidovudine and others”* (meaning there are different types of ARVs), said one participant in the age group 18-32.
- Another participant in the 18-32 age group said;
“ati ma RVs kaya ngati ni mwa mene” (meaning they are ARVs, I am not sure if that is how they are called).
- *“Yes, that is so but they are called ARVs”* agreed one participant in the same age group.
- Three participants in the age group 33-49 said;
“neverapine, zidovudine, efavirenz” (also meaning there are different types of ARVs).
- The other participant in the 33-49 age group said;
“ki milyani ye mi ng’ata ng’ata inge ya TB ye fumanaha feela kwa lipatela” (meaning there are a variety of drugs like those for TB which are only found at hospitals).
- *“There is neverapine which damages the liver, so it is not given in us TB patients”* alluded one participant in the age group 33-49.
- One participant in the same age group mentioned;
“ARVs found at clinics and hospitals”.

- ***“Ni ling’aka za fa mulyani wa sintu”*** (meaning even traditional healers give traditional herbs) was a response from a participant in the age group 33-49.
- The other participant in the same age group said;
“pharmacists in town also sell drugs that treat HIV”.

The participants were further asked if it was safe to take the drugs that treat or control HIV while on TB treatment. Most of the participants gave similar answers.

Participant 1 (age group 18-32):

“Both ARVs and TB drugs are strong drugs, so they can’t be given together though others are given”.

Participant 2:

“Mulyani wa HIV u fiwa after TB treatment kakuli muntu wa kona ku letuka haiba u fiwa milyani ye ka nako ilimwi”

(meaning the HIV drugs are given after TB treatment because if one is given these drugs at one time, the body will weaken).

In the 33-49 year age group, the responses were also similar.

Three of the participants said;

“ARVs and TB drugs make you feel bad and cause a lot of side effects, so they are dangerous”.

Other three participants said;

“u nga fe” (meaning you can die if you take them).

Only two participants said;

“the drugs are safe as long as one come to the clinic most times”.

4.4.1.3 TB- and HIV- associated Stigma and Discrimination

Some participants felt that the health workers did not relate to them very well because they feared to be infected with TB or HIV disease as reported by one participant in the 33-49 year age group;

“A ba suteleleli fa kaufi ni luna a ba ambola ni luna kakuli ba saba kuli matuku a ka ba yambutukela” (meaning when talking

to us, they do not come near us because they fear to be infected with the diseases).

Another participant said;

"They touch us with gloves as we are infected and they can also get infected".

The other participant in the 18-32 year age group said;

"When you are admitted, the nurses do not check on us in the ward as they fear to be infected, they just lock themselves in the office".

This was agreed by one participant who said;

"It is the other patients who assist us with water to drink or going to the toilet".

In the same age group, one other participant reported;

"Even very sick patients who have no relatives are left to stagger as they enter the clinic while the nurse is just watching".

Other participants said that health workers were harsh to them as one participant in the 33-49 year age group said;

"Some nurses are harsh, they need to be talked to". The majority of the participants agreed.

One participant further said;

"They talk in high tone and cut you short before you finish talking".

With regards to whether they would go back to the ART site even after noticing that health workers do not relate well to them, most of the participants said that they would not. The following were some of the responses:

- ***"Ki hande ku i shwela feela kwandu"*** (meaning it is better to just die at home) stated one participant in the 33-49 year age group.
- ***"No, I can't"*** was another response from a participant in the same age group.

- *“For me I feel it is better to go and get treatment somewhere else like at private hospitals where they pay more attention. We are also persons who should be respected and we didn’t ask to be sick”.* This was reported by one participant in the age group 18-32.
- Another participant in the 18-32 age group said;
“it makes you feel bad when you are not treated well, it is better to just stay away”.
- ***“A kuna tuso yaku taha kakuli a u koni ku fola haiba a u ba balweli hande”*** (meaning there is no need of coming back because you cannot get well when you are not properly looked after), a participant in the 33-49 year age group said.
- Another participant in the 33-49 year age group said;
“ku li ng’anga kwa wama ko” (meaning it is better to go to the traditional healers).

However, a few participants indicated that they would go back to the ART site despite the negative treatment that they get from health workers. This is evidenced by the following responses:

- *“I can still go back so that I get well again, HIV is just like any other illness”.* This was stated by a participant in the 33-49 year age group.
- *“It is okay to go back, only God knows”* lamented another participant in the 33-49 year age group.
- *“TB and HIV are just diseases like any other and everyone can get infected. There is no need to fear or be ashamed. There are nurses who are also infected but they hide and take medicines secretly but we know it. Just ignore the nurses and get your treatment to save your life”.* This was said by one participant in the 18-32 age groups.
- Another participant in the 18-32 age group said;

“Ku dwala si ku zi funila, olo baseke ku li bbe kantu maninga ine na peza tandizo” (it is okay even if they {health workers} laugh as long as I find help, no one falls sick intentionally).

4.4.1.4 Amount and Depth of Information given during the Pre-and Post test Counseling

The participants were asked about the information they discussed with the health care provider during counseling. Some stated that they did not receive adequate information as indicated by this participant in the 18-32 age group;

“I was just asked if I knew about HIV and when I answered ‘yes’, the counselor said ‘good, I am going to test you for HIV since you have TB’”.

Another one in the same age group said;

“The nurse told me that the chest x-ray showed that I had TB and she said she was going to collect blood for the test. After she collected the blood, she told me to wait for the results. Afterwards, she came back and told that the results were HIV positive and I should go to the HIV clinic for more tests after getting my TB drugs”.

In the same age group of 18-32, a participant who was a health worker said;

“I did not discuss anything with the counselor before and after the HIV test as I was told that I knew everything about HIV”.

The other participant in the 33-49 year age group said;

“I was just told to go to the other clinic (meaning the ART site) after I was given the TB drugs”.

Another participant said;

“Bo nurse neba ni buzize kapa HIV na i ziba ni ku bulelela kuli kuna ni mulyani yo tusa bantu ba bana ni ka kokwani ka HIV kuli ba pile nako ye telele. Se ba ni buza haiba na lumela kuli ba ni tatube ka kokwani ka HIV mwa mali, mi na lumela

(meaning the nurse asked me if I knew about HIV and told me that there are drugs that prolong the lives of people infected with HIV. I was asked if I agree to be tested for HIV and I agreed).

Five other participants in the 33-49 year age mentioned;

"I was told that all TB patients are tested for HIV and I would also be tested so that I am helped if I am HIV positive".

Some of the responses from the participants who received adequate information during counseling were:

- ***"Be nze ba ni uza ati HIV ni kadoyo, elo ati kadoyo ka ngena mutupi ya muntu mu njila zo siana siana kwati ku gona na muntu ku li be ku zi cingiliza. Anso bana ni uza ati ci ca bwino maningi ku ziba status yako ci fukwa unga zibe mo zi samala"*** (meaning I was told that HIV is a microorganism and that it is transmitted into one's body through various ways such as having sex without a condom. I was also told that it is beneficial to know one's HIV status in that one will be able to know how to care for himself/herself). This was stated by one participant in the 18-32 year age group.
- ***"Ti na kamba pa vintu va mbili, kwati mwa mene ka ngenela mutupi kadoyo ka HIV, mo zi ci ngiliza, mo kalila ngati uli na kadoyo olo ulibe na pa ARVs"*** (meaning we discussed a lot of things such as the transmission of HIV, prevention, how to live whether you are HIV positive or not and on ARVs). This response was also given by a participant in the age group 18-32 years.

The other participant in the age group 18-32 years said;

"I was told that HIV is a virus and it can be transmitted in many ways like sex and blood transmission. I was also told that everyone can have the virus and so it was good for everyone to get tested so that you plan your future".

- *"I was told that HIV is caused by a virus which has no cure but there are drugs called ARVs which can assist me to live positively. Another thing was that I should not have sex without a condom or have children, I should eat a lot do exercises and join a support group. Anyway, I was told a lot of things".* This was said by a young man in the 18-32 year age group.
- ***"Neba ni bulelezi kuli ba bata ku ni zwise gazi kuli ba ni tatube kwa butuku boo bo butile onafa ba keng'isa kuli ba ba ng'ata bantu ba ba kula TB bana ni bona. A na zwile ma result neba ni bulelezi kuli kuna ni mulwani wo ni kona ku nwa kuli ni be ni maata"*** (meaning I was told that blood will be drawn from me so that it is tested for this new disease 'HIV because a lot of people with TB are infected with HIV. When the results came out, I was told that I can take some drugs which can boost my immunity). This was stated by a participant in the 33-49 year age group.

Another participant in the 33-49 year age group said;

"Many things, the counselor was good. He told me about the disease (meaning HIV), the things I should eat, using a condom, come to the hospital when I have problems and that I should be happy all the time. He told me also about ARVs and took me to the other clinic to see the doctor who gives ARVs".

4.4.1.5 Support from Health Care Providers

The participants were asked how the health workers addressed their HAART concerns. One of the participants in the 33-49 year age group who was not told about HAART and its benefits said;

"E neba ni bulelezi kuli ni na ni butuku, neni buzize kuli cwale ni ka kala lili mulyani kono bo nurse seba ni bulelela feela kuli ba ka ni bulelela kwa medical clinic" (meaning when

I was told that I was HIV positive, I asked the nurse when I was going to start ARVs but I was told that I will be told at the medical clinic which is the ART site).

This was supported by another participant who said;

"I told the nurse that I wanted to start the drugs and I was told that they (meaning health providers) know what they are doing and will tell me when the time comes".

Another participant narrated;

"When I was told that I should take ARVs, I asked about the side effects and I was told that there are no side effects and I should take the drugs. I was scared because I hear other people die when they ARVs, others have rash".

In the 18-32 year age group, the participants gave similar responses.

One participant said;

"I was just told that I should go and take the drugs and if anything happens to me I should come back; I was told what would happen to me".

Another participant said;

"I started taking the drugs but I stopped because when I told them (meaning health workers) that I was vomiting, I was told to just continue". Another man said, ***"pa mene ni na funsa, ba nurse bana kamba ati kuti ni kwa TB, ba za kamiuzani kwa mene pasile ma ARVs"*** (meaning when I asked, I was told that I will be told at the ART site as they were only dealing with TB).

The other participant reported;

"I was told that I will be told about ARVs next time because there were a lot of people to attend to when I asked".

Some of the participants said that they had concerns related to HAART but had not discussed them with health care providers. This was attributed to fear of being treated harshly by the health workers as evidenced by the following responses:

- *“You can’t ask because they (meaning health workers) are harsh when you talk to them”,* a participant in the 18-32 year age group said.
- *“Ni ma funa ku funsa koma bantu ba ka yena ba yofya”* (meaning I always want to ask but the health workers scare me).

This was stated by a participant in the 18-32 year group.

Three participants in the same age group simply said;

“The nurses are rude”.

- *“Lwa saba kubuza”* (meaning we are scared to ask). This was said by another participant in the 18-32 year group.

A participant in the 33-49 year age group said;

“It is like we are forcing them (meaning nurses) to talk to us”.

Another participant in the same age group said;

“I was told that I just don’t want to take the medicine when I asked about the side effects”.

However, other participants said that the concerns related to HAART which they had were adequately addressed.

One participant in the 18-32 year age group said;

“I was told that tests will be done on me so that the right drug is given”.

Another participant said;

“The counselor encouraged me to ask questions on ARVs and told me how they (meaning ARVs) work”.

The other participant mentioned;

“I told the nurse that I was scared to take ARVs but she explained very well to me that if I come for review, nothing is going to happen to me but I am still scared”.

In the 33-49 year age group, a few participants also gave similar answers as one participant said;

“Bana ni uza bwino kani ya ma ARV koma ni yopa” (meaning I was told very well about ARVs but I am scared).

4.4.1.6 Suggestions for Improvement

The participants felt that acceptability of HAART by TB patients can be increased if the patients and the entire community were taught about the relationship between TB and HIV as well as the impact of suffering from the dual epidemics. They further said that this would minimize the misconceptions that some of them had regarding TB and HIV. They also suggested that health workers should exercise patience when teaching them about TB/HIV co-infection so that they fully understand the effects of the two diseases. Others felt that the group teaching should be done in a private room and not outside the clinic where everybody who is passing by is seeing them. This is because some of the patients just be concentrate on the passersby so that they know who has seen them. They also said that the individual teaching should be done privately as well so that patients are free to ask questions if they do not understand anything.

The participants also felt that the health personnel and volunteers such as peer educators should be screened so that only those who were dedicated to dealing with TB and HIV should attend to the patients. The other participants felt that if the staffing levels were increased, the health workers would have more time to discuss with the patients and the staff would also be less stressed with work.

Others further suggested that HIV services for TB/HIV co-infected patients should be offered at the TB sites. This will reduce on the number of problems that the patients encounter such as long waiting time at both sites. In addition, the participants said that the appointment date at the TB site may differ from the one given at the ART site thereby creating further difficulties for them which may not be the case if the TB and HIV services were integrated.

CHAPTER 5: DISCUSSION OF FINDINGS

5.1 INTRODUCTION

The main objective of the study was to determine the factors contributing to low acceptability of HAART by TB patients who are HIV positive in Livingstone district. Data was collected using a structured interview schedule and focus group discussion guide.

5.2 SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE

Table 5 shows the socio-demographic characteristics of the study population. Among the 131 respondents interviewed, more than half (57.3%) of them were females and 42.7% were males. This could mean that most women in Zambia involve themselves more in health related activities than men. This assumption is consistent with the 2007 ZDHS report which showed that the response rate among males was 87.8% compared to that of females which was 95.7% and this was attributed partly to males' refusal to be interviewed. In addition, there might have been more females among the TB patients infected with HIV than males because of the inequalities and power imbalances between the two sexes in Zambia which predispose females to HIV infection more than males. The National HIV/AIDS/STI/TB Council (2004) states that inequality and power imbalances between women and girls, and men and boys in the Zambian society heighten the vulnerability of females to infections. For example, women are usually taught to be submissive to their husbands and not to refuse sex to regardless of whether the husband has other sexual partners or is unwilling to use condoms.

The study results (table 5) also revealed that there were more respondents aged between 34 and 41 (38.2%) followed by those aged between 42 and 49 (30.5%). This indicates that the majority of the respondents may not appreciate the utilization of HAART as they have already bypassed the youth stage of their life. They may perceive the utilization of HAART as complicating their lives in their older days as the use of HAART is associated with many difficulties such as frequent follow ups and life threatening side effects. This is in line with the study on the factors associated with decreased uptake of

ART by Barlett & Gallant (2005) which found that a negative attitude towards utilization of HAART may be due to the knowledge of drug toxicity.

The majority of the respondents were married, for example, 48.1% were currently married (table 5). The findings correspond with the 2007 ZDHS report which indicated that only 26.0% of the respondents who participated in the 2007 Zambia Demographic and Health Survey had never married while the rest were married or had been married before. This implies that marriage is valued in Zambia but however puts most of the people especially women at risk of acquiring HIV which can consequently lead to the activation of TB if the other partner is promiscuous. This is because women often lack the power to insist on condom use even when they suspect that their sexual partner or husband has other sexual partners and might be infected with HIV (UNAIDS, 2004). Furthermore, condom use is not the norm in Zambia (UNAIDS, 2004).

Most (39.0%) of the respondents had attained tertiary (college/university) education, 33.6% had attained secondary education, 22.9% had primary level of education and only 4.6% had never been to school (table 5). Compared with the 2007 ZDHS, educational attainment in Zambia has continued to improve slowly. This could be attributed to the introduction of free education at government primary schools as well as community schools. The introduction of basic schools could also have contributed to the increase in the number of pupils who reach grade eight and nine where as the promotion of entrepreneurship may have contributed to most people attaining some form of college education.

The current study has shown that the majority (61.1%) of the respondents were either in formal employment or self employed (table 5). The liberalization of the economy which was introduced in 1991 when the Movement for Multiparty Democracy party came into power led to the establishment of small scale businesses especially in Livingstone district where the hospitality industry has offered some form of employment to the locals. However, more than half (56.5%) of the respondents had a household income of below K500, 000 per month. This means that there is widespread poverty in the district leading

to poor health outcomes which fuels the dual epidemics especially among women who may indulge themselves in illicit sex in exchange for money. The above finding corresponds with the International Monetary Fund (IMF) programs and Health Expenditures Background paper which states that there is widespread poverty in Zambia as most people survive on less than a dollar per day leading to weak health outcomes (Goldsbrough & Cheelo, 2007).

5.3 KNOWLEDGE OF TB/HIV AND HAART

The study findings show that almost all (97.7%) the respondents interviewed had heard about HIV (table 6). Most (72.7%) of the respondents' source of information was obtained either from health personnel or the media (table 7). This finding is similar to the findings of the 2007 ZDHS results compiled by CSO (2008) which established that almost all (99%) the participants in Zambia had heard about HIV and AIDS, with the media and health facilities being the commonest source of information. Usually, the information obtained from the media or health facilities is considered to be reliable as it is mostly communicated by individuals who have received training in HIV. High level of HIV information from reliable sources could mean that most of the people are well informed about HIV infection and its implications. This may lead to increased levels of health seeking behaviours including high uptake of HAART among populations unlike where the patients have limited knowledge. This assumption supports the works of Barlett and Gallant (2005) who found that the decreased uptake of ART in Kampala, Uganda was partly attributed to limited knowledge of HIV infection by patients.

In this study, majority (74.2%) of the respondents knew that it was possible for a TB patient to have HIV infection (table 8). However, majority (71.9%) of them did not know the relationship between TB and HIV (table 9). This could be attributed to the fact most of the TB and HIV services in Zambia are not intergrated. Therefore, the TB site could offer services that emphasise more on the management of TB disease while on the other hand, the ART site could also emphasise on the management of HIV infection. This finding is similar to the findings of Simon et al (2005) in a study conducted in Columbia where it was reported that the current national TB and HIV programs remain largely

separate with varying levels of interaction and communication despite that these programs are often situated within the structure of the Ministry of Health. The integration of TB and HIV services may lead to the emphasis on the education between TB and HIV infections. In addition, the clients will have more ample time to ask questions when a program for TB/HIV co-infection is developed.

Among the respondents 97.7% (128) who had heard about HIV, 82.8% (106) indicated that HIV infection could be treated or controlled with drugs (table 10). However, 17.2% (22) mentioned that they were not aware that HIV infection could be treated or controlled with drugs (table 10). One possible explanation for this could be that some health workers do not provide all the information on HIV management with drugs to the clients because they are not comfortable about the use of the drugs to control infection. Attawell & Mundy (2006) in a survey conducted by the Mildway centre in Kampala, Uganda established that there was a negative attitude towards ARVs on the part of health workers which limited the education they provided to the clients about the HIV therapy. In an environment like Zambia where HIV infection among TB patients is extremely high (about 70%), such an attitude by health care providers could be a very big concern.

It is noteworthy that 14.2% (15) of the respondents who were aware that HIV infection could be treated or controlled with drugs indicated that the drugs used are traditional herbs (table 11). In the focus group discussion, some participants also mentioned that traditional herbs from traditional healers could treat or control HIV infection. This belief could be attributed to the misconception that some respondents had about the cause of HIV infection as some participants believed that HIV was caused by witchcraft. This finding is worrying because the aspect of acceptability of HAART by TB patients with consequent adherence to therapy may be difficulty among such clients. In addition, there is a high possibility of the use of traditional herbs by such clients which can make the ARVs ineffective even if the clients accept to utilize HAART. The use of the traditional herbs may also cause a toxic effect to the clients' body organs such as the liver and kidneys.

Although the majority 74.0% (97) of the respondents had heard about HAART, most 76.3% (74) of them could not explain what HAART was (table 13). This is despite the fact that most of the participants interviewed had attained tertiary education and there is a high likelihood of assimilation of information given. In addition, some respondents 23.7% (23) were not aware that HAART could treat or control HIV by suppressing the virus (table 14). Furthermore, 11.3% (11) believed that HAART is not taken for life and 5.2% (5) did not even know how long HAART should be taken (figure 3). These findings indicate that some health workers may not be disseminating adequate information on HAART to the clients. It may also mean that the manner in which the information on HAART was being disseminated was not conducive to allow for proper assimilation by the clients. In such circumstances, the TB clients may be unwilling to accept and utilize HAART probably because of the misconceptions that are associated with the use of HAART. The clients may also lack the knowledge on adverse effects which is often threatening.

However, most 81.4% (79) of the respondents knew that HAART could be commenced in TB patients (table 15) although more than half 57.7% (56) believed that it was not safe to take HAART concurrently with TB treatment (15). Some participants in the focus group discussions also believed that it was not safe to take HAART concurrently with TB treatment. One participant said that if HAART is taken concurrently with TB treatment, the body will weaken. Another participant said that ARVs and TB drugs worsens one's condition and therefore it was dangerous to take them concurrently. Providing adequate knowledge on concurrent use of HAART and TB drugs cannot therefore be overemphasized as revealed by a pilot TB/HIV project that was introduced in Battambang in Alabama, U.S.A. During the monitoring and evaluation of this project, Eang et al (2007) reported that over 80% of the TB patients commenced HAART along with TB therapy after receiving intensive drug education.

5.4 TB- AND HIV-ASSOCIATED STIGMA AND DISCRIMINATION

TB and HIV associated stigma and discrimination remain critical problems in most countries for effective prevention and control measures. Although all the respondents

were on anti-TB treatment, the study revealed that 68.7% of respondents said that they were aware that they had TB while 31.3% were not aware (table 16). Probably, a few respondents said that they were not aware that they had TB because of the misconceptions that they had about the cause of TB. One participant in the focus group discussion said that TB is caused by having sex with a woman who has aborted. The other reason could be attributed to denial of the condition as patients with TB disease are highly stigmatized. This is in line with one of the responses from a participant in the focus group discussion who said that health workers feared to be infected with the diseases as evidenced in the way the health workers keep a distance from them when talking to them.

The study also revealed that most (93.3%) of the respondents who were aware that they had TB felt that the health workers treated them differently because they had TB disease (table 17). The respondents cited several ways in which the health workers treated them differently. The several ways in which the health workers treated TB patients differently were that most of the health workers showed no concern (64.3%), some of the health workers did not look at the TB patients properly (21.4%) and 14.3% were harsh to the patients (figure 5). These responses are similar to what some participants in the focus group discussion said. One participant said that the nurses just lock themselves in the office without checking on them when the patients are admitted in hospital. The other participant said that some nurses are harsh and need to be talked to. This could be attributed to the association of TB disease to HIV infection as reported by the MOH (2006) that in Zambia, approximately 70% of the TB patients are co-infected with HIV. Mthetwa (2004) in his study in South Africa also found out that such patients felt undermined by the behaviour of the health professionals because of the manner in which the patients were looked at and isolated in separated care areas.

When the respondents were asked about whether they were aware of being tested for HIV and of their HIV results, 92.4% reported that they were aware of being tested for HIV (table 18) and 97.5% were aware of their HIV results (figure 6). This could mean that some of the participants just assumed that the blood that was collected from them was tested for HIV due to their prior knowledge on HIV.

Furthermore, the study revealed that most (70.3%) of the respondents who were tested for HIV stated that the care they received from the health workers during testing was poor (table 19). The main cause of the poor care from the health workers was attributed to fear by the health workers of getting infected with HIV (69.3%). One participant in the focus group discussion also narrated that nurses touch them with gloves since they can get infected with HIV. This is likely to demoralize the affected individuals who may decide not to seek HIV services anymore as another participant in the focus group discussion indicated that it was just better to die at home. This revelation agrees with the sentiments of Nelson Mandela who at the XIV International AIDS conference said that stigma, discrimination and ostracism against HIV are the real killers (SAfAIDS, 2003).

It is noteworthy that 67.9% of the respondents indicated that they would not go back to the ART site after noticing that the health workers did not relate to them well (table 21). This finding is very worrying as the convergence of TB disease and HIV infection if untreated can lead to high morbidity and mortality rates among those infected with the dual epidemics as documented by the WHO (2006). One of the important associations between the dual epidemics if untreated is that once a person who has HIV develops active TB, the progression to AIDS and death is more rapid because TB enhances replication of HIV.

5.5 AMOUNT AND DEPTH OF INFORMATION GIVEN DURING PRE- AND POST-TEST COUNSELING

Most (76.9%) of the respondents reported that they had received counseling prior to the HIV test (table 22) and 73.6% received the post test counseling (figure 7). However, majority (65.3%) of the respondents said that they did not receive adequate general information on HIV (table 25). Some participants in the focus group discussion also mentioned that they did not receive adequate information on HIV during counseling. One participant said that she was only asked if she knew about HIV and when she answered that she did, the counselor collected her blood for the HIV test. This could be due to the poor attitude to work of service providers. This finding is similar to the findings of Mthetwa (2004) in a study conducted in South Africa where it was reported that health providers

did not care about people and were quick in providing treatment. The clients may appreciate if they are asked what they knew about HIV so that their level of knowledge on HIV is evaluated and consequently more information given to them. In addition, when clients are asked about what they know about HIV, it makes them feel valued and this may even motivate them to ask more questions in order to clear any misconceptions they might have.

The study also revealed that more than half (52.9%) of the respondents were not told about the benefits of knowing their HIV status (table 26). This may make it very difficult for such clients to appreciate the importance of HIV services which include the use of HAART. Clients may also feel hopeless especially those who know that there no known cure yet. Others may resort to the use of traditional herbs or other remedies out of desperation. Furthermore, out of the 57 respondents who discussed the benefits of knowing their HIV status, most (54.4%) of them could not remember the benefits (figure 8). Perhaps, such clients were not adequately prepared for the counseling session due to the fact that the counselors were overwhelmed with work and could not utilize their counseling skills adequately. This finding is similar to the findings of Kankasa et al (2000) in a study conducted in Lusaka where the inadequate counseling skills was attributed to staff shortages and heavy work load by health personnel. Counselors who utilize their counseling skills will, among other things, make the client feel at ease so that he/she is able to assimilate the information given.

In addition, among the respondents who stated that the benefits of knowing one's HIV status was to assist one to live positively, the majority (69.2%) indicated that the information they received on positive living was inadequate (table 27). In such scenarios, participants may experience difficulties to commence on HAART as they do not get adequate guidance from the counselor. It is also of a great concern that over half (57.9%) of the respondents reported that they did not discuss HAART and its benefits with the counselor (table 28). This may mean that most of the respondents were not motivated to commence HAART. This is in line with the findings by Zambia Counseling Council - ZCC (2003) which revealed that some counselors fail to motivate their clients about HIV status

because they are not adequately trained in counseling skills. However, counselors may also fail to motivate their clients to utilize HAART as part of positive living because of poor attitude towards their work. This is reflected in one of the suggestions for improving acceptability of HAART that some participants in the focus group discussion gave which indicated that the health personnel and volunteers dealing with TB and HIV clients should be dedicated to their work.

5.6 SUPPORT FROM HEALTH CARE PROVIDERS

Of the 97 respondents who had heard about HAART, most (92.8%) of them indicated that they had concerns related to HAART (table 29). Of these, 90% discussed the concerns they had with the health care providers (table 30). However, only 33.3% reported that their concerns were addressed by health care providers while the rest 66.7% said that their concerns were not addressed (figure 9). One of the reasons why most of the patients concerns related to HAART were not addressed could be attributed to poor attitude by health care providers towards people co-infected with TB and HIV as well as poor attitude towards work. This is shown by the various responses from the participants in the focus group discussion. Some participants said that the nurses were rude while one participant said that he was told that he just didn't want to take the medicine when he asked about the side effects. Such an attitude by health care providers may have an impact on motivating clients to commence on HAART as clients may not know what to do in case they experience side effects. Mthetwa (2004) also cited poor attitude of service providers as a deterrent to the uptake of HAART. According to Mthetwa, patients felt undermined by the behaviour of health professionals which contributed to the despair patients felt on diagnosis.

Another reason for health workers not addressing the patient's concerns may be related to shortage of manpower at health facilities. In such circumstances, health workers may be more preoccupied with ensuring that all the clients are attended to within a shortest period of time than devoting their time to addressing the clients' concerns which may take a long period of time. Though ensuring that clients spend less time at health facilities is good, it may not benefit those whose concerns are not met as they would not be fully

satisfied with the services that they receive. This fact was confirmed by Macha (2008) who indicated that inadequate human resource in health facilities resulted in inefficiency.

5.7 FACTORS ASSOCIATED WITH ACCEPTABILITY OF HAART BY TB PATIENTS

According to Maisels, Steinberg & Tobias (2001), patients who calculate the cost-benefit ratio of utilizing HAART are more likely to go back to the ART clinic for review. However, majority (67.9%) of the respondents indicated that they would not go back to the ART clinic for review. Of these, 72.0% were females. This study has therefore revealed no statistical significance with the sex of respondents and ART review (chi square value = 1.318, df = 1 and p value 0.249).

This study has also showed no association between the age of someone and acceptability of ART by TB patients as the majority of the respondents who would not go back for ART review were found in all the age groups (chi square value 7.441, p value 0.059) thus failure to reject the null hypothesis stating that there is no association between the two variables. This is contrary to Human Rights Watch (2007) who indicated that HIV clients who are younger easily become depressed and lose hope owing to the fact that ARVs do not cure HIV than those who are older.

Marital status of individuals may have an effect on acceptability of ART. In most cases, individuals who are widowed especially females are more likely to make positive informed decisions about their health and lives as there is no real control from spouses. In Zambia, some women only access HIV services and start ART after their husbands die as most of them always feel that they must obtain their partner's permission to enroll on ART (Human Rights Watch, 2007). This study has however, revealed that majority (65.6%) of the respondents who were widowed would not go back to the ART clinic for review (table 39). Being widowed is not associated to ART review (chi square value 1.410, p value 0.842) thus failure to reject the null hypothesis which states that there is no association between marital status and ART review.

Barlett & Gallant (2005) are of the opinion that education have a pivotal role in positive decision making as people who have a high educational status tend to come up with positive decisions that are beneficial to themselves. In most cases, people with a high educational status are more likely to analyse situations and thus opt for solutions which will better their lives than those with a low educational status. Acceptability and utilization of ART is a positive decision that can improve the lives of TB patients infected with HIV. However, the findings of this study disagree with this notion. This study revealed that there is no association between educational level of respondents and utilization of ART (chi square value 1.410, p value 0.842) thus failure to reject the null hypothesis which states that there is no association between education level and ART review.

In this study, the findings reveal that the respondents' level of knowledge on TB and HIV relationship is significantly associated with the knowledge on the safety of taking HAART concurrently with TB medication (table 31). Significantly, more respondents with inadequate knowledge on TB and HIV relationship (77.9%) were of the opinion that it was not safe to take HAART concurrently with TB treatment than those with adequate knowledge (55.6%) (chi square 13.585, p value 0.000). One possible explanation for this could be that knowledge of the relationship between TB and HIV influences acquiring more knowledge on the safety of taking HAART concurrently with TB medication. Adequate knowledge on TB and HIV relationship can motivate one to acquire more knowledge on interventions that can remedy the situation such as the utilization of HAART and how to ensure safety when taking ARVs.

Negative attitudes of service providers towards people who are co-infected with TB and HIV may be a hindrance to the uptake of HAART by TB patients as most of them felt undermined by such attitudes (Mthetwa, 2004). This study has also revealed that most of the respondents who would not go back to the ART clinic for review are those who would not receive the good care they received from service providers as before they were diagnosed with HIV (table 33) (chi square value 9.270, p value 0.002). This was also supported by most participants in the focus group discussion who said that they would not go back to the ART clinic because of the poor attitude of service providers portrayed

to them. For example, one participant said that it was better to seek HIV care at a private health facility where they are accorded more attention than government health facilities. The findings indicate that stigma and discrimination among TB patients infected with HIV and AIDS is still very high in government health facilities despite the various measures that the country has put in place to fight stigma and discrimination such as re-training of service providers. This result was statistically significant thereby rejecting the null hypothesis stating that there is no association between the care being the same as before the HIV diagnosis and going back to the ART clinic for review.

The concerns regarding HAART that patients co-infected with TB and HIV are varied because of the concurrent infection. For example, both TB drugs and ARVs are strong drugs with life threatening side effects such as liver toxicity. Inability to address the concerns regarding HAART that patients co-infected with TB and HIV may limit the accessibility of HAART by these patients. In the study, the finding showed that out of respondents whose HAART concerns were not addressed, the majority (74.1%) would not go back to the ART clinic for review (table 34) (chi square value 9.785, p value 0.008). This is in line with Eang et al (2007) who reported that continuous discussion and education of concerns regarding HAART between clients and service providers was significantly associated with motivating clients to utilize HAART.

5.8 LIMITATIONS OF THE STUDY

The following are the limitations of this study:

- The sample comprised TB patients who are co-infected with HIV in Livingstone district making it difficult to generalize the findings to other settings and entire country.
- The interview schedule is a self report instrument which is subject to reporting bias thus the findings may not be generalized. For example, there could have been underreporting or exaggerated reporting on the attitude of health care providers towards the respondents.
- Inadequate literature on acceptability of HAART by TB patients in Zambia.

5.9 IMPLICATIONS TO NURSING

Acceptability of HAART among HIV positive TB patients is one of the integral interventions of curbing the effects of HIV and TB diseases. The study findings suggest that health care workers also play a pivotal role in motivating these clients to accept and utilize HAART. However, some interventions that the health care workers could utilize to motivate the TB clients such as provision of adequate knowledge and support to patients co-infected with TB and HIV were not fully exploited.

5.9.1 Nursing Education

The study finding show that almost all the TB patients (97.7%) had heard about HIV and 74.2% indicated that it was possible for a TB patient to be infected with HIV. This is a positive aspect in nursing education. However, there was a notable deficiencies in knowledge which can make the HAART services be inaccessible to TB patients. For example, majority (71.9%) of the respondents did not know the relationship between TB and HIV and thus may be unaware of the consequences of the dual epidemics if untreated. In addition, despite that the majority (74.0%) of the respondents had heard about HAART and 83.5% knew that HAART should be taken for life, knowledge on the safety of taking HAART while on TB treatment was limited. More than half (57.7%) of the respondents believed that it was not safe to take HAART concurrently with TB treatment. This was also supported by the participants in the focus group discussions as some of

them believed that taking HAART concurrently with TB drugs worsens someone's condition.

There is need therefore to strengthen the teaching methodologies used when educating the TB patients on HIV and HAART. This may be achieved by providing the necessary audio-visual aids and reinforcing their use as well as reinforcing the use of lesson plans so that no information is left out. Various teaching methodologies should also be utilized such as role plays and using experiences from clients who responded positively from both HAART and TB treatment. There should also be continuing education to the nurses on attitude and its impact of enhancing the assimilation of information by TB patients.

5.9.2 Nursing Practice

This study has revealed that the attitude of nurses towards patients co-infected with TB and HIV influences the level of acceptability of HAART among TB patients. Majority (67.9%) of the respondents indicated that they would not go back to the ART clinic if the nurses did not relate to them well. The nurses should therefore be reflecting on the impact of their attitude towards accessibility of HAART. This could be done individually or in groups such as clinical meetings.

5.9.3 Nursing Administration

The review of literature in this study showed that the provision of integrated HIV and TB services promotes acceptability of HAART. However, the HIV and TB services in Zambia including Livingstone district are still being provided as stand-alone programmes. Nurse administrators need to advocate for integrated HIV and TB services to increase the accessibility of these services as the occurrence of the two epidemics have serious and life threatening effects to both individuals and communities.

Although this study has shown that the majority of the respondents were counseled before and after the HIV test, slightly more than half (52.9%) were not told about the benefits of knowing their HIV status. These clients may therefore not appreciate any interventions that promote their well being such as the utilization of HAART as they would

not know that there are benefits in knowing the HIV status regardless of the status. The study further revealed that 57.9% of the respondents did not discuss HAART and its benefits with the counselor. Nurse administrators should ensure that the nurses handling these clients have been trained to offer psycho socio counseling and organize refresher courses for them from time to time. They should also provide ongoing supervisory visits to the nurses to provide support and appreciate their work. More staff should also be allocated to handle the counseling session to avoid burn out among the nurses which can make the counseling session ineffective.

5.9.4 Nursing Research

A lot of researches on acceptability of HAART by TB patients has been done globally and regionally. However, there is limited research conducted in Zambia to identify the various factors associated with acceptability of HAART by HIV positive TB patients. Therefore, nurse researchers should utilize these findings as a foundation for further research in order to motivate the TB patients utilize HAART effectively and consequently contribute to the development of the nation.

5.10 CONCLUSION AND RECOMMENDATIONS

5.10.1 CONCLUSION ACCORDING TO THE STATED RESEARCH OBJECTIVES

The study was carried out to determine the factors contributing to low acceptability of HAART by TB patients who are HIV positive.

The study revealed that there are factors that are significantly associated with low acceptability of HAART by TB patients. These factors include TB patients' level of knowledge on TB/HIV co-infection and HAART, TB- and HIV-associated stigma and discrimination, amount and depth of information provided to the TB patient during the pre- and post-test counseling and provision of support to TB patients by health care providers. The other factors identified to be associated with acceptability of HAART by TB patients were integration of the TB and HIV services and number of health facilities offering the TB and HIV services. Most of the clients indicated that integration of TB and HIV services

will be beneficial to them as it limits the number of time spent in these facilities, minimizes the cost of travelling to the sites and allows them more time to rest.

The study further revealed that certain factors and were not associated with acceptability of HAART in this study. These factors were sex, age, marital status and educational level of respondents. However, in similar studies, these factors were found to be statistically significant to acceptability of HAART.

5.10.2 RECOMMENDATIONS

5.10.2.1 Recommendations for increasing acceptability of HAART by TB patients

The following recommendations have been made based on the findings of this study.

- The Government through Ministry of Health should adopt an integrated service delivery.
- The Government should also strengthen the HIV and TB services by providing adequate human and material resources. This will reduce on the overcrowding of clients and thus limit the number of time spent at the health facilities.
- Ministry of Health should screen service providers so that only those who possess the good qualities of caring for clients co-infected with HIV and TB can be allowed to practice in the HIV and TB sites.
- Ministry of Health to scale up the number of HIV and TB sites in line with its vision.
- Hospitals should work closely with District Health Offices and communities to intensify and sustain massive education campaigns on the benefits of the utilization of HAART by patients co-infected with TB and HIV. Various educational strategies such as the use of leaflets and brochures should be adopted.
- Service providers should identify and involve clients who had received concurrent TB therapy and HAART in sensitizing and encouraging other clients to also utilize HAART while on TB therapy.

5.10.2.2 Recommendations for further research

- There is need for the study to be duplicated in other geographical areas to enable generalization of the results.
- A similar study needs to be conducted among service providers so as to identify the gaps and plan interventions that will promote acceptability of HAART from both the clients and the service providers.

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APPENDICES

APPENDIX I: PARTICIPANT INFORMATION SHEET

ACCEPTABILITY OF HAART BY ELIGIBLE TUBERCULOSIS PATIENTS WHO ARE HIV POSITIVE IN LIVINGSTONE DISTRICT.

INTRODUCTION

I, **Ruth Wahila**; a student pursuing a Master of Science in Nursing at the University of Zambia is kindly requesting for your participation in the study mentioned above. Before you decide whether or not to participate in this study, I would like to explain to you the purpose of the study, any risks or benefits and what is expected of you if you participate. Your participation in this study is entirely voluntary. You are under no obligation to participate; you may choose to participate or not to participate. If you chose not to participate, no privileges will be taken away from you. If you agree to participate, you will be asked to sign this consent in front of someone. Agreement to participate will not result in any immediate benefits.

PURPOSE OF THE STUDY

The study will obtain information on the acceptability of HAART by TB patients and the factors that determine acceptability and utilization. The findings from the study will assist health care personnel and other stakeholders in devising ways and means of improving acceptability and utilization of HAART by TB patients. This is likely to improve the lives of people co-infected with TB and HIV as well as reduce the risk of high prevalence levels of TB in the community.

PROCEDURE

After you have signed the consent form, and have had a chance to ask questions, you will be asked questions relating to your acceptability of HAART. The questions will be asked to you either individually or in a group of about 6-12 people. You will also be given

a chance to make suggestions on how you think acceptability of HAART services can be improved.

RISKS AND DISCOMFORTS

Your participation in this study involves no risk to you or any other person. However, part of your time will be utilized to answer some questions. Care will be taken not to embarrass you as some of the questions may seem to be sensitive and personal.

BENEFITS

There is no direct benefit to you by participating in this study. No monetary favours will be given in exchange for information obtained but education will be given on the benefits of commencing on HAART while on TB treatment. The information which will be obtained will help the policy makers to take measures to increase the uptake of HAART by TB patients.

CONFIDENTIALITY

Your research records and any information you will provide will be confidential to the extent permitted by law. You will be identified by a number, and personal information will not be released without your written permission except when required by law. In the event that the Ministry of Health, the University of Zambia Research Ethics Committee or the School of Medicine reviews your records, confidentiality will again be upheld.

APPENDIX II: INFORMED CONSENT FORM

The purpose of this study has been explained to me and I understand the purpose, the benefits, risks and discomforts and confidentiality of the study. I further understand that:

If I agree to take part in this study, I can withdraw at any time without having to give an explanation and that taking part in this study is purely voluntary.

I (Names)

agree to take part in the interview/focus group discussion.

Signed:..... Date:..... (Participant)

Signed:..... Date:..... (Witness)

Signed:..... Date:..... (Researcher)

PERSONS TO CONTACT FOR PROBLEMS OR QUESTIONS

1. Ruth Wahila, University of Zambia, School of Medicine, Department of Nursing Sciences, P. O. Box 50110, Lusaka. Cell: 0977530674/0955814038. email:ruthwahila@yahoo.co.uk
2. Mrs. C Ngoma, University of Zambia, School of Medicine, Department of Nursing Sciences, P. O. Box 50110, Lusaka. Telephone Number: 0211252453
3. The Chairperson, University of Zambia, Research Ethics Committee, P. O. Box 50110, Lusaka.

APPENDIX III: BUDGET

BUDGET CATEGORY	UNIT COST (ZMK)	QUANTITY	TOTAL (ZMK)
Stationery			
a) Reams of paper	30,000	10	300,000
b) Pens	1,000	10	10,000
c) Pencils	500	10	5,000
d) Rubbers	1,000	10	5,000
e) Note books	5,000	4	20,000
f) Tippex	12,000	4	48,000
g) Stapler	25,000	4	100,000
h) Staples	8,000	2 boxes	16,000
i) Manila Files	2,000	50	100,000
j) Carrying bags	70,000	5	350,000
k) Scientific calculator	80,000	2	160,000
l) Laptop	6,000,000	1	6,000,000
m) Printer	1,000,000	1	1,000,000
n) Computer toner	800,000	1	800,000
o) Flip charts	40,000	4	160,000
p) Flip chart markers	15, 000	4 boxes	60,000
q) Tape recorder	120,000	1	120,000
r) Tapes	3,000	15	45,000
s) Flash Disks	100,000	2	200,000
Subtotal			9,459,000
Services			
• Formatting proposal and research report	50,000	2	100,000
• Ethics committee	250,000	1	250,000
• Supervisors	2,500,000	2	5,000,000
• Photocopying			
a) Research proposal	300	5 x 80 pages	120,000
b) Research report	300	5 x 120 pages	150,000
c) Questionnaires	300	50 x 10 pages	180,000
• Binding			
a) Research proposals	15,000	5	75,000
b) Research reports	250,000	5	1,250,000
• Data entry	500,000	1	500,000
• Data analysis	2,000,000	1	2,000,000
Subtotal			9,625,000

Personnel emoluments			
• Transport			6,000,000
• Communication			5,000,000
• Principal researcher	1,500,000	1	1,500,000
• Research assistants	800,000	5	4,000,000
Subtotal			14,900,000
Total			33,984,000
Contingency 10%			3,398,400
GRAND TOTAL			37, 382,400

BUDGET JUSTIFICATION

1. STATIONERY

Stationery was required for typing the research proposal, writing the research report as well as typing and printing the report. In addition, 140 questionnaires were produced.

The notebooks were needed for taking notes of all important points during data collection and analysis. Staplers and staples were needed to put the papers together and to maintain their proper arrangement. Tippex was used to correct errors. Files and bags were used for storing the questionnaires during data collection and analysis. Other accessories were required for the routine collection of data.

2. SECRETARIAL SERVICES

The funds helped the researcher to type, print and photocopy the questionnaires, research proposals and research reports. It was also needed for binding the research proposal and research reports.

3. PERSONNEL EMOLUMENTS

Funds were required for personnel emoluments such as lunch allowance and communication throughout the research period.

4. RESEARCH ETHICS HANDLING FEE

This is a requirement of the Research Ethics committee which approves the study.

5. CONTIGENCY

This is 10% of the total amount of the budget. It was budgeted for to cater for any unforeseen expenses during the study.

APPENDIX IV: GANTT CHART SHOWING VARIOUS TASKS UNDERTAKEN

MONTH		APRIL 2008	MAY 2008	JUN 2008	JUL 2008	AUG 2008	SEPT 2008	OCT 2008	NOV 2008	DEC 2008	JAN 2009	FEB 2009	MAR 2009	APR 2009	MAY 2009
Task to be Performed	Responsible Person														
Literature Review	Researcher														
Finalize Proposal	Researcher														
Clearance from School of Medicine and Ethics Committee	Researcher														
Training Research Assistants/Pilot	Researcher														
Data Collection	Researcher/ Research Assistants														
Data Analysis	Researcher and Statistician														
Report Writing	Researcher														
Submission of Draft Report	Researcher														
Finalization of Report	Researcher														
Dissemination of Results	Researcher														
Monitoring and Evaluation	Researcher														

APPENDIX V:

INTERVIEW SCHEDULE

THE UNIVERSITY OF ZAMBIA

SCHOOL OF MEDICINE

DEPARTMENT OF NURSING SCIENCES

**STRUCTURED INTERVIEW SCHEDULE ON ACCEPTABILITY OF HAART BY
ELIGIBLE TUBERCULOSIS PATIENTS WHO ARE HIV POSITIVE**

DATE:

PLACE:

SERIAL NUMBER:

NAME OF RESEARCHER/RESEARCH ASSISTANT:.....

INSTRUCTIONS TO RESEARCH ASSISTANT

1. Always introduce yourself to the participant.
2. Ensure that the client is a TB patient who is HIV positive and is eligible for HAART.
3. Ensure that the client is aged between 18 and 49 years and is a resident of Livingstone district.
4. Explain the purpose of the study and ask for permission to do the interview.
5. Request the participant for a written consent before you start.
6. If the participant decline to take part, do not force him/her.
7. Do not write names of participants on the questionnaires.
8. Read through the questionnaire carefully and ensure that you obtain data for each stated item.
9. Thank the participant at the end of each interview.

SECTION A: DEMOGRAPHIC DATA

1. Sex of the participant

1. Male
2. Female

2. Age at last birthday

1. 18-25
2. 26-33
3. 34-41
4. 42-49

3. Marital status

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

4. Educational level

1. Primary
2. Secondary
3. College
4. University
5. None

5. Occupation

1. Housewife
2. Formally employed
3. Self-employed
4. Unemployed

- 6. Income
 - 1. Above K1, 000, 000
 - 2. Between K500,000 and K1, 000, 000
 - 3. Below K500, 000

- 7. Are you able to sustain your basic needs from your income?
 - 1. Yes
 - 2. No

SECTION B: KNOWLEDGE OF TB/HIV AND HAART

- 8. Have you heard of HIV?
 - 1. Yes
 - 2. No

- 9. If yes, what is the source of your information? (Tick all correct answers)
 - 1. Health personnel
 - 2. Relatives
 - 3. Friends
 - 4. Media
 - 5. Others (specify)

- 10. Can a TB patient have HIV?
 - 1. Yes
 - 2. No
 - 3. Do not know

- 11. What is the relation between TB and HIV?
.....
.....
.....

12. Can a person who has HIV be treated or have the infection controlled with drugs?

- 1. Yes
- 2. No

13. If yes, what are the names of the drugs that are used to treat or control HIV infection?

.....

14. Where can these drugs be obtained? (Tick all correct answers)

- 1. Health facilities
- 2. Commercial drug stores or pharmacists
- 3. Traditional healers
- 4. Others (specify)

15. Have you heard of HAART?

- 1. Yes
- 2. No

16. If yes, what is HAART?

.....
.....
.....

17. Can HAART treat/control HIV in a patient who has TB?

- 1. Yes
- 2. No
- 3. Do not know

18. How long should HAART be taken?

.....

19. Are you aware that a TB patient can commence HAART?
- 1. Yes
 - 2. No
20. In your opinion, is it safe for someone to take HAART while on TB treatment?
- 1. Yes
 - 2. No
 - 3. Do not know

SECTION C: TB AND HIV ASSOCIATED STIGMA AND DISCRIMINATION

21. Are you aware that you have TB?
- 1. Yes
 - 2. No
22. Do you feel that health workers treat you differently from other patients because you have TB?
- 1. Yes
 - 2. No
23. If yes to Q 22, explain
-
-
-
24. Have you been tested for HIV?
- 1. Yes
 - 2. No

25. Are you aware of your results?

- 1. Yes
- 2. No

26. Do you get the same care as you used to get before the current diagnosis?

- 1. Yes
- 2. No

27. If not, what do you think has brought the changes?

.....

.....

.....

28. Would you go back to the ART site for HIV treatment even after noticing that the health care workers do not relate to you well?

- 1. Yes
- 2. No

SECTION D: AMOUNT AND DEPTH OF INFORMATION GIVEN DURING PRE- AND POST-TEST COUNSELING

29. Were you counseled prior to the HIV test?

- 1. Yes
- 2. No

30. Did the counselor ask you whether you were ready to be tested for HIV?

- 1. Yes
- 2. No

31. Were you counseled before receiving the HIV test results?

- 1. Yes
- 2. No

32. Did the counselor ask you whether you were ready to receive the HIV test results?
- 1. Yes
 - 2. No
33. What was the general information on HIV and AIDS that the counselor discussed with you? (Tick all correct responses)
- 1. Definition of HIV
 - 2. Cause of HIV and AIDS
 - 3. Routes of transmission of HIV
 - 4. HIV and AIDS disease pattern
 - 5. Difference between HIV and AIDS
 - 6. Treatment/control of HIV in an infected client
34. Did the counselor discuss with you the benefits of knowing one's HIV status?
- 1. Yes
 - 2. No
35. If yes, what are the benefits of knowing one's HIV status?
-
-
36. Was the importance of the following information discussed with you during counseling? (Tick all correct responses)
- 1. Proper and adequate nutrition
 - 2. Exercises
 - 3. Modification of sexual life such as the use of condoms and reduction of sexual partners
 - 4. Partner notification
 - 5. Support groups
 - 6. Continuing with future plans.

37. During counseling, did the counselor discuss with you about HAART and its benefits?

- 1. Yes
- 2. No

SECTION E: SUPPORT BY HEALTH CARE PROVIDERS

38. Do you have any concerns regarding HAART?

- 1. Yes
- 2. No

39. If yes, have you ever discussed these concerns with your health care provider?

- 1. Yes
- 2. No

40. If so, does your health care provider always address your concerns?

- 1. Yes
- 2. No

We have come to the end of the interview and I thank you for your participation

APPENDIX VI: FOCUS GROUP DISCUSSION GUIDE ON ACCEPTABILITY OF HAART BY ELIGIBLE TUBERCULOSIS PATIENTS WHO ARE HIV POSITIVE

Number of participants

Composition of participants

Language used during discussion

Date

Duration

Place

INSTRUCTIONS

- 1. Welcome the participants.
- 2. Introduce yourselves and the recorder to the participants.
- 3. Ask the participants to introduce themselves.
- 4. Explain the purpose of the discussion.
- 5. Obtain verbal consent from the participants to continue with the discussion.
- 6. Assure the participants of confidentiality and anonymity and encourage them to participate freely in the discussion.
- 7. Respect each participant's views.
- 8. Thank the participants at the end of the discussion.

QUESTIONS

a. TB/HIV and HAART knowledge

1. What do you know about TB/HIV co-infection?
2. What are the drugs that are used to treat/control HIV in a patient with TB?

b. TB- and HIV-associated stigma and discrimination

1. How do health workers treat you currently?
2. How did health treat you before your current condition?
3. Would you go back to the ART site even if you notice that health workers do not relate to you well.

c. Type of counseling

1. During counseling, what information did you discuss with the health care provider?

d. Support from health care providers

1. How do health care providers address your concerns? (Please explain).

e. Suggestions for increasing acceptability of HAART

1. What are some of the measures that could be taken to increase acceptability of HAART by TB patients?

We have come to the end of our discussion. Thank you very much for your participation.

APPENDIX VII

MARKING KEY FOR THE STUDY VARIABLES

SECTION B: KNOWLEDGE OF TB/HIV AND HAART			
Question number	Question	Correct answers	Maximum score
8.	Have you heard of HIV?	Yes	2
9.	If yes, what is the source of your information?	1.Health personnel 2.Media 3.Relatives 4.Friends 5.Others	2 2 1 1 1
10.	Can a TB patient have HIV?	Yes	2
11.	What is the relationship between TB and HIV?	TB is an opportunistic infection among HIV positive clients	2
12.	Can a person who has HIV be treated or have the infection controlled with drugs?	Yes	2
13.	If yes, what are the names of the drugs that are used to treat or control HIV infection?	ARVs	2
14.	Where can these drugs be obtained?	1.Health facilities 2.Commercial drug stores or pharmacists 3.Traditional healers	3 2 1

15.	Have you heard of HAART?	Yes	1
16.	If yes, what is HAART?	Drugs used to treat HIV	1
17.	Can HAART treat/control HIV in a patient who has TB?	Yes	2
18.	How long should HAART be taken?	1.For life 2.Not for life 3.Do not know	1 0 0
19.	Are you aware that a TB patient can commence HAART?	Yes	1
20.	In your opinion, is it safe for someone to take HAART while on TB treatment?	Yes	1

SECTION C: TB- AND HIV-ASSOCIATED STIGMA AND DISCRIMINATION

21.	Are you aware that you have TB?	Yes	2
22.	Do you feel that the health workers treat you differently from other patients because you have TB?	Yes	2
23.	If yes to Q 22, explain	1.Do not show concern 2.Do not look at you properly 3.Harsh	1 1 1
24.	Have you been tested for HIV?	Yes	1

25.	Are you aware of your results?	Yes	1
26.	Do you get the same as you used to get before the current (HIV) diagnosis	No	2
27.	If not, what do you think has brought the changes?	1.Seen as a bad person 2.Fear of being infected	1 1
28.	If not to Q 27, would you go back to the ART clinic?	No	2
SECTION D: AMOUNT AND DEPTH OF INFORMATION GIVEN DURING PRE- AND POST-TEST COUNSELING			
29.	Were you counseled prior to the HIV test?	Yes	1
30.	Did the counselor ask you whether you were ready to be tested for HIV?	Yes	1
31.	Were you counseled before receiving the HIV test results?	Yes	1
32.	Did the counselor ask you whether you ready to receive the HIV test results?	Yes	1
33.	What was the general information on HIV and AIDS that the counselor discussed with you?	1.Definition of HIV 2.Cause of HIV 3.Routes of transmission of HIV 4.HIV disease pattern 5.Difference between HIV and AIDS 6.Treatment/control of HIV	1 1 1 1 1 1

34.	Did the counselor discuss with you the benefits of knowing one's HIV status?	Yes	1
35.	If yes, what are the benefits of knowing one's HIV status?	To live positively	2
36.	Was the importance of the following information discussed with you during counseling?	1.Proper and adequate nutrition 2.Exercises 3.Sexual life modification 4.Partner notification 5.Support groups 6.Continuing with future plans	1 1 1 1 1 1
37.	During counseling, did the counselor discuss with you about HAART and its benefits?	Yes	1
SECTION E: SUPPORT FROM HEALTH CARE PROVIDERS			
38.	Do you have any concerns regarding HAART?	Yes	1
39.	If yes, have you ever discussed these concerns with your health care provider?	Yes	1
40.	If so, does your health care provider always address your concerns?	No	2

KEY

1. Section B: Knowledge of TB/HIV and HAART

- Low knowledge of TB/HIV and HAART 1 – 9
- Medium knowledge of TB/HIV and HAART 10 – 18
- High knowledge of TB/HIV and HAART 19 – 27

2. Section C: TB- and HIV-associated stigma and discrimination

- Low levels of stigma and discrimination 1 – 5
- Medium levels of stigma and discrimination 6 – 10
- High levels of stigma and discrimination 11 – 15

3. Section D: Amount and depth of information given during pre- and post-test counseling

- Low amount and depth of information 1 – 7
- Medium amount and depth of information 8 – 14
- High amount and depth of information 15 – 21

4. Section E: Support from health care providers

- Adequate support 1 – 2
- Inadequate support 3 – 4

5. Acceptability of HAART

- Would go back to the ART clinic YES
- Would not go back to the ART NO

APPENDIX VII: LETTERS

The University of Zambia
Department of Nursing Sciences
P. O. Box 50110
LUSAKA

UFS: The Head of Department
Department of Nursing Sciences
School of Medicine (UNZA)
LUSAKA

The District Director of Health
Livingstone District Health Office
LIVINGSTONE

Dear Sir/Madam,

I am a student at the above mentioned institution currently pursuing a Master of Science in Nursing degree.

In partial fulfillment of this program, I am required to conduct a research study. My topic is "Acceptability of HAART by HIV-positive TB patients". The study will involve interviewing TB/HIV co-infected patients aged between 18 and 49 years old and are not currently on HAART though they were referred for the same. The study will be undertaken from April, 2008 to May, 2009.

Your consideration will be highly appreciated.

Yours faithfully,

Ruth Wahila (Ms.)

The University of Zambia
School of Medicine
Department of Nursing Sciences
P. O. Box 50110
LUSAKA

UFS: The Head of Department
Department of Nursing Sciences
School of Medicine (UNZA)
LUSAKA

The Executive Director
Livingstone General Hospital
P. O. Box 60091
LIVINGSTONE

Dear Sir/Madam,

I am a student at the above mentioned institution currently pursuing a Master of Science in Nursing degree.

In partial fulfillment of this program, I am required to conduct a research study. My topic is "Acceptability and Utilization of HAART by HIV-positive TB patients". The study will involve interviewing TB/HIV co-infected patients aged between 18 and 49 years old and are not currently on HAART though they were referred for the same. The study will be undertaken from April, 2008 to May, 2009.

Your consideration will be highly appreciated.

Yours faithfully,

Ruth Wahila (Ms.)



**THE UNIVERSITY OF ZAMBIA
SCHOOL OF MEDICINE**

Telephone: 252641
Telegram: UNZA, Lusaka
Telex: UNZALU ZA 44370
Cell: 095 772641

Dean's Office
P.O. Box 50110
Lusaka, Zambia

09th September, 2008

Ms Ruth Wahila
Department of Post Basic Nursing
P O Box 50110
LUSAKA

RE: GRADUATES PROPOSAL PRESENTATION FORUM (GPPF)

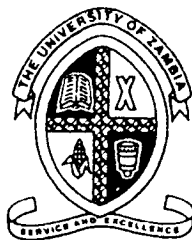
Having assessed your dissertation entitled **"Acceptability and Utilization of HAART by HIV – positive Tuberculosis patients in Livingstone district."** We are satisfied that all the corrections to your research proposal have been done. The proposal meets the standard as laid down by the Board of Graduate Studies.

You can proceed and present to the Research Ethics.

Yours faithfully,

Mr. K. Bowa, MSc, M.Med, FRCS, FACS
ASSISTANT DEAN, POSTGRADUATE

c.c. Head, Department of Post Basic Nursing



THE UNIVERSITY OF ZAMBIA

BIOMEDICAL RESEARCH ETHICS COMMITTEE

Telephone: 260-1-256067
Telegrams: UNZA, LUSAKA
Telex: UNZAI.U ZA 44370
Fax: + 260-1-250753
E-mail: unzarec@zamtel.zm

Ridgeway Campus
P.O. Box 50110
Lusaka, Zambia

Assurance No. FWA00000338
IRB00001131 of IORG0000774

3 November, 2008

Ref.: 020-10-08

Ms Ruth Wahila
Department of Post Basic Nursing
School of Medicine
P.O. Box 50110
LUSAKA

Dear Ms Wahila,

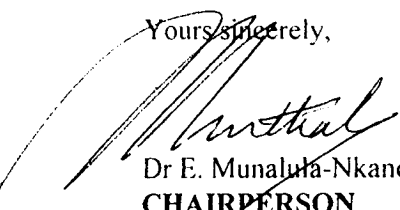
RE: RESUBMITTED RESEARCH PROPOSAL: "ACCEPTABILITY OF HAART BY HIV-POSITIVE TB PATIENTS IN LIVINGSTONE DISTRICT"

The above-mentioned research proposal was presented to the Biomedical Research Ethics Committee Secretariat where changes were recommended. We would like to acknowledge receipt of the corrected version with clarifications. The proposal has now been approved.

CONDITIONS:

- This approval is based strictly on your submitted proposal. Should there be need for you to modify or change the study design or methodology, you will need to seek clearance from the Research Ethics Committee.
- If you have need for further clarification please consult this office. Please note that it is mandatory that you submit a detailed progress report of your study to this Committee every six months and a final copy of your report at the end of the study.
- Any serious adverse events must be reported at once to this Committee.

Yours sincerely,


Dr E. Munalula-Nkandu, BSc (Hons), MSc, PgD R/Ethics, PhD
CHAIRPERSON

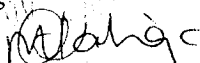
Date of approval: 3 November, 2008

Date of expiry: 2 November, 2009

The University of Zambia
School of Medicine
Department of Post Basic Nursing
Box 50110
Lusaka

4th November, 2008

UFS: The Head of Department
University of Zambia
Department of Post Basic Nursing
Box 50110
Lusaka



The Permanent Secretary
Ministry of Health
Lusaka

Dear Sir/Madam,

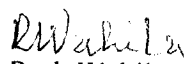
Re: Application for permission to collect data

I refer to the above subject matter and do hereby apply for the same. I am a student at the above mentioned institution currently pursuing a Master of Science in Nursing degree. In partial fulfillment of this program, I am required to carry out a research study. My research topic is **"Acceptability of HAART by HIV-positive TB patients in Livingstone district"**. I am therefore requesting for permission to conduct the study.

The study will involve interviewing TB/HIV co-infected patients aged between 18 and 49 years. Data will be collected for a period of 1 month from November to December, 2008 at Livingstone General Hospital and three health centres in the district. Attached is a letter of approval for the study from the University of Zambia Biomedical Research Ethics Committee.

Thanking you in advance.

Yours faithfully,


Ruth Wahila (Ms.)

All Correspondence should be addressed to the
Permanent Secretary

Telephone: +260 211 253040/5

Fax: +260 211 253344



REPUBLIC OF ZAMBIA

MINISTRY OF HEALTH

In reply please quote:

No.....

10th November 2008

NDEKE HOUSE
P. O. BOX 30205
LUSAKA

Ms. Ruth Wahila
The University of Zambia
School of Medicine, Department of Post Basic Nursing
P. O. Box 50110
LUSAKA

Dear **Ruth**,

RE: **AUTHORITY TO COLLECT DATA IN PUBLIC HEALTH FACILITIES**

I wish to inform you that following submission of your research proposal to my Ministry, our review of the same and in view of the clearance from the University of Zambia Biomedical Research Ethics Committee, my Ministry has granted you authority to carry out your field research entitled "**Acceptability of HAART by HIV-positive TB patients in Livingstone District**".

I wish to further say that we are satisfied that the study can continue as a separate study, on condition that

1. The relevant Provincial and District Directors of Health where the study is being conducted are fully appraised;
2. Progress updates are provided to MoH quarterly from the date of commencement of the study;
3. The final study report is cleared by the MoH before any publication or dissemination within or outside the country.

Sincerely yours,


Dr. Simon K. Miti

PERMANENT SECRETARY

MINISTRY OF HEALTH

CC Director – Public Health & Research, MoH Headquarters
 Information & Research Specialist, MoH Headquarters
 Provincial Health Director - Southern Provincial Health Office
 District Director of Health - Livingstone DHMT