

**KNOWLEDGE, ATTITUDES AND
PERCEPTIONS OF TB NON-ADHERENT
AND ADHERENT 2-3 YEARS AFTER
THEIR INITIAL REGISTRATION AT
BOTŠABELO CLINIC, MASERU,
LESOTHO**

By

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requirements for the degree of Masters in Public
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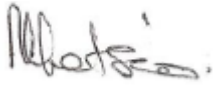
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November 2011

DECLARATION

I declare that Knowledge, Attitudes and Perceptions of TB Non-adherent and Adherent is my own work and that all sources that I have used or quoted have been acknowledged by means of complete references; and that this work has not been submitted before for any other degree at any other institution.



SIGNATURE

29 February 2011

DATE



DEDICATION

I dedicate this study to my late parents, Morena Selbourne Ramaeba Letsie and Mofumahali ‘Mamatšeliso Anna Selbourne Letsie, my late sister Mantšebo Amelia Moipone Letsie-Ramone. May their souls rest in peace.

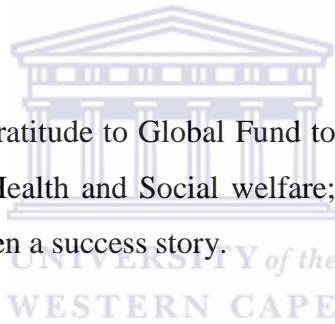


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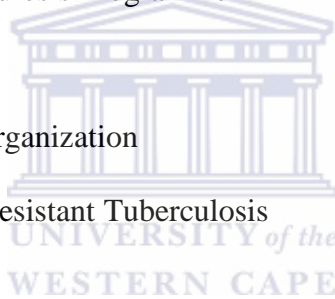
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My sincere gratitude goes to my sisters and brothers for their support throughout my studies.

ABBREVIATIONS

AFB	Acid Fast Bacilli
AIDS	Acquired Immune Deficiency Syndrome
DHMTs	District Health Management Teams
DOTS	Direct Observation Treatment Short course
FDC	Fixed Dose Combination
HIV	Human Immune Virus
MDR-TB	Multi-drug Resistant Tuberculosis
NTP	National Tuberculosis Programme
TB	Tuberculosis
WHO	World Health Organization
XDR TB	Extreme Drug Resistant Tuberculosis



DEFINITIONS OF TERMS

Pulmonary tuberculosis: Refers to the disease involving the lung parenchyma caused by micro bacteria tuberculosis.

TB Non-adherent: A patient whose treatment was interrupted for two consecutive months or more.

TB Non-defaulter: A patient who has successfully been treated for TB for a period of six months without interruption.

Treatment complete: Patient who has taken TB treatment for six months without interruption and at the end of treatment the smear result is unknown.

Perception: It is the way of seeing or understanding something, in this study perception means the opinions of TB patients.

Knowledge: Information and skills acquired through experience or education. In this study knowledge means being informed about TB issues.

Attitude: Settled way of thinking or feeling, a position of the body indicating a particular mental state. In this study attitude means feelings of TB patients.

Cure: A patient whose sputum is positive at the beginning of treatment and smear negative in the last month of treatment and on at least one previous occasion.

New cases: A patient who is diagnosed with TB for the first time and has never been treated for TB or who has taken anti-tuberculosis drugs for less than one month.

TEN KEY WORDS

Assess

Attitudes

Default

Knowledge

Maseru District

Patients

Perceptions

Treatment

Tuberculosis



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ABSTRACT

Background: Tuberculosis (TB) in the majority of cases is a curable disease requiring prolonged treatment of six months. The World Health Organisation (WHO) recommends the Direct Observation Treatment Short course (DOTS) strategy as the approach to control TB. Despite such interventions, defaulting from TB treatment is still a major problem among TB patients at Botšabelo Clinic in Maseru. This research aimed to describe knowledge, attitudes and perceptions to TB as a disease and its treatment among non-adherent and adherent at Botšabelo Clinic in the Maseru district of Lesotho, in order to identify contributing factors related to defaulting treatment.

Study design: A cross-sectional descriptive study was conducted.

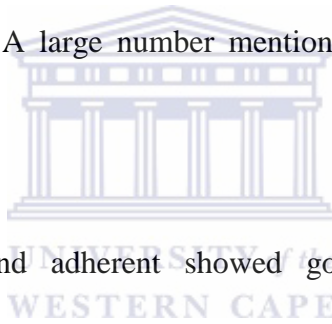
Population and sampling: TB non-adherent and adherent registered at Botšabelo Clinic in 2007 were included in the study. Simple random sampling was used to select both non-adherent and adherent.

Data collection: Data were collected by means of a structured questionnaire.

Data analysis: *Epi-Info Version 3.4.3* was used for data analysis. Descriptive statistics were calculated using frequencies, means and percentages for socio-demographic information, knowledge, attitudes and perceptions. A p-value of less than 0.05 was accepted as being statistically significant in all statistical tests.

Results: The total number of respondents who were interviewed in this study was 283. 131(46%) were non-adherent and 152 (54%) were adherent. Non-adherent and adherent showed good knowledge of symptoms, prevention and transmission of TB. They were also knowledgeable about duration of treatment. 98% non-adherent and 100% adherent knew that TB is curable. 93% non-adherent and 93% adherent visited a health facility when TB symptoms occurred.

Less than half of the respondents (47% non-adherent and 47% adherent) smoked. 47% non-adherent 43% adherent drank alcohol. Many non-adherent and adherent experienced support from the community. A large number mentioned that TB did not affect their marriage negatively.



Conclusion: Non-adherent and adherent showed good knowledge of symptoms, prevention, disease transmission and definition of TB. Even though many could define TB, there were misconceptions that TB is caused by poison. Therefore, there is a need to strengthen health education on TB among communities. They were also knowledgeable that TB is curable and many could define DOT. Their attitudes and perceptions towards TB as a disease were positive. Many (93%) of those who were diagnosed with TB went to a health facility for treatment, while others sought it from traditional healers. Less than half of non-adherent and adherent delayed seeking treatment. A considerable number of non-adherent and adherent were heavy smokers. Alcohol intake was moderate among both groups.

Media was reported as the main source of TB information in this study. Side effects to medication were the most reported deterrent to treatment among non-adherent. The side effect with the highest frequency was vomiting. It was followed by nausea and skin rash. Socio-economic factors that determined treatment were access to health services, long distance to the clinic, lack of transport and lack of funds and personal habits like smoking and alcohol abuse. Delay in seeking treatment was found to be a problem in this study. There was no difference found between knowledge attitude and perceptions of non-adherents and adherents.



CHAPTER 1

1. INTRODUCTION

1.1 BACKGROUND INFORMATION

Lesotho is a small mountain Kingdom situated in the southern part of Africa, completely surrounded by the Republic of South Africa. The capital city is Maseru, the population is 1.8 million. It is divided into ten administrative districts namely: Berea, Butha-Buthe, Leribe, Mafeteng, Maseru, Mhaleshoek, Mokhotlong, Qachasnek, Quthing and Thaba-Tseka. Lesotho can be distinguished by high altitude terrain (LDHS, 2004). This country is divided into two residential areas, urban and rural and further divided into four ecological zones: lowlands, foothills, mountains and Senqu valley. More than 80% of the country is higher than 1,800 metres above sea level. The major natural resources are water, agriculture and mining in small scale, only 10% of the land is arable. It is a less resourced country ranked at 149 in the United Nations Human Development scale. The Gross Domestic Product per capita (GDP) for Lesotho is \$1,351.06 (IMF 2011).

Tuberculosis (TB) is an infectious curable disease. In Lesotho, TB treatment is without charge at all levels of care. Health care workers and community health workers are trained to manage TB with standardised World Health Organisation (WHO) protocols. Despite the free TB treatment and implementation of Direct Observation Treatment Short course (DOTS), 20.8% of TB patients at Botšabelo Clinic in the district of Maseru defaulted treatment in 2007 (MOHSW, 2007a).

TB is still a major cause of death worldwide (WHO, 2007). The World Health Organisation (WHO) estimates that about one third of the global population is infected

with TB and it is at risk of developing the disease. In 2007, there were an estimated 8.8 million newly reported TB cases worldwide. Asia and Sub-Saharan Africa reported 7.4 million (84%) cases in 2007. A total of 1.6 million people died of TB including 195,000 people infected with HIV worldwide (WHO, 2008b).

The 2011 WHO Global Tuberculosis Report ranked Lesotho 5th among 15 countries of the world with the highest per capita incidence (NTP, 2009). In 2007, Lesotho reported 14,300 TB cases (4,278 new pulmonary smear positive, 555 relapses, 2,853 new smear negative, 1,041 non-adherent and 1,676 re-treatment cases) of all forms of TB. Maseru district alone contributed 25% of new sputum smear positive TB cases. The incidence of all cases and new smear positive cases was 768 per 100,000 population and 212 per 100,000 population respectively, with an estimated case detection rate of 80% for new sputum smear positive cases. Out of the 11,436 new cases reported, patients with smear positive TB accounted for only 35% (4,024) of all notified cases as opposed to the expected 50%. This was attributed to the high incidence of HIV in the country because most TB cases are sputum negative (MOHSW, 2008b).

In the same year Botswana reported 13,761 new cases of TB while Swaziland reported 13,674. New smear positive cases and smear negative cases for Botswana and Swaziland were 5,251 and 5,055 and 8,510 and 8,519 respectively. (WHO, 2007)

In 2011 Lesotho reported 12,616 TB cases of which 10,400 were new cases. Of the 10,940 notified new cases 3,510 were new pulmonary sputum smear positive, 3,242 were new smear negative and 2,089 were extra-pulmonary cases. 2,099 were sputum smear not

done. The data showed that treatment success rate declined from 72% to 68.8% (NTP, 2010).

Lesotho adopted the Direct Observation Treatment Short course (DOTS) strategy in 1994. The country also adopted the DOTS strategy as a way of increasing compliance amongst patients. Patients are observed by a health care worker or a community health worker (CHW) for a period of two months in the initial phase, followed by six months during the continuation phase. On discharge, a patient is handed a treatment card with dates and days where a DOT supporter can tick on a daily basis as the patient takes drugs. This clinic card is checked by a health care worker every time the patient comes for refills. A duplicate of the card is kept at the clinic (MOHSW, 2007b). The goal of this programme is to cure at least 85% new smear positive patients; and to detect at least 70% of new smear positive cases in the community. The country is reporting 100% DOTS implementation and according to 2007 data, the success rate was 72% and detection rate was 86% which is far above the expected 70% set by WHO (MOHSW, 2007b).

Botšabelo is a referral clinic for the management of TB patients. All patients suspected with TB are referred to the centre for diagnosis and treatment. At this clinic, health care workers observe National TB and WHO recommended guidelines at all times. Once diagnosed with TB, patients' names and addresses are entered in the TB register prior to providing them with free medication. Drugs are ordered in line with the national TB guidelines (MOHSW, 2007b).

DOT is a community-driven strategy in which members of the community participate voluntarily as DOT supporters. They are trained by health care workers on how to supervise TB patients when taking treatment in their homes. The DOT supporter has an important role to play. He/she is required to remind and to encourage patients on TB treatment to continue until the last dosage is taken (MOHSW, 2007b; WHO, 1994). Furthermore, they communicate with patients' families, provide health education to their communities and they are charged with the responsibility of tracing non-adherent patients. These supporters are paid on monthly basis (MOHSW 2006).

Although TB patients are provided with adequate information on TB treatment and the importance of completing it when they attend clinics, there are still those who do not complete treatment, especially in Maseru. As a result, I, the researcher decided to describe knowledge, perceptions and attitudes of TB non-adherent and adherent.

WHO (1994) recommends DOTS as the international strategy for TB control programmes. Tenets of DOTS include:

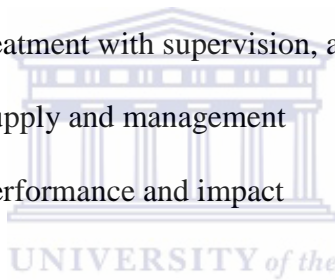
- Government commitment to the national TB programme
- Case detection through smear microscopy
- Standardised treatment of TB cases
- Regular, uninterrupted drug supply
- Good system of monitoring and evaluation

The new Stop TB Strategy (2006-2015) builds on the achievements of the DOTS strategy. It embraces fundamentals of TB control originally framed as DOTS. But, it extends the reach of control activities to other key areas. These areas include multi-drug resistant TB (MDR-TB) and Extreme Drug Resistant TB (DOTS-PLUS). (NTP, 2009)

Components of the new Stop TB Strategy are as follows:

Pursue high-quality DOTS expansion and enhancement

- Secure political commitment, with adequate and sustained financing
- Ensure early case detection, and diagnosis through quality-assured bacteriology
- Provide standardized treatment with supervision, and patient support
- Ensure effective drug supply and management
- Monitor and evaluate performance and impact



Address TB-HIV, MDR-TB, and the needs of poor and vulnerable populations

- Implement collaborative TB/HIV activities
- Prevention and management of multi-drug resistant TB (MDR-TB)
- Address the needs of TB contacts, and of poor and vulnerable populations

Contribute to health system strengthening based on primary health care

- Help improve health policies, human resource development, financing, supplies, service delivery and information
- Strengthen infection control in health services, other congregate settings and households
- Upgrade laboratory networks, and implement the Practical Approach to Lung Health (PAL)

- Adapt successful approaches from other fields and sectors, and foster action on the social determinants of health

Engage all care providers

- Involve all public, voluntary, corporate and private providers through Public-Private Mix (PPM) approaches
- Promote use of the International Standards for Tuberculosis Care (ISTC)

Empower people with TB, and communities through partnership

- Pursue advocacy, communication and social mobilization
- Foster community participation in TB care, prevention and health promotion
- Promote use of the Patients' Charter for Tuberculosis Care

Enable and promote research

- Conduct programme-based operational research
- Advocate for and participate in research to develop new diagnostics, drugs and vaccines (WHO, 2006)

The assumption is that trained observers will watch patients take treatment. Moreover, adherence to treatment still remains the prerogative of the individual patient.

1.2 PROBLEM STATEMENT

Lesotho has been reporting low success rate of 72% according to WHO report 2007, despite the fact that government is directing massive resources towards prevention and

cure of TB. It is on this background that the researcher decided to describe and compare knowledge, attitudes and perceptions of clients 2-3 years after their initial registration.

1.3 RATIONALE FOR THE STUDY

Lesotho has the highest incidence of TB in the world (WHO, 2007). The number of TB patients defaulting from treatment increased from 11% in 2006 to 20.8% in 2007 (NTP, 2009). The research therefore described the knowledge, attitudes and perceptions of TB as a disease and its treatment among non-adherent and adherent. The information acquired in this study will assist in understanding the gaps in knowledge, experience and perceptions therefore assist in the development of appropriate interventions for the management of TB.



1.4 BACKGROUND

1.4.1 TUBERCULOSIS (TB) PROGRAMME IN LESOTHO

The following section will explore the background and the structure of the TB programme in Lesotho more extensively; the DOTS strategy; diagnosis and treatment of TB; management of interruption; TB/HIV; and MDR-XDR. Furthermore, this section will explore the background and the context of the research problem through a critical review of past and recent studies on knowledge, attitudes and perceptions of TB patients and TB treatment.

1.4.2 OBJECTIVES OF TB CONTROL PROGRAMME IN LESOTHO

The TB control programme in Lesotho has the following objectives:

- To strengthen DOTS implementation through the training of health workers, traditional healers and extension workers in TB Control

- To improve quality for TB diagnosis through the establishment of a quality control system in all health service areas(HSAs)
- To strengthen and to expand public-private partnerships in DOTS implementation through training of general practitioners
- To improve National Tuberculosis Programme (NTP) management by ensuring that all district hospitals use TB surveillance data for monitoring and evaluation

1.4.3 ORGANIZATION OF TB SERVICE DELIVERY

The management and organization of TB services at the district level is the responsibility of the District Health Management Teams (DHMTs) discharged through the NTP focal person, who is the District TB Coordinator (DTBCO) (NTP, 2009; MOHSW, 2008a). Currently, each hospital has at least one TB Officer (TBO) under the supervision of the DTBCO and Hospital Management Team (HMT). TBOs coordinate and implement the NTP policy at hospital, health centre and community levels (NTP, 2009). Under the national monitoring and evaluation plan, all data and health information flows from the districts to one focal point in the Health Planning and Statistics Unit (HPSU) of the Ministry of Health from where programmes and other departments access it for their managerial use (MOHSW, 2007b).

1.4.4 NATIONAL TUBERCULOSIS PROGRAMME (NTP) STRUCTURE

The NTP was established in 1986. It is fully funded by the Government of Lesotho. It is one of the sub-units of the Disease Control Unit (DCU). The DCU is charged with the management and control of communicable and non-communicable diseases. The NTP Manager reports directly to the Head Disease Control Unit.

At the district level, the District TB Coordinator (DTBCO) directly supervises the District TB Officers (TBOs) who are responsible for TB case registration and treatment at health facilities. At community level, the community DOT supporter reports to a health centre nurse. The community health worker supervises the patient on daily basis, provides health education to the patient and family. The drugs and the card are kept by the CHW at health post. The patients are referred back to the clinic for sputum examination before completion of treatment. (NTP, 2009).

At community level, various stakeholders including community health workers (CHWs), non-governmental organisations (NGOs), community based organisations (CBOs), TB treatment supporters and traditional healers in their varying capacities deliver TB care in close collaboration with the district team (NTP, 2009).

The central TB reference laboratory is housed within the premises of Queen Elizabeth II Hospital, the national referral hospital in Maseru. Sputum, culture examination, and drug susceptibility testing (DST) are performed in this laboratory. Medical Research Council (MRC) South Africa is mandated to conduct external quality assessment under the WHO supranational reference laboratory network (NTP, 2009).

A network of 18 laboratories throughout the country performs sputum smear microscopy, whilst the central TB reference laboratory serves as the quality assurance laboratory for sputum smears. DST is now performed at a central laboratory with assistance from the Foundation of Innovative New Diagnostic (FIND) (MOHSW, 2007a).

The National Drug Service Organisation (NDSO) is responsible for procurement and distribution of medicines to MOHSW and Christian Health Association of Lesotho (CHAL) institutions. First-line anti-TB drugs are procured from Global Drug Facility (GDF) and are supplied free of charge to all patients. Second-line drugs are supplied by Green Light Committee (GLC) (MOHSW, 2007b).

1.4.5 DOTS STRATEGY

The five components of this strategy are:

- **Sustained political commitment**

Government must commit financial and human resources in support of the TB programme.

- **Case detection through quality-assured bacteriology**

Case detection must occur among symptomatic patients self-reporting to health services, using sputum smear microscopy.

- **Standardised treatment with supervision and patient support**

This includes standardised short-course chemotherapy that uses regimens of 6–8 months for at least all confirmed smear-positive cases; and directly observed treatment (DOT) during the intensive phase for all new smear-positive cases, during the continuation phase of regimens containing rifampicin and during the entirety of a re-treatment regimen.

- **An effective drug supply and management system**

Establish and maintain a supply system for quality-assured, essential anti-TB drugs and to ensure no interruption in their availability.

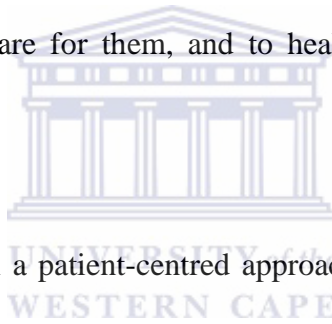
- **Monitoring and evaluation system and impact measurement**

Establish and maintain a standardised recording and reporting system that allows assessment of treatment results of all patients.

1.4.6 ENSURING PATIENTS' COMPLIANCE VERSUS NON-ADHERENT

TRACING

Patients' compliance is a key factor in treatment success. In many parts of the country, a significant number of patients stop taking drugs before completion of treatment for various reasons. The premature interruption of treatment is problematic to patients, their family members, those who care for them, and to health workers (NTP, 2009; Tekle, Mariam & Ali, 2002).



Promoting compliance through a patient-centred approach includes facilitating access to treatment; choosing with the patient the most convenient time and place for direct observation of treatment; and where possible, providing other social and medical services rather than wasting resources on tracing non-adherent. Facilitating access includes providing drugs and sputum smear examinations free of charge; reducing time and cost to the patient to obtain treatment; and providing good and rapid attention (NTP, 2009; Khan, Imdad, Newell & Walley, 2000).

1.4.7 PREVENTIVE MEASURES TO DECREASE TREATMENT

INTERRUPTION

When a TB patient is treated for the first time the health worker has to set aside enough time to meet with him/her (and preferably also with his/her family members). This is a significant opportunity to advice and counsel the patient (WHO, 2004). During this meeting, it is vital to record the patient's and his/her relatives' details (physical and work/home telephone addresses) in order to maximise the probability of locating patients who interrupt treatment (NTP, 2009).

Management of treatment interruption

The management of patients who have interrupted treatment is complex and takes into consideration several variables (immune status, degree of remission of the disease with the previous treatment, drug susceptibility) that may be difficult to assess. A simple decision tree is depicted in Table 1 below.

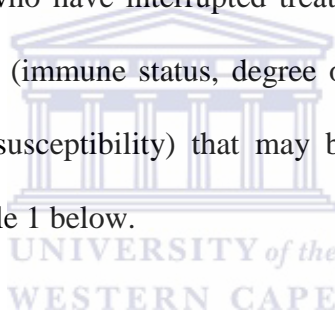


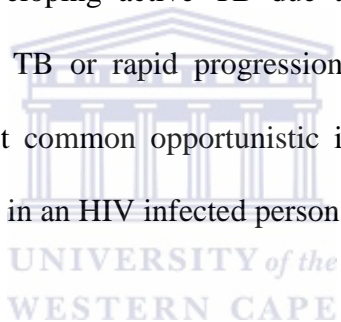
Table 1: Management of treatment interruption (Default) (NTP, 2009)

Interruption for less than 1 month			
<ul style="list-style-type: none"> • Trace patient • Solve the cause of interruption • Continue treatment and prolong it to compensate for missed doses 			
Interruption for 1 – 2 months			
Action 1		Action 2	
<ul style="list-style-type: none"> • Trace patient • Solve the cause of the interruption • Do 3 sputum smears • Continue treatment while waiting for results 	If smears negative or EPTB	Continue treatment and prolong it to compensate for missed doses	
	If one or more smears positive	Treatment received: < 5 months	Continue treatment and prolong it to compensate for missed doses
		Treatment received: > 5 months	Category I: Start category II Category II: refer (may evolve to chronic)

Interruption for 2 months or more (defaulter)			
<ul style="list-style-type: none"> Do 3 sputum smears Solve the cause of the interruption, if possible No treatment while waiting for results 	If smears negative or EPTB	Clinical decision on individual basis whether to restart or continue treatment	
		Category I	Start Category II
		Category II	Refer (may evolve to chronic)

TB/HIV management

The HIV epidemic is causing a rapid increase in TB (WHO, 2005). HIV-infected individuals are at risk of developing active TB due to either reactivation of latent infection with mycobacterium TB or rapid progression of newly acquired infections (WHO, 2004). TB is the most common opportunistic infection in people living with HIV/AIDS. When TB develops in an HIV infected person the prognosis is very poor.

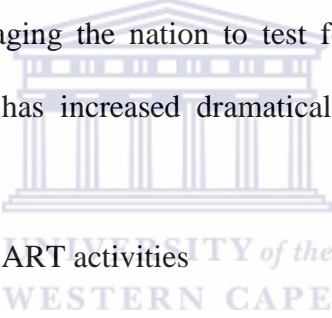


The HIV prevalence of 23.2% in Lesotho is one of the highest in Sub-Saharan Africa (MOHSW, 2006). The first case was diagnosed in 1986. Since then, the prevalence sharply rose from 2% in 1992 to 21% by 2000 (AIDS Policy, 2006). HIV seroprevalence conducted among TB patients in three sentinel sites in Lesotho showed levels of 15.4% in 1993 and 39.8% in 1995. In urban areas like Maseru, the estimated prevalence of HIV in TB patients was 50%. The proportion of TB patients infected with HIV was 76% in 2007 (WHO, 2007).

The national response to HIV/TB has been intensified since 2002, but with no collaborative linkages in the implementation of both programmes. This is evidenced by

the implementation of “*specific HIV and AIDS interventions comprising of information education and communication materials (IEC) to promote awareness and behavioural change for specific target groups, HIV testing and counselling, home-based care, HIV/AIDS surveillance, blood safety and laboratory support*” (MOHSW, 2008). Mechanisms are under way to increase HIV/TB collaborative activities (NTP, 2009).

The HIV/AIDS programme implements specific interventions such as IEC materials to promote: awareness among the general public; voluntary counselling and testing; home based care; and HIV/AIDS counselling. Lesotho adopted the Know Your Status (KYS) campaign as a way of encouraging the nation to test for HIV/AIDS. Since 2007, the number of TB/HIV activities has increased dramatically. Benefits of these activities include:

- 
- Harmonizing of TB and ART activities
 - Commencement of joint planning and programming between NTP and the HIV/AIDS directorate
 - Capacity-building towards screening of people living with HIV/AIDS
 - Capacity-building towards screening of TB patients
 - Provision of cotrimoxazole to all HIV positive TB patients
 - Development of joint monitoring and evaluation plan

In TB/HIV collaborative activities, all patients who are diagnosed with TB are screened for HIV, and all patients who are HIV positive are screened for TB for early detection of

TB and initiation of prophylaxis. It is very important to exclude TB before starting the INH prophylaxis to prevent MDR-XDR TB (AIDS Policy, 2006).

Management of MDR-XDR TB

Management of MDR imposes a tremendous challenge to National TB programmes especially in resource-limited settings (Camirero, 2010). MDR-TB is defined as resistance against at least isoniazid and rifampicin. It is a very serious form of drug-resistant TB as isoniazid and rifampicin are the most potent bactericidal drugs for treatment of TB (Chiang & Schaaf, 2010; MDR, 2007). All other drugs are less potent and have more side effects.

Treatment without these two drugs is always much longer and cumbersome (MDR, 2007; Camirero, 2010). DOTS strategy has been proven to prevent emergence of MDR-TB. Where DOTS strategy is not well implemented MDR-TB occurs (MDR, 2007; WHO, 2008c).

The two kinds of drug-resistant TB are primary resistance and acquired drug resistance. Primary resistance occurs in patients who have never been treated for TB before, and acquired drug resistance occurs when a patient has been previously treated for TB for more than a month. (Chiang & Schaaf, 2010; MDR, 2007; WHO, 2006).

Like all other countries, Lesotho has adopted MDR standardized treatment as recommended by WHO. Most MDR-TB patients are treated on an ambulatory basis. The very ill are admitted to hospital. On discharge, each patient is followed up by a trained

TB supporter. The supporter provides the patient with clinical follow-up until completion (MOHSW, 2006; MDR, 2007).

Management teams manage MDR-TB patients at district level. Their responsibilities include patients counselling and monitoring of side effects. Treatment of MDR-TB is initiated as soon as two separate sputum specimens have been sent to the laboratory for culture and DST. The initial phase lasts for six months and/or until the culture is negative. The continuation phase lasts for 18-24 months (MDR, 2007; WHO, 2008c).

1.5 STRUCTURE OF THE MINI-THESIS

Chapter one briefly describes the background, the problem, the purpose and the approach to the study. It also highlights the rationale for the research topic. This chapter also explains the structure of the TB programme in Lesotho and the DOTS strategy; and it discusses diagnosis and treatment of TB; management of interruption; TB/HIV; and MDR-XDR.

Chapter two discusses the literature review. It explores the context of the research problem more extensively through a critical review of past and recent studies on knowledge, attitudes and perceptions of TB patients.

Chapter three describes the research aims and objectives; methodology and study design; sampling procedure; data collection methods and tools; data handling and analysis; as well as study limitations and ethical considerations.

Chapter four focuses on the results obtained from the study and includes an interpretation thereof.

Chapter five discusses the study findings in relation to the literature.

Chapter six outlines the conclusion and recommendations of the study.



CHAPTER 2

2. LITERATURE REVIEW

Chapter two discusses the literature review. It explores the context of the research problem more extensively through a critical review of past and recent studies on knowledge, attitudes and perceptions of TB patients.

2.1 INTRODUCTION

TB continues to be one of the major health challenges worldwide, despite the world directing massive resources towards its prevention and cure. Problems encountered include the following: confirming the diagnosis is difficult, treatment to cure takes too long, drug resistant is increasing, BCG is only partially effective and our inability to slow down the spread of HIV more quickly than seems to be happening naturally. WHO (1993) and the Maputo Declaration (2005) declared TB as an emergency in Africa (WHO, 2005). Determinants of TB are diverse and multifactorial. However, poor management of patients and fragmented health services are some of the barriers to effective TB control (Van der Walt, Weyer, Lancaster & Levin, 2002; Karyadi, 2002).

Poor compliance to TB treatment has been cited as one of the major obstacles which have led to the spread of TB (Jaggarajamma et al 2007; Tekle et al, 2002). A plethora of reasons have been cited for defaulting and this includes patients stopping taking treatment due to lack of knowledge, poverty, migration, stigma and poor access to health services and unemployment (Holtz, Thorpe, Weyer, Matji & Larson, 2002; Khan et al, 2000). In addition, patients' perceptions about the negative attitudes of health workers and

substance and drug abuse have also been cited as reasons for defaulting (Van der Walt, Weyer, Brand, Lancaster & Levin, 2003).

Non-compliance of TB patients to self-administered drugs is a common cause for failure of initial therapy and default. Some patients cited adverse reaction to treatment, lack of information about side effects and how to overcome them as reasons for discontinuing medication (Volmink & Garner, 2006; Khan et al, 2000). In addition, one study conducted in India revealed that one of the reasons for perceived side effects could be the continued practice of giving medication on an empty stomach (Vijay et al, 2010).

2. 2 KNOWLEDGE ABOUT TB

Lack of knowledge is one of the major determinants of treatment default (Homedes & Ugaide, 1993; Liam & Tang, 1995). A study conducted in Ethiopia revealed that compliance to DOTS was significantly high among those who had good knowledge about various aspects of the disease (Tekle et al, 2002). This was also confirmed by Pandit & Chaudhary (2006). Compliance was more among patients who possessed good knowledge about TB according to studies conducted in Thailand and Pakistan (Karyadi, 2002; Mushtaq et al, 2010).

Many studies have focused on the influence of patients' understanding of treatment, including its duration and the reasons for defaulting treatment (Jaggarajamma et al, 2007; Khan et al, 2000; O'Boyle et al, 2002; Yadav, Murthur & Dixit, 2006; Liam, Lim, Wong & Tang, 1999; Wares, 2003). The long treatment period was poorly understood by patients and adherence was found mainly where people understood the importance of

long-term treatment (Khan et al, 2000; O'Boyle et al, 2002). Patients who are knowledgeable about signs and symptoms of TB are less likely to default on treatment (Jaggarajamma et al, 2007; Pandit & Chaudhary, 2006).

According to the study conducted in Pakistan on knowledge, attitudes and perceptions of TB patients, knowledge was significantly better among population groups with higher education, higher income and those living in urban areas with a p-value less than 0.001 (Mushtaq et al, 2010). A study conducted in Sudan found gender differences in knowledge. Males (58%) were more knowledgeable about signs and symptoms of TB than females (52.8%), p-value < (0.05) (Mohamed, Yousif, Ottoa & Bayoumi, 2007). In an Angolan study that measured the parameters of health-seeking intention among TB patients, it was found that knowing the key symptoms of TB was positively associated with appropriate health-seeking (OR 3.1, 95% CI 1.4-6.8) (Louis et al, 2011).

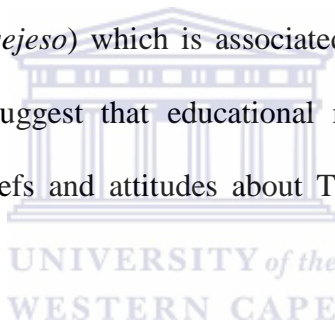
In the former, 64.5% of the respondents interviewed identified cough as the main symptom of TB, fever (49.2%), fatigue (35.7%), weight loss (45.7%), chest pain (24.9%), and nausea (16.9%). Most of the subjects interviewed (68.2%) reported that covering the mouth and nose when sneezing is a preventative measure for TB. Among treatment options given in the study, respondents (82%) mentioned that TB is cured by TB drugs. They also mentioned that the duration of treatment is 6-9 months without interruption (Mushtaq et al, 2010).

The propensity to seek care depends on knowledge about the perceived risk of TB within reference groups and communities at large (Karyadi, 2002; Pandit & Chaudhary, 2006).

A number of studies revealed a link between knowledge and default (Hill & Chamachandran, 1992; Homedes & Ugaide, 1993; Jaiswal, Singh, Ogden, Porter & Sharma, 2000). Knowledge includes the ability to recognise symptoms, identify causes and transmission routes, familiarity with the availability of cure and duration of treatment (WHO, 2008a).

2. 3 ATTITUDES, PERCEPTIONS AND BELIEFS

In a qualitative study by Khan and colleagues (2000), most of the patients in Pakistan believed that TB is a punishment from God. However, in Lesotho patients believe that TB is a poison in the lungs (*sejeso*) which is associated with bewitchment (MOHSW, 2004). Such belief systems suggest that educational messages should include local context and address local beliefs and attitudes about TB and its treatment (Jaramillo, 1999).

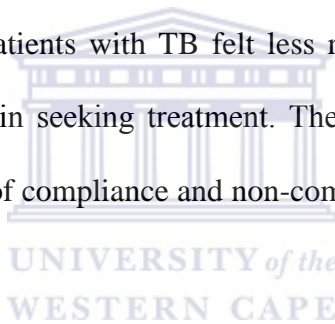


It was found in some studies that patient beliefs about the efficacy of treatment, both positive and negative, may impact on adherence (Liam et al, 1999; Van der Walt et al, 2002; Homedes & Ugaide, 1993). Patients with a higher perception of the severity of the disease are less likely to delay care-seeking and diagnosis and treatment (Kim, Mori & Shima, 1985; Rally et al, 1998; Khan, et al, 2006; Pronyk, et al, 2001).

According to the study conducted in Pakistan, the results revealed that respondents sought help for the first time from a health facility (95.3%), other choices were the pharmacy (3.5%), traditional healer (2.3%) (Mushtaq et al, 2010). In addition, 78.2% of the participants in this study sought treatment as soon as symptoms occurred, while

others delayed until after 3-4 weeks. The same study revealed that 47.9% of the respondents believed that TB patients are stigmatised by communities. The results further showed that literate TB patients were more likely to feel embarrassed and stigmatised than illiterate patients, while others feared and had feelings of hopelessness (Mushtaq et al, 2010).

A descriptive exploratory study conducted in Vietnam among health workers and TB non-adherent on knowledge and attitudes of TB treatment revealed that TB was considered a dirty disease, which mainly affects poor people (Hoa, Thorson, Long & Diwan, 2003). Furthermore, patients with TB felt less respected by others. This social stigmatisation leads to delays in seeking treatment. The patient's economic status was also an important determinant of compliance and non-compliance (Hoa et al, 2003).



2. 4 ALCOHOL AND SMOKING

Worldwide studies confirm that smoking is an established risk factor not only for cancers, coronary heart disease and stroke, but also in the case of being infected with *mycobacterium tuberculosis* (Dujaili, Sulaiman, Awaisu, Muttalif & Blebil, 2010; Leung, Yew, Chan, Tam & Lam, 2003; Mauraya, Vijayan & Shah, 2002).

Smoking, alcoholism and drug abuse have been found to increase treatment default (Sepa & Peltzer, 2005; Mauraya et al 2002, Hasker et al, 2008). In a study that investigated risk factors for default and time of default, results showed that unemployment, being a pensioner, alcoholism and homelessness were associated with treatment default; patients defaulted mostly during the intensive phase of the treatment (Hasker et al, 2008). A

retrospective study conducted in Malaysia to determine the prevalence of smoking among TB patients; and to compare the treatment outcomes between smoking and non-smoking TB patients, found that the prevalence of smoking among TB patients was high (53.4%). Smoking was significantly associated with male gender, alcohol use and intravenous drug use. Smokers had an increased likelihood of treatment failure (OR 7.48), default (OR 7.17) and were less likely to be cured. (Dujaili et al, 2010). The study concluded that the prevalence of smoking was high among TB patients in Malaysia; this was confirmed by a study conducted in China which revealed that 54.6% of TB patients were smokers (Dujaili et al, 2010).

A study conducted by Pandit and Chaudhary (2006) reported that drinking alcohol was associated with unpleasant side effects such as vomiting. Patients who experience side effects are more likely to default TB treatment (Khan et al, 2000).

The Lesotho Demographic Health Survey 2004 showed that 70% of women interviewed did not take alcoholic drinks while 42% of men took them. The study also revealed that men with higher education drank larger quantities of alcoholic drinks than their women counterparts. Men (42%) used tobacco products more than women (15%).

2. 5 HEALTH EDUCATION

Health education is concerned with informing and creating awareness among the general public or specific populations about TB; and empowering people to take action. Health education strategies are geared towards changing people's behaviours with regard to

taking TB medication (Wandwalo & Morkve, 2000; Jaramillo, 1999; Mahomed et al, 2007).

According to Jaramillo (1999), poor education on TB was the cause of treatment default by TB patients. Most of the studies reported television and health workers as the main sources of information about TB (Mushtaq et al, 2010; Hoa et al, 2003; Khan et al, 2006). Therefore media can serve as an important medium for disseminating health information.

The results of a study conducted in Nepal to assess knowledge and attitudes of TB patients and adherence to DOTS showed that 61% of respondents had insufficient knowledge about the need to take treatment daily, mainly after they felt better. DOTS, younger age, knowledge about TB and availability of daily health education were independently associated with adherence (OR 6.27; 95% CI 2.88 – 13.4; p-value<0.001) (Bam et al, 2006).

Important educational messages about TB which patients should know have been suggested by Mohammed and colleagues (2007) and these include: What is TB? What are the causes of TB? How is it transmitted? What are the consequences of stopping TB treatment? What are the possible side effects? Treatment of TB; Do you know treatment duration?

2. 6 STIGMATIZATION

One major setback to the success of TB control globally is the stigma attached to the disease in most societies. TB is associated with stigma and discrimination and these have

a negative impact on health (Liam & Tang, 1995; Kim, Mori & Shima, 1985). This association was confirmed by studies conducted in Nepal and Ghana (Baral, Karki & Newell, 2007; Dodor, Neal & Kelly, 2008).

A study conducted in Nepal found that TB patients' beliefs and behaviour were a major cause of self discrimination. Patients isolate themselves from family and friends because of fear of transmitting the disease to others and fear of being discriminated against (Baral et al, 2007).

While a study conducted in Ghana found that TB stigma was caused by fear of infection, physical frailty, associating TB with HIV/AIDS infection, perceived causes and spread of TB, outdated social beliefs and practices about TB, public health practice and discourse, health staff's fear of contracting TB, self-stigmatisation by TB patients, judgement, blaming and shaming TB patients and past experiences with TB. It concluded that "*the fear attached to TB underlies the beliefs, attitudes, actions and behaviours of the whole community when interacting with patients*" (Dodor et al, 2008:1050).

The findings of a study conducted in Vietnam revealed that TB non-adherent consider TB a dirty disease which mainly affects poor people. The study further highlights that TB patients have a tendency of not disclosing the disease for fear of being discriminated against; and this may lead to a delay in seeking treatment (Hoa et al, 2003).

2. 7 MIGRATION

Migrants are excluded from health services through discrimination. Hence the burden of TB is often higher amongst them as compared to the rest of the population (Jack, 2000; Karyadi, 2002; Hasker et al, 2008).

Studies conducted in different countries among homeless people revealed that immigration requirements had an influence on adherence to treatment. Immigrants on treatment were concerned that: TB will affect their immigration status; their illegal residence will be discovered when accessing treatment; and they will be incarcerated (Volmink & Garner, 2006; Rally et al, 1998; Liam & Tang, 1995).

A quantitative cohort study on default among TB patients on DOTS in Bangalore City was conducted among 186 non-adherent registered for treatment between July and December 2001. Non-adherents were followed up over a period of time using the addresses in the register. In this study migration was cited as one of the reasons for default (29%), drug-related reasons such as bulk tablets and vomiting (42%), work-related conditions such as inconvenient opening hours (15%), stigma (4%) (Jaggarajamma et al, 2007).

2. 8 ACCESS TO HEALTH SERVICES

In most studies, access to a health care facility is dependent on distance and available transport as well as physical condition (Khan et al, 2005; Jack, 2000; O'Boyle et al, 2002; Thiam, 2007; Jaggarajamma et al, 2007). One study that investigated whether

access to a health facility is associated with default indicated that although the intention was for the DOT supporter to visit the patient's home, in practice the patient had to walk to the supporter's home (Hill & Chamachandran, 2006). Another study also noted that access to health care services was better in urban areas than in rural areas (Jack, 2000). A study conducted by Salaniponi et al, (2000) on care-seeking behaviour showed that 70% of respondents who visited an orthodox medical centre stated that it was the nearest place to home. However, Khan et al (2005) reported that patients found private practitioners to be more accessible than public practitioners' hence better adherence.

Several studies have highlighted numerous health system-related factors associated with treatment default, and these included long queues, long waiting time, lack of privacy, inconvenient appointment time and poor upkeep of clinics were identified as reasons for defaulting from treatment (Khan et al, 2005; Thiam, 2007; O'Boyle et al, 2002; Volmink & Garner, 2006). Some studies found that patients experience difficulties in accessing treatment at health facilities because of inconvenient opening hours and provider absenteeism (Jack, 2000; O'Boyle et al, 2002).

A quantitative study conducted in Senegal that investigated the reasons for default among newly-diagnosed TB patients showed that patients in the intervention group were 20% more likely to be cured from TB than controls (AOR 1:20). About 57% were less likely to have defaulted treatment (AOR 0.43; 95% CI 0.21 – 0.89). The intervention significantly delayed defaulting when compared to the control group (RR 0.19, 95% CI 0.07-0.49). This study highlighted a number of reasons for default, namely poor

communication between health workers and patients, poorly applied DOTS, inadequate follow-up and poor supervision of local treatment centres (Thiam, 2007).

In conclusion, adherence to treatment is a function of family support, good knowledge about various aspects of TB, a positive attitude towards TB treatment, awareness of the dire consequences associated with non-adherence to treatment and other factors. On the other hand, lack of information about side effects, inaccessible health services, negative attitude of patients and other factors perpetuate non-adherence to treatment.



CHAPTER 3

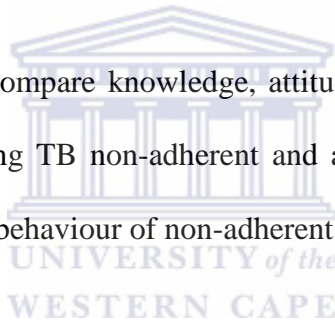
3. INTRODUCTION

Chapter three presents the research methods used in order to achieve the aim and objectives of the study. Methodologies, design, sampling procedure, sample size, data collection process, data collection tools, as well as data analysis are outlined in this chapter.

3.1 STUDY AIMS AND OBJECTIVES

3.1.1 AIM

The aim of the study was to compare knowledge, attitudes and perceptions to TB as a disease and its treatment among TB non-adherent and adherent and to describe socio-economic factors and personal behaviour of non-adherent and adherent.



3.1.2 OBJECTIVES

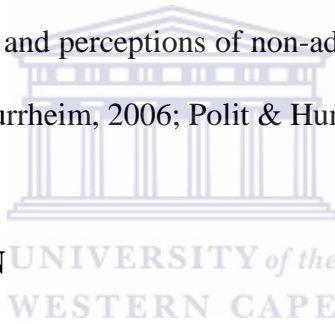
- To describe knowledge about TB as a disease among non-adherent and adherent
- To describe knowledge about TB treatment among non-adherent and adherent
- To describe attitudes and perceptions about TB and TB treatment of non-adherent and adherent
- To describe socio-economic factors and personal habits of non-adherent and adherent and to compare both groups (non-adherent and adherent)

3.2 METHODOLOGY

3.2.1 STUDY DESIGN

A cross-sectional survey design was used which sought to describe knowledge, attitudes and perceptions about TB as a disease; and its treatment among TB non-adherent and adherent at Botšabelo Clinic in Maseru district. The researcher employed the quantitative approach to describe knowledge, attitudes and perceptions of TB non-adherent and adherent.

The descriptive study yielded accurate and interpretable results. By choosing this kind of study, the attitudes, knowledge and perceptions of non-adherent and adherent were easily quantified (Terre Blanche & Durrheim, 2006; Polit & Hungler, 1998).



3. 2.2 STUDY POPULATION

Adult TB patients who were registered in 2007 at Botšabelo Clinic, who were either smear positive or smear negative, new, relapses and re-treatment cases and for whom TB treatment was initiated were eligible for participation in this study.

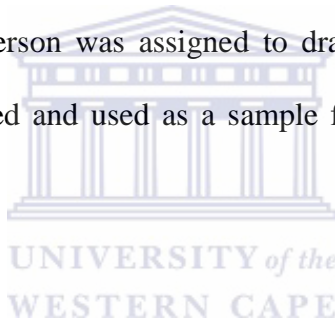
3. 2.3 SAMPLE SIZE

The total population of TB patients in the register for 2007 was 1,686. However, there were 247 and 933 registered non-adherent and adherent respectively. *Raosoft* sample size calculator was used to determine the sample size based on the following variables: population size from the TB register (that is 247 non-adherent and 933 adherent), 95% confidence interval and margin of error of 10%, with the response distribution of 50%. Therefore, a recommended sample size was 70 for non-adherent and 88 for adherent. The

non-response rate was estimated at 15% - 20%. The sample size was increased by 55% after adjustments. Thus, 131 non-adherent and 161 adherents participated in the study.

3. 2.4 SAMPLING PROCEDURE

Simple random sampling was used. A list of patients (non-adherent and adherent) on the TB register at Botšabelo Clinic was used. All patients who met the criteria for the study were randomly selected to ensure that every patient had an equal chance of being selected. A number was assigned to each study subject: 1-933 for the adherent and 1-247 for non-adherent. Numbers were written on a piece of paper; all the papers were folded and put in a box; a neutral person was assigned to draw numbers from the box; and selected numbers were recorded and used as a sample for the study (Terre Blanche & Durrheim, 2006).



3. 2.5 EXCLUSION CRITERIA

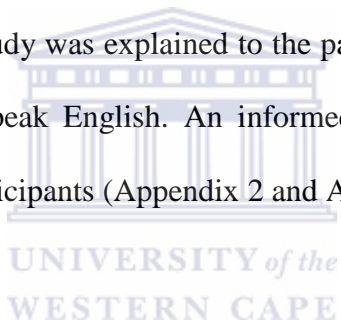
Patients below 15 years of age when treatment was initiated and terminally ill patients were not asked to participate.

3.2.6 DATA COLLECTION TECHNIQUES AND TOOLS

Data was collected from February to April 2010. Names and addresses of TB patients were obtained from the TB register at Botšabelo Clinic. Individual files and clinic cards for patients were examined to identify any discrepancies in recording. The variable *treatment outcome* was used to identify whether the patient completed or defaulted treatment. The interviewers used residential addresses from the register to locate patients. A structured questionnaire (Appendix 3) adapted from Advocacy Communication and

Social Mobilisation (ACSM) WHO KAP study on TB was used to collect information. All individual interviews were face-to-face.

Structured questionnaires were administered in Sesotho and translated into English. These interviews were conducted at either the participants' homes or at Botšabelo Clinic. Participants from the same village were interviewed on the same day as they were grouped together according to their villages. Prior to interviews, the interviewers first made a courtesy call to the area chief to ask for permission to conduct the study. The village health workers were also approached in each village to assist in locating the patients. The purpose of the study was explained to the participants in the local language as most of them could not speak English. An informed consent form translated into Sesotho was handed out to participants (Appendix 2 and Appendix 2a).



Two interviewers were recruited for the study and were trained on how to administer the questionnaire to TB patients.

3.2.7 DATA ENTRY

Two data clerks were recruited to enter data and were supervised by the epidemiologist and the statistician. Double entry was done to ensure accuracy. The study team (two interviewers, researcher, epidemiologist and statistician) reviewed the questionnaires on a daily basis. Questionnaires were thoroughly examined by the researcher prior to data capture. She appended her signature on correctly filled questionnaires. The improperly filled ones were sent back to data collectors for corrections where the interviewee can be reached, otherwise they were replaced.

3. 2.8 DATA ANALYSIS

Epi-Info Version 3.4.3 was used to analyse data. For open-ended questions coding was done to make analysis easy. Descriptive statistics were calculated using frequencies, percentages, proportions and means for socio-demographic information and for knowledge, attitudes and perceptions of both non-adherent and adherent. Medians, Inter-quartile Range (IQR) were used where distribution was not normal.

Chi square test was run on all variables. P-value of less than 0.05 was accepted as being statistically significant in all statistical tests.

3. 2.9 PILOT STUDY

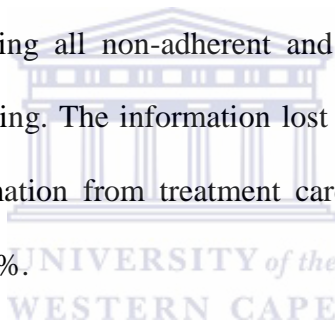
A pilot study was conducted at Scott Hospital in February 2010. This area was not included in the study. Its main purpose was to familiarise the researcher with the research environment; and to assist her in identifying potential problems with the design. The pilot study was carried out under different environmental conditions of the research but at a different place. The questionnaire was altered slightly after it was pre-tested. Thirty questionnaires were administered during this process.

3. 2.10 VALIDITY

Validity refers to the degree in which a measure does what it is intended to do (Terre Blanche & Durrheim, 2006). Internal validity refers to the extent to which the effect detected in a study is a true reflection of a reality, rather than extraneous variables (Polit & Hungler, 1998). Internal validity in this study was assured by the fact that questions were asked in the local language and back translated to English because of the low level of education among respondents. The questionnaire was pre-tested before it was

administered to study subjects. During this process potential problems were identified and corrected.

External validity is the extent to which the study findings can be generalized beyond the confines of the design and study settings (Terre Blanche & Durrheim, 2006). The questionnaire was adopted from ACSM KAP STUDY (WHO, 2008). It comprised of a variety of semi-structured, close and open-ended questions. Some questions were modified and simplified by the researcher to suit the study. To assess the knowledge 5 point Likert scale was used ranging from strongly agree to strongly disagree. Selection bias was addressed by including all non-adherent and adherent in the study and by applying simple random sampling. The information lost due to recall bias was made up by collecting the same information from treatment cards. The non-response rate was limited to between 15% and 20%.



3.2.11 RELIABILITY

Reliability is the extent to which the instrument yields the same result on repeated trials (Terre Blanche & Durrheim, 2006). In this study reliability was assured by using pre-tested questionnaire. A two day training of interviewers was conducted by the researcher a week before commencement of the study. They were handed guidelines on administering a questionnaire. In addition, they were taken through the questionnaire step by step, item by item. Grammatical errors were also corrected during the workshops. They (interviewers) were former employees of the Ministry of Health with a wealth of experience in public health services. Data clerks were full-time employees of the Ministry and they were jointly supervised by the epidemiologist and the statistician.

3.2.12 GENERALISABILITY

Due to the fact that the study site (Maseru district) is an urban and peri-urban setting, the context in relation to other districts is not similar in terms of lifestyles and the environment. Therefore, the results of this study may not be generalised beyond the population group under study.

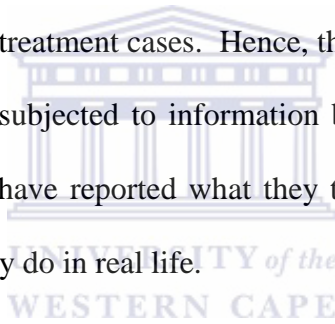
3.3 ETHICAL CONSIDERATIONS

Participation in this study was voluntary to all respondents. Participants were provided with a documented explanation of the research study. Those who agreed to participate in the study were asked to sign a consent form. They were adequately informed regarding confidentiality of the study and that they had the right to withdraw from the research process at any time, without giving any reasons. Moreover, refusal to participate did not preclude him/her from receiving treatment. Permission to conduct a study was obtained from the Ethical Committee of the University of the Western Cape, the Ministry of Health and Social Welfare and Management of Botšabelo Clinic.

All interviewees were assigned a study identification number. After the interviews, interviewers checked the health book to see if non-adherent went back for treatment. Most non-adherent had already completed their TB treatment. Some were still on treatment as there were relapses and most were MDR patients who had defaulted treatment before. Many patients were easily identified at the clinic on clinic days and others were interviewed in their homes.

3.4 STUDY LIMITATIONS

Tracing non-adherent and adherent in their villages was a challenge because the subjects under study completed their treatment in 2009. Most patients migrated to other villages; and the addresses in the register were incomplete. Hence it was difficult to locate them. Nine adherents who were followed up in their homes succumbed to HIV infection. Treatment outcomes were improperly recorded; most patients who were reported to have defaulted had actually completed treatment or died. Patients were replaced by going through the same process of random sampling. Due to the high prevalence of HIV (76% co-infection) most of the patients had died. Another limitation was that most non-adherents were relapses and re-treatment cases. Hence, their inclusion might have caused selection bias. The study was subjected to information bias since the practices are self reported the respondents may have reported what they think they were supposed to be doing and not what they actually do in real life.



CHAPTER 4

4. INTRODUCTION

The total population of TB patients in the register for 2007 was 1,686. However, there were 247 non-adherent and 933 adherents. 506 TB patients fell under the category not evaluated and died. *Raosoft* sample size calculator was used to determine the sample size. A recommended sample size was 70 for non-adherent and 88 for adherent. The sample size was increased by non-response rate of 15% - 20% to 64 non-adherents and 106 adherents. Furthermore it was increased by 55% after adjustments resulting with 131 non-adherent and 161 adherents were expected to participate in the study. However, 9 adherents died before commencement of the study. Hence, they were reduced to 152.

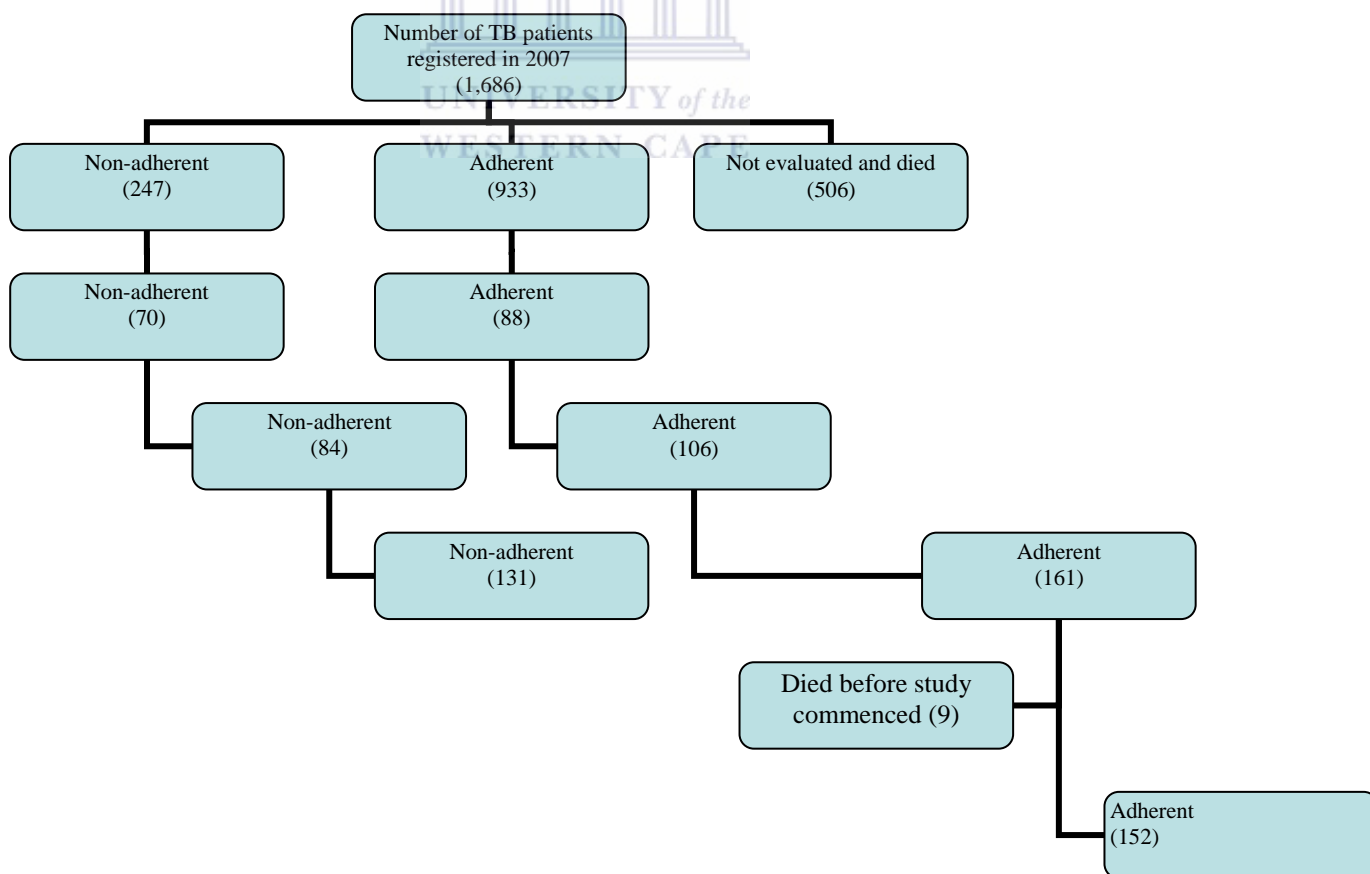


Figure 1: Sample size realization

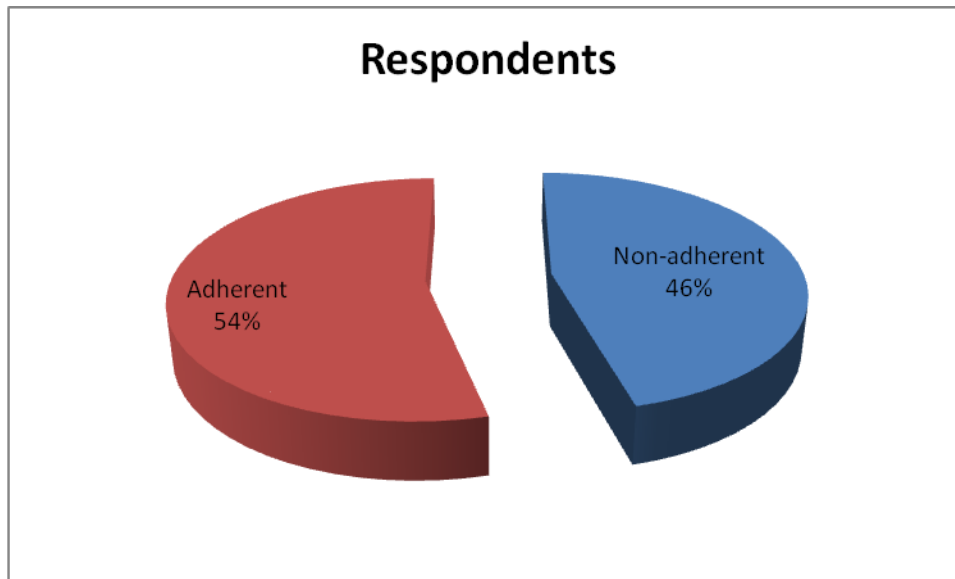


Figure 2: Distribution of respondents

4.1 DEMOGRAPHIC CHARACTERISTICS OF PARTICIPANTS

Most respondents (62% of non-adherent and 80% of adherent) came from urban areas and mostly from Maseru (76% of non-adherent and 87% of adherent) and Berea (13% of non-adherent and 9% of adherent) (Fig. 3).

More males (60% of non-adherent and 55% of adherent) than females participated in this study. The median age for non-adherent and adherent was 38.0 (IQR: 29-47) and 40.0 (IQR: 31-50) years, respectively.

Most respondents were married (73% of non-adherent and 78% of adherent).

Most respondents (92% of non-adherent and 89% of adherent) had some level of formal education. A higher number of adherent (57%) than non-adherent (52%) had primary

education; a further (31%) and (24%) of non-adherent and adherent, respectively, had secondary level education while (9%) non-adherent and (7%) adherent had tertiary level education.

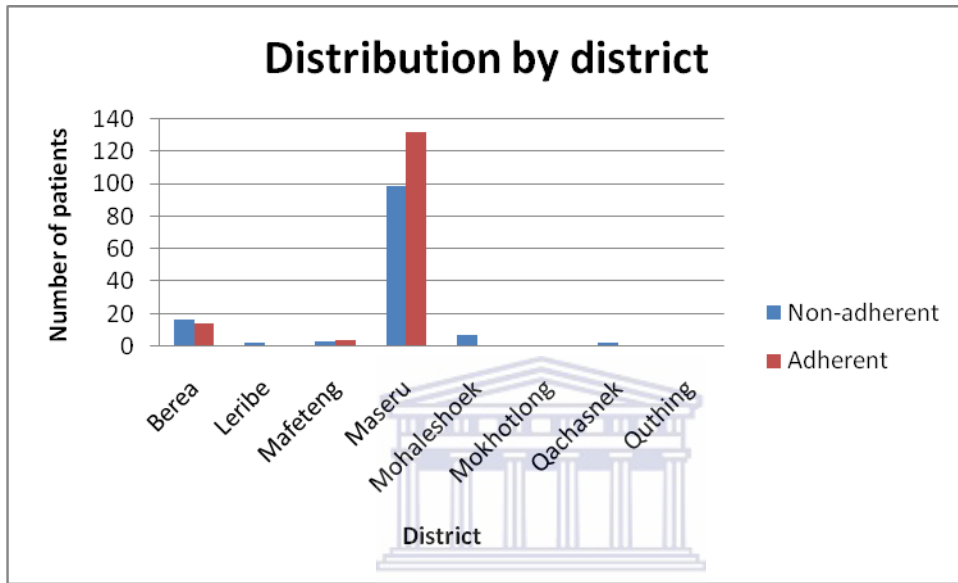


Figure 3: Distribution of respondents by district

Table 2: Socio-demographic characteristics of the respondents

Characteristics	Non-adherent (131)		Adherent (152)		P-Value
	Frequency	Percentage	Frequency	Percentage	
Geotype					0.001*
Rural	50	38%	30	20%	
Urban	81	62%	122	80%	
Sex					0.5
Male	78	60%	84	55%	
Female	53	40%	68	45%	
Age (in years)					0.5
<20	5	4%	0	0%	
20-29	29	22%	28	18%	
30-39	36	27%	44	29%	
40-49	35	27%	39	26%	
>49	26	20%	41	27%	
Marital status					0.4
Single	36	27%	34	22%	
Married	95	73%	118	78%	
Level of education					0.6
No formal education	11	8%	17	11%	
Primary	68	52%	87	57%	
Secondary	40	31%	37	24%	
Tertiary	12	9%	11	7%	
Employment Status					0.02*
Employed	69	53%	58	38%	
Unemployed	62	47%	94	62%	
Live in a brick house	121	92%	146	96%	0.3
Spent >6 months outside the country	30	23%	30	20%	0.6

4.2 HEALTH AND RELATED BEHAVIOURS

Most respondents (non-adherent 88% and adherent 94%) experienced health workers as welcoming and positive. Most adherent (80%) and non-adherent (73%) accepted the illness without fear, and disclosed (74%) their disease to a significant number of people other than non-health workers. An equal percentage of non-adherent and adherent (93%) went to a health facility first for treatment. Less than half of adherent sought treatment immediately. More adherent' (91%) than non-adherent' (87%) homes were within a 5km radius or more from the clinic. Concomitantly, more adherents (77%) than non-adherents (60%) walked to the clinic. Less than half of non-adherent and adherent were smokers and consumers of alcohol (47%). Most non-adherent (86%) and adherent (84%) mentioned that their communities support TB patients; and most non-adherent (85%) and adherent (76%) said TB infection had not affected their marital status negatively. The most common side effects among respondents were vomiting, skin rash and nausea.

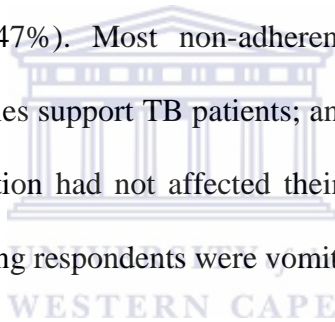


Table 3: Health-related attitudes and behaviour

Characteristic	Non-adherent (n=131)		Adherent (n=152)		P-Value
	Frequency	Percentage	Frequency	Percentage	
Experienced health workers as positive and welcoming	123	88%	147	94%	0.3986
Had no fear when diagnosed with TB	95	73%	118	80%	0.3921
Disclosed their TB status	97	74%	113	74%	0.9547
Went to health facility for treatment	122	93%	142	93%	0.9222
Sought treatment immediately	60	46%	87	57%	0.4785
Live 5km or more from clinic	114	87%	138	91%	0.4118
Walked to the clinic	78	60%	117	77%	0.0024*
Smokers	62	47%	72	47%	0.9946
Consumers of alcohol	62	47%	65	43%	0.5157
Experienced support from the community	91	86%	107	84%	0.9681
TB infection did not affect marital status negatively	80	85%	90	76%	0.8442
Side effects experienced:					
Vomiting	65	64%	46	46%	
Skin rash	40	44%	59	53%	
Nausea	39	44%	53	51%	

4.3 KNOWLEDGE ABOUT TB AND ITS TREATMENT

Radio, health workers and other media were the main sources of information about TB (Fig. 4).

Responses to knowledge about TB and its treatment were as follows:

Non-adherent (53%) and adherent (47%) knew the definition of TB. Most respondents (99% of non-adherent and 98% of adherent) knew that TB can be transmitted through coughing.

Knowledge about symptoms of TB among respondents was excellent. Non-adherent (94%) and adherent (93%) knew at least three symptoms of TB. Many non-adherent (98%) and adherent (100%) knew that TB is curable, and that TB is cured by TB drugs only (97% non-adherent and 99% adherent). Non-adherent (87%) and adherent (99%) demonstrated correct knowledge of DOTS.

Non-adherent (99%) and adherent (100%) knew that TB drugs should be taken for six months without stopping. Many respondents (91% of non-adherent and 84% of adherent) knew at least three preventive measures of TB.

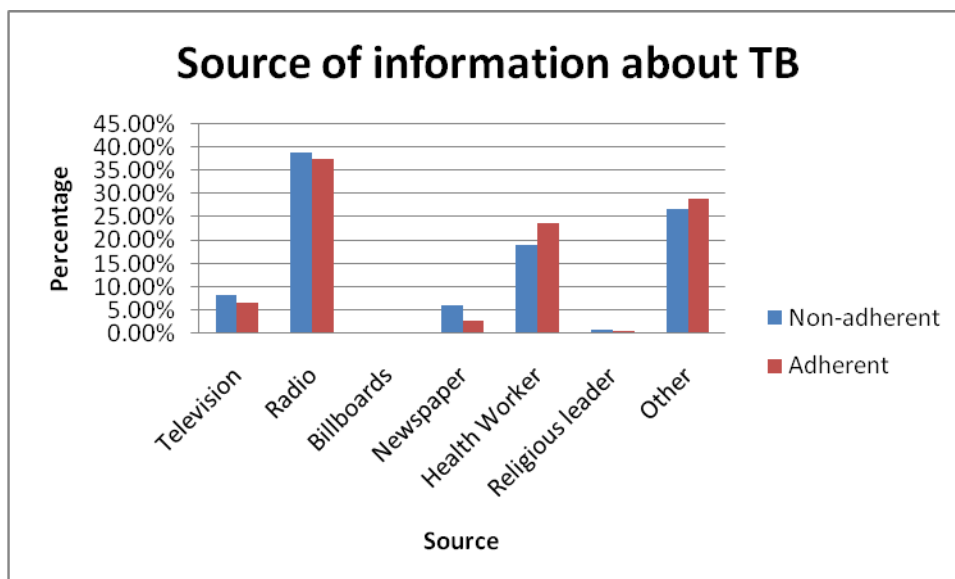


Figure 4: Sources of information about TB

Table 4: Knowledge about TB and its treatment

	Non-adherent (n=131)		Adherent (n=152)		P-value
	Frequency	(%)	Frequency	(%)	
Knew the definition of TB	69	53%	71	47%	0.3784
Knew that TB is spread through coughing	130	99%	149	98%	0.7225
Can identify 3 symptoms of TB	123	94%	141	93%	0.8882
Knew that TB is curable	128	98%	152	100%	0.1013
Knew that TB can be cured by TB drugs	127	97%	151	99%	0.5444
Had correct knowledge of Direct Observation Treatment	114	87%	150	99%	0.0002*
Knew that treatment duration is six months	130	99%	152	100%	0.9406
Correctly identified TB prevention	78	91%	107	84%	0.0738

Non-adherents were asked to give one reason for defaulting treatment. The most commonly reported reasons for defaulting were side effects (23%), long duration of treatment (13%), lack of transport (12%) and lack of funds (11%) abusing alcohol (4%); and smoking (3%) (Fig. 5).

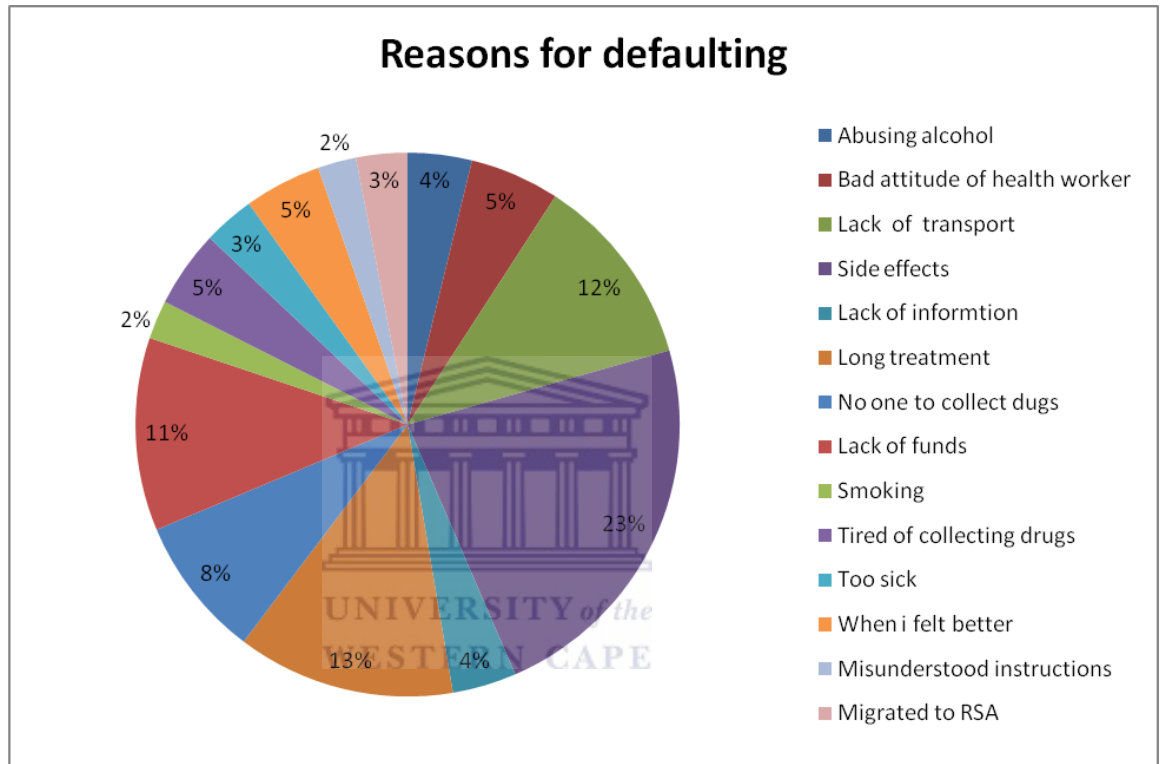


Figure 5: Reasons for defaulting treatment

CHAPTER 5

5. RESULTS

5.1 INTRODUCTION

This chapter presents the findings of the study. The study sought to assess knowledge, attitudes and perceptions of TB non-adherent and adherent at Botšabelo Clinic in Maseru, Lesotho. 29% of TB patients defaulted treatment at Botšabelo Clinic. Defaulting treatment may lead to the development of MDR-TB which is the most difficult form of TB to treat. Patients who are knowledgeable, and have good attitudes and perceptions about TB are less likely to default treatment (Karyadi, 2002; Khan, et al, 2005).

5.2 DEMOGRAPHIC CHARACTERISTICS OF PARTICIPANTS

There were 283 respondents in this study, and 131 (46%) were non-adherent while 152 (54%) of the respondents were adherent. Nine adherents died prior to commencement of this study (3%). The sample size was within acceptable limits because it was inclusive of 15-20% none response rate.

Many respondents (76% of non-adherent and 87% of adherent) were from Maseru, while Berea was the second largest residential area with 13% non-adherent and 9% adherent. The majority of non-adherent (62%) and adherent (80%) came from urban areas. Defaulting treatment varied by area, $p\text{-value}=0.001$. The Lesotho rural areas are mountainous with a challenging terrain particularly for patient travel. They are connected by footpaths and unmaintained gravel roads. Hence patients cannot easily access outreach posts. Urban areas are populated and are characterized by a network of good roads and a

booming textile industry. Industrial workers are prone to non-compliance most of the time because the nature of their work does not easily allow the time to collect their medication. On the day they go to collect their medication they lose their daily payment.

More males (60% of non-adherent and 55% of adherent) than females participated in this study. According to Ministry of Health TB Report (2007), more males than females suffered from TB. This can be attributed to the fact that Basotho men are migrant workers in South African mines and they might have contracted the disease while they were miners as result of the nature of their work and living conditions (NTP, 2007).

The respondents' age ranged from 16 to 70 years. The median range for non-adherent and adherent was 38.0(IQR=29-47) and 40.0(IQR=31-50) respectively. Defaulting was highest in the 30-39 and 40-49 age categories. This group of defaulters was likely to engage in risky behaviours such as smoking and abusing alcohol. Many studies found that treatment default is dependent on smoking and alcohol abuse (Dujaili, Sulaiman, Awaisu, Muttalif & Blebil, 2010; Leung, Yew, Chan, Tam & Lam, 2003; Mauraya, Vijayan & Shah, 2002). Furthermore this age group is more economically active and may therefore be involved in job seeking, thus may default as treatment may interfere with chances of acquiring employment.

Most respondents were married (73% of non-adherent and 78% of adherent). Most respondents had some level of formal education (92% of non-adherent and 89% of adherent). A higher number of adherent (57%) than non-adherent (52%) had primary education; a further (31%) and (24%) of non-adherent and adherent, respectively had

secondary level education. Interestingly more non-adherent (9%) had tertiary education as compared to adherent (7%).

More adherents (62%) were unemployed. While only 53% of non-adherents were employed, $p\text{-value}=0.02$. This could be attributed to the fact that the unemployed have more time to visit clinics than the employed. The latter have to seek permission from their employers for them to visit clinics. Contrary to the findings of this study, Hasker et al (2008) found that most non-adherent were unemployed. Stigma attached to the condition especially in the workplace may further result in employees not disclosing their condition and therefore be unable to disclose to employers about the treatment thereof.

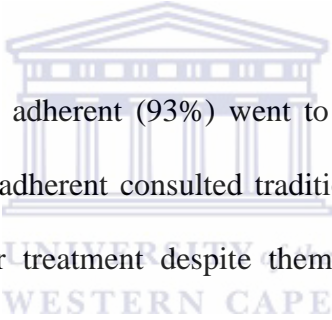
Non-adherent (92%) and adherent (96%) lived in brick houses. In most studies conducted in Africa, TB is common among people who live in informal settlements, where there is overcrowding and poor living conditions (Wandalo & Mokve, 2000; Dodor et al, 2008; Salaniponi et al, 2000). Contrary to the findings of other studies, this study found that patients lived in good houses. Very few non-adherent (23%) and adherent (20%) had been out of the country. Migration did not influence defaulting treatment in this study.

5.3 HEALTH-RELATED ATTITUDE AND BEHAVIOURS

Many non-adherent (88%) and adherent (94%) reported that the attitude of health workers was welcoming/positive with a $p\text{-value}$ of 0.4. This is in line with findings of other studies conducted by Mushtaq et al, 2010; Liam et al, 1999; Khan et al, 2006 which found that health workers had positive attitude towards TB patients. Contrary to the

findings of this study, some studies revealed negative attitudes among health workers (Mohamed et al, 2007; Bam et al, 2006; Dodor et al, 2008).

The results of this study found that 73% of non-adherent and 80% of adherent accepted their illness without fear. Most of them knew that TB is curable. TB seems not to carry much stigma anymore. The findings of the study conducted in Malaysia among newly-diagnosed tuberculosis patients showed that 49% of TB patients expressed that they were not too worried, 22% were shocked that they had TB and 22% feared when they were told they had TB (Liam et al, 1999).



Many non-adherent (93%) and adherent (93%) went to a health facility for treatment. Only 7% of non-adherent and adherent consulted traditional healers. Only few patients went to traditional healers for treatment despite them playing an important role in Lesotho in the treatment of TB (LDHS, 2004). However, respondents may not have reported the use of traditional healers as they might have been warned about the interaction of drugs and traditional medicine. A study conducted in South Africa found that respondents did not report the use of traditional medicine due to stigma attached to using traditional practices (Nxumalo, Alaba, Harris, Chersich & Goudge 2011).

Non-adherent (46%) and adherent (57%) sought treatment immediately when they felt sick. There seems to be problems around accessing treatment early. This may be because coughs are common in Lesotho, and hence may not be associated with TB therefore resulting in delays in seeking treatment. According to Mushtaq et al, (2010), 78% of TB patients sought treatment as soon as symptoms occurred while others (17%) would wait

until after 3-4 weeks. The 78% comprised people with high school education, high income, good housing and better knowledge of symptoms of TB.

Significantly more adherent (77%) than non-adherent (60%) walked to the clinic, p -value=0.002. This could be attributed to the geographical terrain of the country. Adherent (87%) and non-adherent (91%) lived 5km or more away from the clinic, p -value=0.41. Other studies found that health-seeking behaviour is influenced by distance to the clinic and availability of funds for transport (Khan et al, 2005; Jack, 2000; Luis et al, 2011).

A study conducted in Malawi which looked at care-seeking behaviour among patients with smear positive TB, found that 70% of TB patients who first visited orthodox medical care walked to the clinic and they cited proximity to home as a reason for visiting the centre (Salaniponi et al, 2000).

An equal percentage of non-adherent (47%) and adherent (47%) smoked, while 47% of non-adherent and 43% of adherent drank alcohol. Smoking, alcoholism and drug abuse have been found to increase treatment default (Sepa & Peltzer, 2005; Dujaili et al, 2010; Mauraya et al, 2002; Leung et al, 2003; Hasker et al, 2008). Studies have revealed that drinking alcohol coupled with poor nutrition can cause side effects (Dujaili et al, 2010). Furthermore, a study conducted by Pandit & Chaudhary in 2006 reported that drinking alcohol was associated with unpleasant side effects such as vomiting. Patients who experience side effects are more likely to default TB treatment (Khan et al, 2000).

Many non-adherent (86%) and adherent (84%) knew of the presence of TB patients in their communities and that such patients are supported by those communities. In Lesotho, TB patients are supported by trained DOT supporters in their communities. This was reinforced by the study conducted by Mushtaq et al, (2010) which found that society was supportive of TB patients. Contrary to the findings of this study, Dodor et al, (2008) revealed that TB patients were stigmatised and rejected by the community.

The most commonly-reported side effect by non-adherent (64%) was vomiting, while more than 50% of adherent reported skin rash. Patients who experience side effects during treatment are likely to not comply with treatment (Homedes & Ugaide, 1993). Many studies have shown that side effects are the most common cause of treatment default (Volmink & Garner, 2006; Khan et al, 2000; O'Boyle et al, 2002; Homedes & Ugaide, 1993). In addition, other studies have cited adverse reaction to treatment, lack of information about side effects and how to overcome them as reasons for discontinuing medication (O'Boyle et al, 2002; Pandit & Chaudhary, 2006). Furthermore, one study conducted in India revealed that one of the reasons for perceived side effects could be the continued practice of taking medication on an empty stomach (Vijay et al, 2010).

5.4 KNOWLEDGE ABOUT TB AND ITS TREATMENT

The sources of information in this study varied. Non-adherent (53%) and adherent (47%) heard about TB from the media (radio, TV and newspapers); 27% of non-adherent and 29% of adherent got information from friends, relatives, neighbours and patients' record/book (*Bukana*). The media was the most utilised source of information in this study. None of the respondents reported billboards as a source of information. Less than

25% of non-adherent and adherent in this study reported health workers as a source of information. Many studies have revealed that radio and television are good sources for disseminating health information (Bam et al, 2006; Mohamed et al, 2007; Mushtaq et al, 2010; Liam et al, 1999; Yadav et al, 2006).

Non-adherent and adherent, 53% and 47%, knew the definition of TB, respectively. This was reinforced by the studies conducted by Mohamed et al, 2007; Liam et al, 1999; Mushtaq et al, 2010; Khan et al, 2006 which showed that the majority of respondents knew that TB is caused by a germ.

Many non-adherent (91%) and adherent (84%) could at least identify three symptoms of TB. The high level of knowledge about symptoms may be a result of ongoing educational campaigns. This is in line with the findings of other studies where respondents possessed excellent knowledge about symptoms of TB (Bam et al, 2006; Mohamed et al, 2007; Mushtaq et al, 2010; Liam et al, 1999; Yadav et al, 2006). Although knowledge did not influence adherence in this study, an Angolan study that measured the parameters of health-seeking intention among TB patients found that knowing the key symptoms of TB was positively associated with appropriate health-seeking (OR 3.1, 95% CI 1.4-6.8) (Luis et al, 2011).

The study found that among those who could not define TB there were misconceptions about the cause of TB, and causes mentioned included poison (sejeso). This is in line with studies conducted by Khan et al, 2006; Mushtaq et al, 2010; Hoa et al, 2003; and

Yadav et al 2006 that found that TB patients believed that TB is caused by cold and dirty air.

The majority of respondents demonstrated good knowledge of transmission of TB. Many non-adherent (97%) and adherent (99%) mentioned coughing as a way of transmitting TB (Mohamed et al, 2007; Mushtaq et al, 2010; Liam et al, 1999; Yadav et al, 2006).

Numerous studies have revealed a link between knowledge and default (Hill & Chamachandran, 1992; Homedes & Ugaide, 1993; Jaiswal et al, 2000; Khan et al, 2000; Bam et al, 2006; Liam et al, 1999; Jaggarajamma et al, 2007). Knowledge includes the ability to: recognize symptoms; identify causes and transmission routes; and familiarise one with the availability of cure and duration of treatment (WHO, 2008b).

When asked whether TB is curable, 98% of non-adherent and 100% of adherent knew that TB is curable. A study by Liam and colleagues (1999) found that those who knew that TB is curable were likely to comply with treatment. Most non-adherent (97%) and adherent (99%) mentioned that TB can be cured by TB drugs only. This is in line with studies conducted by Mohamed et al, 2007; O'Boyle et al, 2002; Thiam, 2007; and Jaggarajamma et al, 2007 where the majority of patients possessed good knowledge about the treatment of TB.

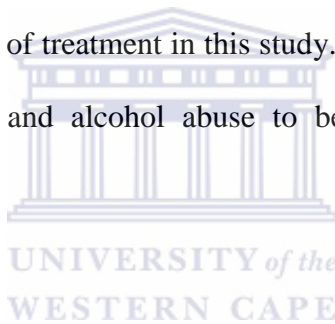
Non-adherent (99%) and adherent (100%) knew that TB treatment is taken for six months without interruption. Some studies showed that adherence was found mainly where people understood the importance of long treatment (Khan et al, 2000; O'Boyle et al,

2002; Bam et al, 2006). Contrary to the findings of other studies, this study found that non-adherent was knowledgeable that the duration of treatment is six months.

Respondents were asked to define Direct Observation Treatment (DOT). Most of them (87% of non-adherent and 99% of adherent) excellently defined DOT, $p\text{-value}=0.0002$. Knowledge and practice are in discordance here because high knowledge does not yield expected practice. Some studies found that patients who are observed during treatment are more likely to adhere to it (Homedes & Ugaide, 1993; Jaiswal et al, 2000).

When asked about the prevention of TB, non-adherent (91%) and adherent (84%) demonstrated good knowledge of ways of preventing TB infection. On the one hand, it was worrying to see that some patients still believed that TB infection can be prevented by not sharing dishes. This suggests that stigma may still be present in the community. Furthermore, other respondents mentioned praying and practising safe sex as preventive measures for TB infection. Such findings suggest that there are knowledge gaps regarding TB. Liam et al, 1999; Yadav, et al 2006; Khan et al, 2006; and Pronyk et al, 2001 found that knowledge about the spread of TB was limited and patients had misconceptions that TB was spread by sharing dishes; and nearly half of the patients avoided eating with their family for fear of contracting the disease. In one study stigma was associated with treatment default. It also found that TB patients have a tendency of not disclosing the disease for fear of being discriminated against; and this may lead to a delay in seeking treatment (Hoa et al, 2003).

In this study, non-adherent' reasons for discontinuing treatment included the following: side effects (23%); long treatment (13%); lack of transport (12%); lack of funds (12%); abusing alcohol (4%); and smoking (3%) when I felt better (5%) long duration of treatment t(5%) (See Figure 5). The high percentage of non-adherent who abandons treatment due to side effects suggests that there is a need for vigorous support especially during the early phases of treatment. Furthermore, literacy regarding medication use is essential as it will inform clients about side effect and ways to overcome these. Management of side effects should be included in the training manuals for community health workers. Socio-economic factors such as lack of transport, lack of funds have been cited as barriers for completion of treatment in this study. Furthermore the study revealed personal habits like smoking and alcohol abuse to be predictors of treatment non-adherence.



Studies revealed that patients abandoned treatment because of side effects (Volmink & Garner, 2006; Khan et al, 2000; O'Boyle et al, 2002; Imdad, Newell & Walley, 2000; Homedes & Ugaide, 1993). This was also confirmed by Pandit & Chaudhary 2006; Vijay et al, 2010).

CHAPTER 6

6. INTRODUCTION

This chapter presents the conclusion of the study. A set of recommendations for improvement are presented.

6.1 CONCLUSION

Non-adherent and adherent showed good knowledge of symptoms, prevention, disease transmission and definition of TB. Even though many could define TB, there were misconceptions that TB is caused by poison. Therefore, there is a need to strengthen health education on TB among communities. They were also knowledgeable that TB is curable and many could define DOT. Their attitudes and perceptions towards TB as a disease were positive. Many (93%) of those who were diagnosed with TB went to a health facility for treatment, while others sought it from traditional healers. A considerable number of non-adherent and adherent were heavy smokers. Alcohol intake was moderate among both groups.

Media was reported as the main source of TB information in this study. Side effects to medication were the most reported deterrent to treatment among non-adherent. The side effect with the highest frequency was vomiting. It was followed by nausea and skin rash. Socio-economic factors that determined treatment default were access to health services, long distance to the clinic, lack of transport and lack of funds and personal habits like smoking and alcohol abuse. Delay in seeking treatment was found to be a problem in this

study. There was no difference found between knowledge, attitude and perceptions of adherent and non-adherent.

6.2 RECOMMENDATIONS

The researcher proposes the following interventions to the Ministry of Health and Social Welfare in Lesotho:

- Improve access to health services. Encourage professional health workers to accompany community health workers on their home visits.
- Provide patients with transport subsidies. Encourage Community Health Workers to conduct home visits for critically ill patients.
- Include management of side effects in the community health worker manual. Educate patients to manage side effects in their homes.
- Merge HIV and TB programmes. Create national coordinating body.
- Conduct a study to explore the role of traditional beliefs in communities regarding Tuberculosis.
- Conduct a workshop to determine factors influencing delay in seeking treatment among TB patients

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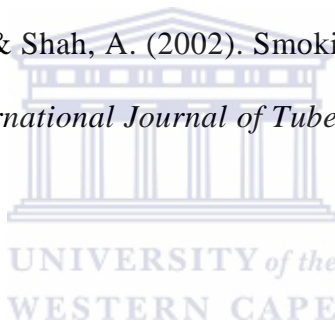
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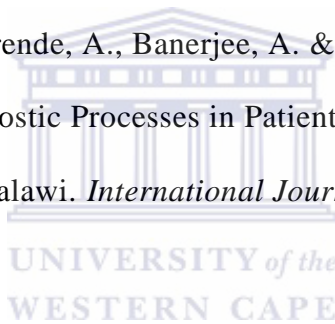
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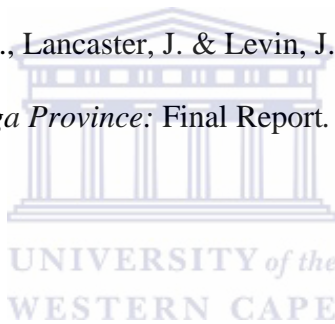
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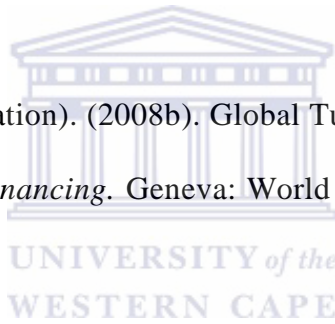
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APPENDIX 1



UNIVERSITY OF THE WESTERN CAPE

School of Public Health

Private Bag X17 • **BELLVILLE** • 7535 • South Africa
Tel: 021- 959 2809, Fax: 021- 959 2872

PARTICIPANT INFORMATION SHEET

UNIVERSITY of the
WESTERN CAPE

TITLE OF RESEARCH

Knowledge, attitudes and perceptions of TB non-adherent and non- defaulters in Maseru district, Lesotho

What is the study about?

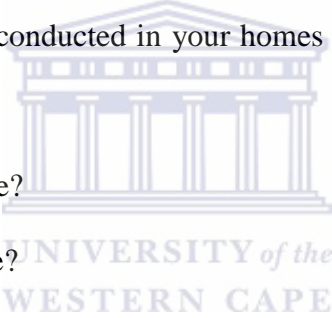
This is a research project being conducted by Dr. Moselinyane Letsie of the University of the Western Cape. We are inviting you to participate in this research project because you defaulted on TB treatment or you suffered from TB for more than two months according to the TB register.

What is the purpose of this study?

The purpose of this research project is to examine non-adherent' and non defaulter's perceptions with regard to TB and to assess their knowledge and attitudes and perception towards TB as a disease and its treatment. This study will provide information that would inform the development of evidence-based practice.

What will I be asked to do if I agree to participate?

You will be asked to respond to questions listed below only after you have agreed to participate in the interview. The interview will not take more than ten minutes of your time. These interviews will be conducted in your homes and/or at Botšabelo Clinic. The questions will be as follows:

- 
- What is your name?
 - Where do you live?
 - How old are you?
 - Can you read and write in your own language only?
 - Do you smoke and/or take beers/spirits/brandy/whiskey?
 - How far is your home from the clinic?
 - Do you know anything about TB?
 - How are TB patients treated in the community in which you live?

Would my participation in this study be kept confidential?

We will do our best to keep your personal information confidential. To help protect your confidentiality, we will refer to you by a pseudonym or invented name which we would

like you to choose. We shall keep any other records of your participation locked away at all times. Your name will not be included on the survey or other collected data; a code will be placed on the survey questionnaire; through the use of identification key, the researcher will be able to link your name to your identity; and only the researcher will have access to the identification key.

If we write a report or article about this research project, your identity will be protected to the maximum extent possible.

QUESTIONS

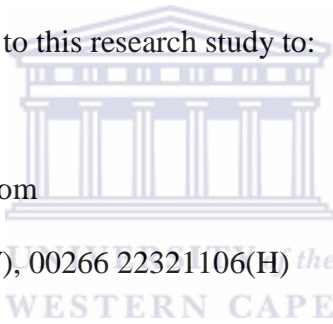
Direct your queries with regard to this research study to:

Dr. Moselinyane Letsie

E-Mail: Imosilinyane@yahoo.com

Telephone: 00266 22312501(W), 00266 22321106(H) *the*

Fax Number: 00266 22317103(W)



My supervisor is Lungiswa Tsolekile of University of the Western Cape. Her contact details are: 021 959 2809; her e-mail address is ltsolekile@uwc.ac.za

APPENDIX 1A

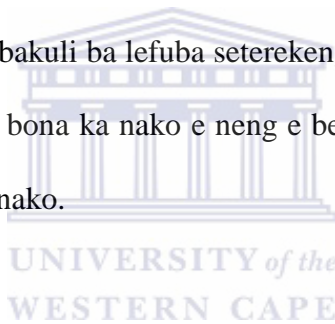
TSEBISO KA LIPATLISISO HO BA NKANG KAROLO

Thlakubele 2010

Monghali/Mofumahali Ea Ratehang,

SEHLOOHO SA LIPATLISISO

Tsebo, litloaello le maikutlo a bakuli ba lefuba seterekeng sa Maseru naheng ea Lesotho, ba sitiloeng ho qeta lithlare tsa bona ka nako e neng e behiloe.(likhoeli tse tseletseng) le ba qetileng lithlare tsa bona ka nako.



LIPATLISISO TSEE KE TSA ENG?

Lipatlisiso tsena ke tse etsoang ke Dr Moselinyane Letsie oa University ea Kapa Bophirima.Re o memela ho kenala lipatlisiso tsena hobane ho fumanehile hore o e mong oa bakuli basa qetang lithlare tsa lefuba ka nako ea likhoeli tse tseletseng, ka hona o khethuoe ho tla araba lipotso.

SEPHEHO SA LIPATLISISO TSEE KE ENG?

Sepheho ke ho phenya bakuli ba lefuba maikutlo malebana le ho nyahlatsa pheko ea lefu lena kahare ho nako; le ho fumana ka botebo seo ba se tsebang ka lefu lena, ‘moho le litloaello tsa bona. Sena se tla fokotsa sekhahla seo bakuli ba lefuba ba tlohelang pheko

ka sona pele ho nako (ea likhoeli tse ts'eletseng) le hontlafatsa lefapha la lefuba lekaleng la bophelo.

SE LEBELETSOENG HO 'NA KE SEFE HA KE KENELA LIPATLISISO TSEE?

Se lebeletsoeng ho oena ke hore o tla araba lipotso mabapi le lipatlisiso tsena haeba o lumela ho kenela lipatlisiso. Nako ea lipotso e tla ba metsotso e leshome le metso e mehlano feela. Lipotso Li tla botsetsoa lapeng la hao le tlliniking ea Botšabelo.

Lipotso lit la botsoa ka mokhoa o latelang:

Lebitso la hao ke mang?

O lula kae?

Lilemo tsa hao li kae?

O tseba ho ngola le ho bala ka puo ea heno?

Na oa tsuba?

O lula hole ha kae le tlliniki?

O tseba eng ka lefuba?

Bakuli ba lefuba ba tsoaroa joang ke sechaba?

NA LITABA TSA KA E TLABA LEKUNUTU LIPATLISISONG TSEE?

Re tla etsa bo 'nete ba hore litaba tsa hao e tla ba lekunutu. Lebitso la hao lona le tla lula ele sephiri. Bo-ralipatlisiso ba tla sebetsa ka linomoro le lebitso la maiketsetso e seng ka lebitso la hao; joalo ka ha ke se ke boletse lona e tla ba pinyane. Litaba tsa hao ha li na ho fetisetsoa ho mang kapa mang ho kenyeletsoa metsoalle ea hao, baheno esitana le mohiri oa hao. Lingoloa tsohle tse amanang le lipatlisiso tsena li ke ke tsa e-ba le lebitso la hao ho hang.



LIPOTSO

Lipotso li lebisoe ho batho ba latelalang:

Dr. Moselinyane Letsie

Nomoro ea sekolo: 2724132

E-Maile: lmosilinyane@yahoo.com

Telephone: 00266 22312501(W), 00266 22321106(H)

Fax Number: 00266 22317103(W)

Mokoetlisi oaka ke Lungiswa Tsolekile oa Junifesithi ea Kapa Bophirima. Linomoro

tsa mohala oa hae ke 021 959 2809; e- mail: ltsolekile@uwc.ac.za.



APPENDIX 2

CONSENT FORM

Title of Research Project:

The study has been described to me in the language that I understand and I freely and voluntarily agree to participate. My questions about the study have been answered. I understand my identity will not be described and that I may withdraw from the study without giving a reason at any time and this will not negatively affect me in any way.

Participant's name.....

Participant's signature.....

Date.....



Should you have any questions regarding this study or wish to report any problems you have experienced related to the study please contact the study coordinator:

Study Coordinator's Name: Ms Lungiswa Tsolekile

University of the Western Cape

Private Bag X17, Belville 7535

Telephone (021) 959-2809

Fax: 021-959-2872

Email: ltsolekile@uwc.ac.za

APPENDIX 2A

TUMELLO EA HO ETSA LIPATLISISO

Sehloho sa lipatlisiso.

Ke hlaloseletsoe Lipatlisiso tsena ka botlalo ka leleme la puo ea heso. Ke lumela ho kenela lipatlisiso tsena. Lipotso tsaka ka lipatlisiso tsena li arabetsoe. Ke boleletsoe hore lebitso laka le tla bolokoa ele lekunutu m'e leke ke la tsebisoa mang kapa mang,lehore nka itokolla neng kapa neng ha ke batla ho se kenele lipatlisiso tsena, 'me li keke tsa ama phekolo ea ka ea lefuba.

Lebitso la ea kenetseng lipatlisiso

Tekeno ea ea kenetseng lipatlisiso.....

Letsatsi.....



Haeba o ka ba le lipotso malebana le lipatlisiso tsena kapa oa lakatsa ho fana ka tlaleho, ha u na le mathata ka lipatlisiso tsena, kopana le mohokahanyi atereseng e latelang:

Mohokahanyi oa lipatlisiso:

Ms Lungiswa Tsolekile

University ea kapa Bochabela

Private Bag X17, Belville 7535

Mohala: (021) 959-3735

Mohala oa thekeng: 082 399 5428

Fax:021-959-2872

Email:ltsolekile@uwc.ac.za

APPENDIX 3

QUESTIONNAIRE FOR PATIENTS

1. Identification

101	Name of interviewee _____	
102	Name of village _____	[][][][]
103	Survey number-----	[][][][]
104	District _____ Butha-Buthe=1, Leribe=2, Mafeteng=3, Berea=4, Maseru=5, Mohalesshoek=6, Mokhotlong=7, Qachasnek=8, Quthing=9, Thaba-Tseka=10	[][]
105	Area _____ Urban=1, Rural=2	[]
106	Defaulter Yes=1, No=2	[]

***fill in the blocks and blanks with appropriate answers and numbers*

2. Interview visit

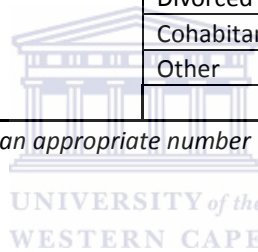
201	Name of interviewer _____	
202	Date	D [][] M [][] Y [][][][]

***fill in the blocks and blanks with appropriate answers and numbers*

3. Demography

No	Question/Filter	OPTION/CODING		Skip
301	Age			
302	Sex	Male	1	
		Female	2	
303	Marital status	Single	1	
		Married	2	
		Separated	3	
		Divorced	4	
		Cohabitant	5	
		Other	6	

***fill in the blocks and blanks with appropriate answers and circle an appropriate number*



4. Socio-economic information


No	Question/Filter	OPTION/CODING		Skip
401	Occupation	Professional	1	
		Business	2	
		Skilled labourer	3	
		Miner	4	
		Ex-miner	5	
		Farmer	6	
		Pensioner	7	
		Unemployed	8	
		Other(specify)	9	
402	Have you ever attended school?	Yes	1	
		No	2	

403	If yes, up to which level?	Primary	1
		Secondary	2
		Tertiary	3
		Other(specify)	4
404	Do you smoke?	Yes	1
		No	2
405	If yes, what do you smoke?	Cigarettes	1
		Marijuana	2
		Snuff	3
		Benzine/glue	4
406	How many cigarettes do you smoke per day?		
407	Do you take alcoholic drinks?	Yes	1
		No	2
408	If yes, how often?	Daily	1
		Seldomly	2
		Occasionally	3
		Week end only	4
409	Have you ever been out of the country for a period exceeding six months in a year?	Yes	1
		No	2

410	If yes, state reason.		
411	What kind of a house do you live in?	Shack	1
		Brick house	2
		Hut	3

***fill in the blanks with appropriate answers and circle an appropriate number*

5. TB attitudes and perceptions


501	<p>How do you think a person infected with TB should be treated?</p> <p>1 Isolate him/her</p> <p>2 Prohibit him/her from attending social functions</p> <p>3 Sympathize with him/her</p> <p>4 Treat him/her like any other normal person</p>	 <p>UNIVERSITY of the WESTERN CAPE</p>
502	<p>What was your reaction when you were told you had TB? Circle all correct alternatives.</p> <p>1 Fear</p> <p>2 Surprise</p> <p>3 Shame</p> <p>4 Embarrassment</p> <p>5 Sadness or hopelessness</p> <p>6 Other</p>	

503	<p>Who did you talk to about your illness (TB?)</p> <ol style="list-style-type: none"> 1 Traditional doctor 2 Medical doctor 3 Health worker 4 Spouse 5 Parent 6 Close friend 7 No one 8 Other
504	<p>Where did you go when you were told you had TB?</p> <ol style="list-style-type: none"> 1 Went to health facility 2 Went to traditional healer 3 Other (Explain)
505	<p>How soon did you seek treatment?</p> <ol style="list-style-type: none"> 1 Immediately 2 When I had cough for more than two weeks 3 When I lost weight 4 When the condition did not improve 5 Other
506	<p>Do you think TB treatment is free?</p> <ol style="list-style-type: none"> 1 Yes 2 No 3 other



****Circle an appropriate Number**


6. Health service related factors


No	Question/Filter
601	<p>How far is your home from the clinic?</p> <p>1 0 to 2 km 2 2 to 5 km 3 5 to 10km 4 > 10 km</p>
602	<p>Which mode of transport do you usually use?</p>  <p>The logo of the University of the Western Cape, featuring a classical building with columns and a pediment, with the text 'UNIVERSITY of the WESTERN CAPE' below it.</p>
603	<p>Were you satisfied with the service at the clinic?</p> <p>1 Yes 2 No</p>
604	<p>If 603 answered, explain.</p>

605	<p>What was the attitude of the health worker towards you?</p> <p>1 Positive – Welcoming</p> <p>2 Negative – Ridicule</p> <p>3 Neutral</p> <p>4 Other(specify)</p>
-----	--

***fill in the blanks with appropriate answers and circle an appropriate number*


7. Knowledge about TB

No	Question/Filter
701	<p>What is TB? Explain.</p> <div style="text-align: center;">  <p>UNIVERSITY of the WESTERN CAPE</p> </div>
702	<p>How did you know about TB?</p> <p>1 Television</p> <p>2 Radio</p> <p>3 Billboards</p> <p>4 Newspaper</p> <p>5 Health worker</p> <p>6 Religious leader</p> <p>7 Other</p>

703	<p>How is TB transmitted from one person to another?</p> <ol style="list-style-type: none"> 1 Coughing 2 Sneezing 3 Kissing 4 Sharing utensils 5 Touching
704	<p>What are symptoms of TB?</p> <ol style="list-style-type: none"> 1 Cough 2 Loss of weight 3 Oral thrush 4 Coughing blood 5 Diarrhoea 6 Night sweat 7 Lymphadenopathy 8 Other(specify) <div data-bbox="919 651 1178 899" style="text-align: center;">  <p>UNIVERSITY of the WESTERN CAPE</p> </div>
705	<p>TB is curable</p> <ol style="list-style-type: none"> 5 Strongly Agree 4 Agree 3 Impartial 2 Disagree 1 Strongly Disagree

706	<p>How can someone with TB be cured?</p> <ol style="list-style-type: none"> 1 Herbal medicine 2 Home rest without medicine 3 TB drugs 4 Do not know 5 Traditional medicine 6 Other(specify)
707	<p>Explain Direct Observation Treatment.</p>
708	<p>TB treatment can be taken continuously for six months without stopping.</p> <ol style="list-style-type: none"> 5 Strongly Agree 4 Agree 3 Impartial 2 Disagree 1 Strongly Disagree
709	<p>Did you experience any of the following side effects during treatment? (You can choose more than one answer.)</p> <ol style="list-style-type: none"> 1 Vomiting 2 Nausea 3 Skin rash 4 Blurred vision 5 Poor hearing 6 Yellow colour of eyes 7 Other



710	<p>Anybody can be infected with TB</p> <p>5 Strongly Agree 4 Agree 3 Impartial 2 Disagree 1 Strongly Disagree</p>
711	<p>How can a person avoid TB infection? (tick all appropriate alternatives)</p> <p>1 Practising safe sex 2 Covering mouth and nose when coughing or sneezing 3 Avoid sharing dishes 4 Opening windows at home 5 Through good nutrition 6 By praying 7 Other(specify)</p> 
712	<p>How serious do you think TB is in Lesotho?</p> <p>1 Very serious 2 Somewhat serious 3 Not very serious 4 Do not know</p>

***fill in the blanks with appropriate answers and circle an appropriate number*

8. Stigma

No	Question/Filter
801	<p>Do you know anybody who has TB in the community?</p> <p>1 Yes 2 No</p>
802	<p>How is she/he treated by the community?</p> <p>1 Supported 2 Laughed at 3 Rejected 4 Other</p>
803	<p>When you were initiated on treatment, were you able to take it continuously for six months without failure?</p> <p>1 Yes 2 No</p>
803(a)	<p>If no, please explain why.</p>
804	<p>Has TB infection affected your marital relationship negatively?</p> <p>1 Yes 2 No 3 Do not know</p>



****fill in the blanks with appropriate answers and circle an appropriate number**
Adopted from ACSM KAP STUDY (WHO,2008a)



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WESTERN CAPE