



**FACTORS CONTRIBUTING TO LOW TUBERCULOSIS
CURE RATE IN PRIMARY HEALTHCARE FACILITIES
WITHIN THE GREATER GIYANI MUNICIPALITY OF
LIMPOPO PROVINCE**

by

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**Mini-Dissertation Submitted in Partial Fulfillment of the
Requirements for the Degree**

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**Department of Public Health
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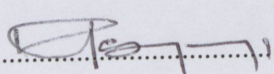


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DECLARATION

I, **Maswanganyi Nandzumuni Velaphi**, declare that **“FACTORS CONTRIBUTING TO LOW TUBERCULOSIS CURE RATE IN PRIMARY HEALTHCARE FACILITIES WITHIN THE GREATER GIYANI MUNICIPALITY OF LIMPOPO PROVINCE”** is my own work, that all sources that I have used or cited have been indicated and acknowledged by means of complete references, and that this work has not been submitted by me for any other degree at this or any other institution.

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I wish to convey this special dedication to my family members who supported me throughout my studies. A special thanks is due to my husband, Steven, and my daughter, Hlulani, who remained my source of inspiration and courage in the quest for knowledge. I also wish to pay special tributes to my late daughter, Sibongile, to whom this thesis is dedicated.

Dr Rachel Tsakani Lebese, my supervisor, for her patience, encouragement, selflessness and willingness to guide me during my studies.

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Prof Akinsola, Department of Public Health, for his follow-ups for the successful completion of the work.

My colleagues in the Department of Health, for giving me the information which I needed concerning my research topic.

My fellow students for their love and understanding during my studies.

All the committees that were involved in reviewing my work, the Higher Degrees Committee of the University of Venda, the Department of Health and Social Development in the Limpopo Province and Mopani District, particularly the Greater Glynis Municipality.

Professor D.C. Hise, Department of Medical Biosciences at the University of the Western, for proof-reading the thesis.

I thank God for giving me strength and perseverance throughout my studies. He is my rock, in whom I place trust.

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Tuberculosis is a disease that is curable when a person takes full course of treatment within a prescribed period. However, as the prevalence of TB is increasing worldwide, many countries still experience low TB cure rates. Globally, there are targets for TB cure rates so that it is possible to monitor its progress. This study explored and described the factors that contributed to the low TB cure rates in primary healthcare (PHC) facilities of the Greater Giyani Municipality in the Mopani District of the Limpopo Province. The study sought to achieve the following objectives: determine the factors that contributed to the low TB cure rates in the Greater Giyani Municipality; explore how TB patients are managed after discharge from hospital; identify the challenges faced by TB patients when taking treatment at home; and determine the strategies that can be used to improve the low TB cure rate within Greater Giyani Municipality. The research design in this study was qualitative, exploratory, descriptive, and contextual in nature. The study population consisted of professional nurses working in PHC facilities which have a cure rate below the national target of 85%. The study population also consisted of TB patients collecting treatment at these facilities. Non-probability purposive sampling was used to select the facilities, professional nurses and patients. The objectives of the study were met during data collection which was conducted through the use of individual face-to-face interviews followed by data analysis. Data collection was done up to 12 patients because no new information was forthcoming from the patients. Patients were 3 males and 9 females, the professional nurses were 18 and all were females. The age of patients ranged from 25 to 57 and those of professional nurses ranged between 31 and 48. Tech's open coding methodology was used to analyze data in this study. Data

from both participant groups were ated into themes and sub-themes. The following themes emerged from raw data: themes from professional nurses: poor management of TB patients on discharge from the hospital and the impact of stigma on the management of TB patients. One theme emerged from TB patients: the experience of TB patients on barriers to treatment adherence. Complications such as the poor referral system of TB patients from the hospital to PHC facilities, and the latter frequently running out of stock for food supplements and TB treatment, together with cultural beliefs and the stigma attached to TB resulted in TB patients seeking assistance from traditional health practitioners and faith-based healers, also impacted negatively on treatment adherence and TB cure rate. It is recommended that TB patients and their family members be counseled on diagnosis so that they understand their condition and comply with treatment. The inclusion of TB patients in community projects for food security and financial support was proposed as was the involvement of community stakeholders in the management of TB to remove stigma of TB in the community. The study suggested that policy about the referral of TB patients need to be developed in order to improve the poor referral system. It was concluded that most of the TB patients have poor family support structures which made it difficult for them to secure financial and food security, and hence to comply with the demands imposed between TB treatment schedules.

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LIST OF ABBREVIATIONS



ACSM	Advocacy, Communication and Social Mobilization
DoH	Department of Health
DOTS	Directly Observed Treatment Short Course
HBM	Health Belief Model
HR	Human Resources
MDGs	Millennium Development Goals
MDR-TB	Multidrug Resistant Tuberculosis
NDoH	National Department of Health
PHC	Primary Healthcare
WHA	World Health Alliance
WHO	World Health Organization
XDR-TB	Extreme-Drug Resistant TB

OVERVIEW OF THE STUDY

1.1 Introduction and Background to the Study

Tuberculosis (TB) remains a worldwide healthcare problem although it can be cured within 6 to 8 months of taking anti-tuberculosis treatment. The most unresolved challenge in the management of TB is the treatment completion, which manifests itself in high death rates and the occurrence of drug resistant TB (WHO, 2010: 31). In 2009, the cure rate of TB was estimated at 78% globally and the rate of treatment success was only reached by three regions, namely, the Eastern Mediterranean at 85%, the Western Pacific at 92%, and the South East Asian at 87% (WHO, 2009:21). In the African and American regions the treatment success rate was 75% and 76%, respectively. South Africa managed to reach 73% treatment success rate, which is far below that of the global average treatment success rate of 85% (WHO, 2009:20).

In order to improve the cure rate globally, the Stop TB strategy was adopted in 2006.

The Stop TB interventions are divided into six broad components:

- Pursuing high quality Directly Observed Treatment Short course (DOTS);
- Addressing TB/HIV, multidrug-resistant TB (MDR-TB) through expansion and enhancement;
- Focusing on the needs of affected poor and vulnerable populations;
- Contributing to the health system strengthening based on primary healthcare;

- Engaging all care providers; and
- Empowering people with TB and communities through partnership and promoting research.



The global plan to stop TB also indicates how and at what scale the strategy should be implemented (WHO, 2009: 6). The strategy also outlines the major interventions that should be implemented to achieve one of the Millennium Development Goals (MDGs), that is, goal number six. The goal states that countries should begin to reverse the incidence of TB by 2015 and to reduce by 50% relative to 1990 levels the prevalence and mortality rates. Other targets are to achieve a case detection rate of new smear positive cases of at least 70% and to reach a treatment success rate of 85% (Dye, Watt, Dolin, Bleed, Hosseini and Raviglione 2005: 461).

The Stop TB Strategy implementation rate is not yet at 100%, and only 18 countries are implementing the strategy. Progress against TB has been made countrywide between 1995 and 2005 as a result of the implementation of DOTS and Stop TB Strategy. It has been reported that among patients who were notified of TB in 2008, 85% were successfully treated (WHO 2011:37). Globally, DOTS coverage had reached 94% in 2007, which does not correlate with the cure rate of less than 70%. All regions have adopted the DOTS strategy, but they differ in the coverage as follows: African region 93%; American region 91% Mediterranean region 97%; European region 75%; South-East Asia 100%; and Western Pacific region 100 % (WHO, 2009:34).

The implementation of DOTS in South Africa was 100% (WHO 2009:35). In Limpopo Province, DOTS coverage ranges between 75% and 80%. DOTS coverage

in the Mopani district was 94%. According to the report from the District Health Information System (DHIS, 2007:67), DOTS coverage in the Greater Giyani Municipality ranged between 90% and 96%. However, this high DOTS coverage did not correspond with the TB cure rate, which was less than the national target of 85%.

In many developing countries such as South Africa, less than half of TB patients who started treatment were cured or had completed the treatment course (WHO, 2009). In 2008, Limpopo Province had a TB cure rate of 65 % and a defaulter rate of 7%, in the Mopani district, the TB cure rate was 68.4% compared to 70.2% in the Greater Giyani Municipality. These cure rates were still far below the national target of 85% (DHIS, 2008:18).

	85%	76.5%
9. Thama	85%	73.7%
10. Xilungwa	85%	72.2%
11. Dzamet HC	85%	72%
12. Nrome clinic	85%	71.4%
13. Mbiava Wellem clinic	85%	70%
14. Hlaneki clinic	85%	66.7%
15. Bacani clinic	85%	64.3%
16. Mseugi clinic	85%	54.5%
17. Mapayeri clinic	85%	52.2%
18. Kheysi clinic	85%	50%
19. Ratsang clinic	85%	50%
20. Zava clinic	85%	40%
21. Ghani HC	85%	48.8%
22. Xilakati	85%	14.3%

Source: District Health Information System (DHIS) 2008

Table 1: Greater Giyani Municipality TB Cure Rate 2008

Facilities in Greater Giyani		Target for Cure Rate	Actual Cure Rate
1.	Xivulani	85%	94.4%
2.	Skimming clinic	85%	90.9%
3.	Ndengeza clinic	85%	88.9%
4.	Ngove clinic	85%	84.6%
5.	Kremetart clinic	85%	80.6%
6.	Nkuri clinic	85%	78.6%
7.	Bochabelo clinic	85%	76.9%
8.	Makhuva clinic	85%	76.5%
9.	Thomo	85%	73.7%
10.	Xikhumba	85%	72.2%
11.	Dzumeri HC	85%	72%
12.	Nkomo clinic	85%	71.4%
13.	Mhlava-Wellem clinic	85%	70%
14.	Hlaneki clinic	85%	66.7%
15.	Basani clinic	85%	64.3%
16.	Msengi clinic	85%	54.5%
17.	Mapayeni clinic	85%	52.2%
18.	Kheyi clinic	85%	50%
19.	Ratanang clinic	85%	50%
20.	Zava clinic	85%	50%
21.	Giyani HC	85%	48.8%
22.	Xitlakati	85%	14.3%

Source: District Health Information System (DHIS) 2008

1.2 Problem Statement

The Greater Giyani Municipality TB cure rate for 2008 was at 70.2% which was far below the national target of 85%. This is of great concern from a public health perspective, and more especially from the standpoint that nurses who cared for TB patients have never been interviewed so that their opinions concerning the reasons why the TB cure rate did not reach the national target can be heard. Measures such as human and financial resources to assist in the increase of the TB cure rate were in place. There is a coordinator for the TB programme at the municipality level and each facility had a nurse who checks on the completion of TB records. It had been noted that training on TB-related issues is conducted for all categories of nurses and TB guidelines were available for all facilities.

Despite all these efforts, the TB cure rate in the Greater Giyani Municipality was still below the target of 85%. Out of 22 health facilities in the Greater Giyani Municipality, only 3 managed to reach the national target TB cure rate of 85%. The rest of the health facilities have a cure rate which ranged between 14 and 94%. This study was undertaken to explore and describe the factors contributing to low TB cure rate in primary healthcare (PHC) facilities within the Greater Giyani Municipality (DHIS 2008). Table 1 shows the cure rate at the PHC facilities in the Greater Giyani Municipality during 2008.

1.3 Significance of the Study

The results of the study may contribute to the development of strategies to improve the low TB cure rates within the Greater Giyani Municipality. Challenges associated

with low TB cure rates will be revealed and recommendations for the improvement will be made. It is hoped that the research will inform policy makers to consider factors that can improve TB cure rates. The results of this study might contribute to upgrading of educational programmes for nurses. It is anticipated that the programmes would prepare nurses to manage TB patients upon admission and after discharge. Primary healthcare nurses may improve the way in which health education is conducted in relation to TB management by patients. The results of the study can also translate into successes in achieving the MDG goals and to reach national TB targets according to WHO.

1.4 Purpose of the Study

The purpose of the study was to explore and describe the factors that contribute to low TB cure rates in PHC facilities of the Greater Giyani Municipality in Mopani District of the Limpopo Province.

1.5 Major Research Questions

The study sought to answer the following questions

- What factors contribute to low TB cure rates in the Greater Giyani Municipality?
- How are TB patients managed after being discharged from the hospital?

- What are the challenges encountered by TB patients who are taking treatment at home?
- What strategies could be adopted to improve TB cure rates in the Greater Giyani Municipality?

1.6 Objectives of the Study

The objectives of this study were to:

- Determine the factors that contribute to low TB cure rates in the Greater Giyani Municipality;
- Explore how TB patients are managed after discharge from hospital;
- Identify the challenges faced by TB patients when taking treatment at home; and
- Determine the strategies that can be used to improve the low TB cure rate within Greater Giyani Municipality.

1.7 Definition of Concepts

1.7.1 Professional Nurse

A professional nurse is a person who is qualified and competent to independently practise comprehensive nursing in the manner and to the level prescribed, and who is capable of assuming responsibility and accountability for such practice (SANC, 2005). In this study, a professional nurse is a nurse who is taking care of people infected and affected by TB in the selected PHC facilities of the Greater Giyani Municipality with low TB cure rates.

1.7.2 TB patient

TB patient is a person who is infected with active Mycobacterium tuberculosis and presents with signs and symptoms of TB (WHO, 2009: 17). In this study a TB patient is a person diagnosed at the hospital as having TB and has been transferred to the primary health care facility to continue with TB treatment.

1.7.3 Low TB Cure Rate

Low TB cure rate refers to a combination of factors that impact negatively on TB cure rate, including problems with a continued supply of anti-TB drugs, inaccessibility of clinics to patients, patients not being able to afford travelling costs to attend clinics, DOTS not functioning optimally, and the complications of TB drug resistance and high prevalence of HIV (WHO, 2009: 23). In this study, a low TB cure rate is defined as the percentage of cured patients (who have been diagnosed through sputum examination) that is below the national target of 85%.

1.7.4 Factors

Factors are circumstances that help to bring about a result (OXFORD, 2006:246). In this study, factors are the opinions of patients and nurses about low TB cure rates within the Greater Giyani Municipality PHC facilities.

1.7.5 Primary Healthcare Facilities

PHC facilities are amenities which are accessible to individuals and the services are offered at an affordable cost (Dennill & King, 2007:2). In this study, PHC facilities

are clinics and health centres in the Gaborone Municipality which render TB prevention and treatment programmes.

1.8 Plans for Dissemination and Implementation of the Results

A “Research Report “is the manner in which a completed study is communicated to other people like colleagues at work or worldwide audiences (De Vos, 2005). A copy of the research report of this study will be submitted to the Department of Health and Social Development (DoH), directly to the Coordinator of the TB Programme at the provincial level. Presentations will be made to nurses during review meetings through the arrangement with the Senior Manager of PHC facilities in the Mopani District. Presentations shall also be made at conferences after getting an approval from the conference organizers. Publications shall also be made so that others can do more research based from the findings.

1.9 Layout of Chapters

Chapter 1: Overview of the Study

Chapter 2: Literature Review

Chapter 3: Research Methodology

Chapter 4: Results and Discussion

Chapter 5: Recommendations, Limitations and Conclusions

1.10 Summary

This chapter provided an overview of the study and included the introduction, the background to the study which outlined the strategies used by different regions and countries to improve their TB cure rates. The significance and purpose of the study were also described to afford an understanding of the outcome expected in this study. Research questions, objectives and definition of concepts were also explained. A list of all the facilities which fall under the Greater Giyani Municipality and their cure rates is included to clarify how the facilities are performing with regard to TB cure rates. The next chapter deals with the literature review.

The literature review has been discussed based on two parts which is data based and theoretical based. The discussion under data based literature review is about the findings from the previous research conducted by others which may either support or oppose the findings of this study. The other part is discussed based on the theory that supports the research topic and gives a better understanding of the research topic.

2.2 Data-Based Literature

TB is an infectious modifiable disease caused by *Mycobacterium tuberculosis*. It primarily involves the lungs, but may spread through blood to other parts of the body (DOH, 2009:17).

LITERATURE REVIEW

2.1 Introduction

An overview of the study was presented in Chapter 1. The objective of this chapter was to review relevant literature. A “Literature Review” is a rational method of bringing readers up to date with previous research conducted in the field. It also points out general agreements and disagreements among previous researchers (Babbie & Mouton, 2008).

The literature review has been discussed based on two parts which is data based and theoretical based. The discussion under data based literature review is about the findings from the previous research conducted by others which may either support or oppose the findings of this study. The other part is discussed based on the theory that supports the research topic and gives a better understanding of the research topic.

2.2 Data-Based Literature

TB is an infectious modifiable disease caused by *Mycobacterium tuberculosis*. It primarily involves the lungs, but may spread through blood to other parts of the body (DOH, 2009:27).

2.2.1 Contact Management

All people in close contact with an infectious TB patient must be identified and screened to exclude TB disease. Children under five years of age and without any signs and symptoms of TB should receive isoniazid prophylaxis to prevent them from developing TB disease. If the child has signs and symptoms of TB, a chest x-ray and TB skin test should be performed to confirm the diagnosis so that TB treatment can be initiated (DOH, 2009:58).

2.2.2 Factors that Influence TB Cure Rates

A study conducted in Addis Ababa, Ethiopia, by Sagbakken, Frich and Bjune (2008:11), revealed that lengthy anti-TB treatment exhausted the patients' and relatives' financial and practical support systems. This resulted in non-adherence to treatment. A study conducted in China by Tang and Squire (2005:97) also revealed that patients in rural areas experienced difficulties in reaching the treatment points because they could not afford to pay for their daily transport costs. Transport costs were found to affect treatment adherence because patients could not have money to go to collect their medication at health centres (Tang & Squire, 2005: 98). In China, it was also noted that where TB services were not provided for free, patients did not adhere to treatment because they were expected to pay every time they visited the health facility (Tang & Squire, 2005:102). However, this issue does not apply to South Africa because all services provided at PHC facilities are free. Research by Xianquin, Men, GuoTianhua, Yan, Xiaolu, Guangxue, Van der Werf and Van der Hof (2010:33) in Shaanxi, China, revealed that patients who did not have their sputum



investigated at the end of the treatment were those who did not have treatment supervisors.

A study in rural North Ethiopia by Demmissie, Getahon and Lindjtorrn (2003:2010) revealed that lack of support among TB patients is a barrier to cure from the disease. The study findings further revealed that TB patients who belonged to a support group showed a high TB cure rate of 68.7% compared to those who did not belong to any support group. In the same study, it was also observed that patients prefer to have treatment supporters in their local communities rather than at the healthcare facility. A study conducted in Namibia by Zvavamwe and Ehlers (2003: 309), proved that DOTS has increased the cure rate in most of the facilities.

The Department of Health (DoH) in South Africa recommends a teamwork approach to TB treatment and management. The belief is that joint responsibility between healthcare personnel, TB patients and the community will give necessary support so that TB patients complete treatment. The teamwork approach should clearly outline the responsibilities of each team member. Families should be involved in the treatment plan of TB patients so that they are able to support the patient during the course of treatment (DoH, 2009: 53).

A study conducted in China by Tang and Squire (2005:103) showed that most TB patients move from one place to another without even reporting to a treatment supporter. As a result, treatment is interrupted. The study further revealed that TB patients who do not register with local TB dispensaries failed to complete standardized treatments. Among TB patients registered and treated by TB dispensaries, only 61% received the recommended standardized anti-TB treatment.

Among the TB patients treated by the general hospitals, only 21% received the recommended standardized anti-TB treatment (Tang & Squire, 2005: 97). However, there were difficulties in handling the increased number of TB patients most of whom were rural migrants working in the urban areas. The municipal TB control centres had a challenge of treating and monitoring them because they moved from one place to another (Tang & Squire, 2005: 97).

Although TB services are provided for free at government institutions, the study conducted in Uganda by Kiwuwa, Karamagi and Mayanja (2005:118) showed that people still present themselves to private clinics because of poor quality services in government institutions. Patients diagnosed in private clinics are referred to local health institutions because of the higher costs of the services which most TB patients cannot afford. TB treatment lasts for six months. Due to underfunding of the TB services, patients with persistent symptoms are also referred to higher levels of care because of lack of proper equipment. The movement of patients from one health institution to another resulted in patients not completing their medication because they felt discouraged (Kiwuwa et al., 2005:118).

2.2.3 Client-Related Factors

The stigma attached to TB disease prevented TB patients from seeking immediate medical attention. The study conducted in China by Tang and Squire (2005:99), revealed that people diagnosed with TB were afraid of being known in the community as having TB. This affected mostly women and rural migrants. Women were afraid that their husbands would divorce them for fear of them and their children becoming infected. The rural migrants were afraid to lose their jobs. The cure rate was affected

because patients preferred to take treatment on their own without even the knowledge of family members and, as a result, they did not get support (Tang & Squire, 2005:99).

In South Africa, a study conducted in the Eastern Cape by Cramm, Finkenflagel, Maller and Nieboer (2010:72) found that stigma might influence TB patients' behaviour in seeking help and adhering to TB treatment. In the same study, the findings showed that people infected with TB had a tendency of hiding their TB status out of fear of being stigmatized.

Lack of knowledge about TB caused patients to become frustrated and depressed. The DoH recommended that a comprehensive Advocacy, Communication and Social Mobilization (ACSM) plan be developed and implemented. The plan further urges the involvement of political leaders in the mobilization of resources (DoH, 2007:40). The plan also encourages that knowledge and awareness of TB should be spread to the community at large. With this approach it is hoped that treatment adherence and case detection would improve. The plan describes how ACSM can assist in dealing with stigma and discrimination. The plan further recommends that the Patient's Charter for TB care should be communicated to TB patients and their families so that they become knowledgeable about their rights and responsibilities (DoH, 2007:40).

A study conducted in Senegal by Thiam, Lefevre, Hane, Ndiaye, Ba, Fielding, Ndir and Lienhardt (2009:383) affirmed that there was no proper communication between patients and healthcare providers on diagnosis, registration and during continuity of treatment. Also, patients were not given enough information about TB and this resulted in them defaulting from taking treatment (Thiam et al., 2009:541). It was

found that patients believed that after 2 months of treatment they were cured as they felt better. Patients did not have sufficient knowledge to discern that the importance of completing treatment is the same as taking the full course of treatment. Findings from the same study also revealed that short messages given to TB patients by healthcare workers were strengthening the issue of stigma around TB. The study further recommended that all TB patients be given information on the spread and the prevention methods of TB and emphasized that counselling be provided to TB patients (Thiam et al., 2009: 541).

The study conducted by Hoa, Kihorson, Long and Diwar in Vietnam (2003:61), concluded that patients' beliefs had negative impact on cure rate. In particular, patients believed that TB was inherited or caused by hard work and too much thinking. TB patients believed that there was an alternative treatment to cure the disease, depending on what caused it rather than using treatment from health institutions. TB patients visited traditional health practitioners and faith healers because they did not have knowledge that the treatment provided from the health facilities was the only cure for TB disease (Van Der Werf, Dade & Van Der Mark, 2009: 250).

Compliance to TB treatment is unpredictable because one can never tell who of the patients would adhere before they do so. Most of the patients do not comply because they do not see the importance of doing so. A study in Nepal by Wares, Singh, Archanya and Dangi (2003:330) indicated that a few patients were given information on the importance of completing treatment. They were told of the importance of getting cured and preventing the spread of the infection to others. In the same study, it

was also found that some patients  not comply with treatment because they experienced side effects which were not explained to them (Wares et al., 2003:330).

A study conducted by Xianquin, Men, GuoTianhua, Yan, Xiaolu, Guangxue, Van der Werf and Van der Hof (2010:33) in Shaanxi, China, revealed that patients who experienced side effects did not continue taking TB treatment because of the cost related to the treatment of side effects. Moreover, patients who did not continue with treatment because of side effects did not have knowledge that they will experience such effects and that they were not supposed to stop taking their treatment (Xianquin et al., 2010:34).

A study conducted in rural Kwazulu-Natal in South Africa by Ghadhi, Moll, Sturm, Pawinsky, Govender, Lalloo, Zeller, Andrews and Friedland (2005:1576) found that the presence of other diseases like HIV/AIDS and multidrug-resistant TB (MDR-TB) affected cure rates negatively, because most of the patients died. The results further showed that the development of MDR-TB in patients had a negative impact on cure rates.

A study conducted by Kiuwua et al. (2005:122) in Kampala, Uganda, found that a delay in diagnosis and initiation of treatment contributed to low TB cure rates well below the national target of 85%. Interestingly, smokers often delayed seeking medical assistance because they associate coughing with their smoking and not with TB. The same study also asserted that alcoholics and subsistence farmers also delayed visiting health facilities due to lack of knowledge about signs and symptoms. Increased death rates were noted instead of increased number of cures (Mpungu et al., 2005:122)

2.2.4 Health System Factors



Several countries have funding plans in place for TB programmes: 24 countries are from the African region, 21 from America, 16 from the East Mediterranean region, 24 from European regions, 10 from the South-East Asian region and 25 from the Western Pacific region. South Africa falls under the countries that have such a plan. The delivery of TB services through PHC increased cure rates in many countries in Africa. Eighty-three percent (83%) of all the countries in the world reported that TB services were delivered through PHC facilities and 80% of these countries are using general laboratories to diagnose and cure patients. Human resources (HR) administration is a crucial component in the management of TB. Needs assessment studies showed that a total of 90 out of 94 countries have a comprehensive plan for HR for TB control (WHO, 2009:108).

Results of a study conducted in Nepal, by Bam, Enarson, Hinderaker and Chapman (2009:301) on the evaluation of the outcome of tuberculosis treatment showed that high cure rates are achieved in refugee camps when the local health agencies and National Tuberculosis Program of the host country can strictly coordinate and collaborate the services. In the same study, a success rate of 94% was achieved (Bam et al., 2009:301).

A study conducted by Walley, Khan, Newell and Khan (2009:664) in Pakistan revealed that social support also has a positive influence on patients. It makes them adhere to treatment and get cured. The results indicated that there are people who had very little food to eat during treatment while others had less contact with health

workers. Patients who complied with treatment, however, were those who received food parcels during their treatment period.



A study conducted by Zvavamwe and Ehlers (2008:5) in the Omaheke region of Namibia concluded that accessible treatment points can improve adherence. The study compared the cure rates of two groups of TB patients on treatment. One group received treatment from the health facility and the other group from the community home-based care. The group that received treatment from the community had the highest cure rate of 89.9% against 66.7% for those treated at the health facility.

Thiam et al (2009:240) reported that TB treatment was free in all public health institutions in Senegal. However, DOTS was implemented only at one health centre whereas others allowed patients 4 days to 2 months to self-administer the treatment. The results from the study indicated that TB patients experienced difficulties in accessing the health centres due to a poor transport infrastructure. The transport challenge and the shortage of DOTS structures contributed to patients not collecting their treatment regularly. Others did not collect treatment after finishing the supply when they were discharged from the hospital. Instead of patients getting cured, this led to the interruption of treatment (Thiam et al., 2009:540)

In the study referred to above, lack of proper supervision of patients TB also contributed to treatment failure (Thiam et al., 2009: 542). The district management teams were not supervising the management of TB in district health centres. There was no system in place to trace patients who defaulted treatment. When they realized that patients were no longer visiting the facilities to collect treatment, health workers just recorded the outcome as a default of treatment. The recommendations were that



TB control programme should adopt a multidisciplinary approach so that comprehensive treatment management is attainable (Thiam et al., 2009: 542).

The South African government is currently addressing the issue of funding TB programmes. However, lack of resources at implementation level is still a challenge. In a study in India, Ujjain district, Fochsen, Deshpande, Ringsberg and Thorson (2009:163) identified that doctors had conflicting accountabilities where they were expected to perform administrative work and also attend to TB patients. The guidelines were available and known to the staff, but they were not implemented accordingly due to the fact that they had to attend to other duties. Patient counselling at the time of diagnosis was not done and this resulted in patients not understanding their diagnosis and became non-compliant to treatment which, in turn, contributed to failure to reach the national target cure rates.

In the same study, it was discovered that doctors did not involve patients in the management of their treatment. They only instructed patients to do things the way they wanted them to be done. They concentrated more on the technical aspects rather than communicating with patients to enable them to take responsibility for the management of their disease. Patients who developed drug-resistant TB were sent to other hospitals with resources to diagnose them, but they were not told the reason for being transferred to other hospitals. Most of the patients were reluctant to go to other hospitals. This not only delayed the patient from getting medical assistance, but also worsened the patient's condition (Fochsen et al., 2009:164). The doctor also shifted responsibility to relatives who were not part of the treatment management process. The team approach was not practiced and this resulted in poor patient management and low cure rates (Fochsen et al., 2009:164).

A study conducted in India by M. Kumar, Agarwal, Chauhan and Srikantaramu (2005:11) reported that a shortage of health workers affected the implementation of the DOTS strategy at all levels of its health institutions which resulted in the government's inability to establish DOTS centres. Wrong addresses were recorded and follow-ups were not possible. This resulted in patient lost to follow-up (Mahadev et al., 2005:25). Village health workers were earning very little money and because of that were not interested in supervising treatment over a long period of time. TB patients were given treatment schedules supervised by one of their family members at home because patients were also reluctant to visit the village health worker. Some of the TB patients stopped taking treatment because they experienced side effects and they had no one to share the experiences with.

A study conducted in Peru by Olender, Saito, Apgar, Gillenwater, Bautista, Lescano, Moro, Caviedes, Hsieh and Gilma (2003:355) revealed that lower categories of nurses were dissatisfied with how TB programmes were managed. Moreover, there was no clear policy on the management of patients discharged from hospital as patients were given a return date for follow up at the hospital and others were referred to Community Health Centres (Olender et al., 2003:356).

Results from the same study showed that a month supply of treatment was given to the patients. It was also noted that even though the policy was that the patients should be strictly supervised by the facility nurses for the first two months, patients were given treatment for up to 2 months (Olender et al., 2003: 356). Patients diagnosed in private health facilities were not even notified. When the patient failed to collect treatment, tracing was not done and the outcome was recorded as "lost to follow-up". Healthcare facilities were not getting any logistical support to follow up patients and



the district management team did not assist with the strategies that could be implemented to improve the TB cure rate (Olender et al., 2003:356).

In a study conducted in Kaski, Nepal by Mishra, Hansen, Sabroe and Kafle (2006:34) found that patients were not given an opportunity to ask questions. Health workers did not explain to patients the nature of the disease and treatment. As a result, this contributed to patients defaulting treatment, thus affecting the cure rates. The study accordingly recommended that those who dispense the drugs should also have information on TB, because they are the ones who dispense treatment and explain when and how treatment should be taken. The study suggested that information on TB be given to all health workers, including the community (Mishra et al., 2006:34).

Tang and Squire (2005:99) discovered that health workers in China who provided health services had low levels of qualifications. There was also a lack of equipment to perform TB tests to such an extent that patients were referred to other facilities. The patients were also given different treatment regimens, some of which might not have been effective (Tang & Squire, 2005:100). Furthermore, health workers who were allocated to work with TB patients were of lower ranks such as nursing assistants, community health workers and assistant pharmacists. The staff lacked sufficient knowledge and others were not even trained to manage TB. The staff were unable to respond to patients' problems because they were not educated to do so. In turn, patients became dissatisfied about the services they were receiving from healthcare providers.

The management of TB patients needs committed and accountable health personnel because TB treatment needs monitoring until the end of 6 or 8 months. In many

circumstances, TB patients did not know what was expected from them after being discharged, this influenced non-adherence to treatment (DoH, 2009:82). According to the South African Nursing Council (SANC), nurses of lower categories should work under the supervision of professional nurses because they cannot be held accountable for any omissions or neglect.

According to a study, conducted in the South Peninsula sub-district of Cape Town, a different management approach on TB had been used and TB cure rates increased from 66% to 85% and more (Azevedo & Leon, 2008:281). The sub-district started to concentrate on facility management, routine monthly monitoring system and giving of regular and prompt feedback. Support given to poor-performing facilities included staff training on how to analyze and use information for action. Facilities with high TB cure rates and where political councillors, higher management, media and the community were involved were given incentives. The activities motivated the facility staff to be more accountable (Azevedo & Leon, 2008:289).

Results of a study conducted by Chirio, Kuriger, Etchevarria, Casmajor and Morcillo (2009:23) in the northern district suburbs of Buenos Aires associated the increased cure rate with the use of DOTS. Two groups were compared -the first applied DOTS to more than 65% of the patients and the other applied DOTS to 64% and less. The first district achieved a cure rate of 85.7% and the second only 67.6%. The results proved that DOTS is an efficient tool to cure TB patients (Chirio et al., 2009:24). In the same study, it was also noted that the management of patients through DOTS increased both ordinary and MDR-TB cure rates. The results indicated that TB cure rates increased from 59.5% to 77.5%. The cure rate of MDR-TB patients increased from 50% to 73 % (Chirio et al., 2009:29).



The findings of a study conducted by Ghandrasekaran, Subramani, Santha, Thomas, Selvakumar and Narayanan (2009:234) in Tiruvallar, South of India, revealed that early diagnosis of TB has a positive impact on high TB cure rate. TB patients who were diagnosed with high grading of smear microscopy failed to convert and were not cured at the end of treatment. Patients diagnosed with 3+ microscopy grading needed extension of treatment during intensive phase of treatment. Patients who had lower grading on diagnosis had a cure rate of 75.8%. The same study also identified death and defaulter rate as the contributory factors for the low cure rate (Gopi et al., 2009:245).

A study conducted in India by Chauhan and Tonsing (2005:272) ascertained that health workers forged partnerships with public-private TB mixed enterprises and also with non-governmental organizations. From the forged partnerships, medical colleges established DOTS centres and also assisted in providing training for doctors in the Revised National TB Control Program (RNTCP). Doctors advocated for the programme and assisted in conducting relevant operational research for TB. The initiative resulted in high DOTS coverage, making it possible for them to achieve treatment success rates of 87% up from 25%, and a cure rate of 86% (Chauhan & Tonsing, 2005:27).

Hane, F; Thiam, S., Fall, A.S., Vidal, L., Diop, A.H., Ndir, M and Lienhardt, C (2007:540) observed that TB patients diagnosed and admitted to hospitals were then discharged to be taken care of by the community health centres near their residential areas. The TB treatment in all public health institutions was free, but DOTS was implemented only at one health centre. Others patients were given 4 days to 2 months for self-administration which contributed to poor adherence to treatment. Nsthanga,

...that the use of DOTS can improve TB cure rates and decrease defaulter rates. Their study site was in Kwazulu-Natal and the number of patients allocated to DOTS was small, thus making it possible to supervise treatment on a daily basis. The significance of this study is that if more patients were allocated to one treatment supporter, less time would have been spent with the patients and the quality of treatment supervision would also have been poor. This treatment concept was supported by the fact that a team working within priority districts were implementing community DOTS. Some of the districts, however, had low coverage of DOTS. Districts with high coverage of DOTS, had cure higher rates than in areas with lower DOTS coverage, for example, UMgungundlovu and UMzinyathi had 45.1% and 41.6% DOTS coverage with associated cure rates of 71.7% and 53.7%, respectively.

2.2.5 Therapy-Related Factors

All of the 146 WHO reporting countries provided treatment with standardized short-course chemotherapy, although the regimens have different combination of drugs, especially in phase two (WHO 2009:40). The treatment period differs from six to eight months period. Eighty-six percent (86%) of the countries provide DOTS during the initial phase with a community or family member supervising treatment. In 63% of the reporting countries, healthcare providers administer DOTS in the continuation phase of treatment. Southern African Countries provide standardized short course chemotherapy under the supervision of community home-based caregivers. In the Limpopo Province, the same treatment practice is followed in the districts and municipalities. However, there are special cases that are being supervised by healthcare providers within the facilities during their initial phase of treatment (WHO

Rustomjee and Mabaso (2009:5) demonstrated that the use of DOTS can improve TB cure rates and decrease defaulter rates. Their study site was in Kwazulu–Natal and the number of patients allocated to DOTS was small, thus making it possible to supervise treatment on a daily basis. The significance of this study is that if more patients were allocated to one treatment supporter, less time would have been spent with the patients and the quality of treatment supervision would also have been poor. This treatment concept was supported by the fact that a team working within priority districts were implementing community DOTS. Some of the districts, however, had low coverage of DOTS. Districts with high coverage of DOTS, had cure higher rates than in areas with lower DOTS coverage, for example, UMgungundlovu and UMzinyathi had 45.1% and 41.6% DOTS coverage with associated cure rates of 71.7% and 53.7%, respectively.

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2009:41). A major challenge was the poor quality of TB treatment. Patients ceased to take treatment before the end of the course and others received intermittent treatments.

2.2.6 Adverse Effects of Medication

A study conducted by Xianquin et al. (2010:33) in Shaanxi Province, China, revealed that most of the patients did not complete treatment because they experienced side effects. Treating side effects was found to be expensive. Monitoring and evaluation in order to understand the trends of the epidemic and monitoring progress within the TB programme is very important.

Globally, 63% of the countries had access to the data of individual patients at the central office (WHO, 2009:42). In the remaining countries, data were received from lower administrative levels in an aggregated format. There was a challenge that 20% of them did not establish whether all units had reported their case notifications and treatment outcomes. Seventy-one percent (71%) of the 180 reporting countries produced a report. In South Africa, data for individual TB patients are accessed at all levels of service delivery, from the municipalities to the national level. Annual reports are produced quarterly at all levels of care. The District Health Information System (DHIS) is incorporated to manage TB data in high-burden countries like South Africa (WHO, 2009:42-43).

A study conducted in Rio de Janeiro, Brazil, by Selig, Belo, Tierra, Cunha, Briton, Sanches, Luna, Muller, Gamba, Belo, Vento and Trajman (2003:856) indicated that the negative attitude of healthcare professionals in the implementation of DOTS has led to non-education of patients about side effects. In Russia, the implementation of

DOTS was recommended due to the high burden of TB. The aim was to increase case findings so that cure rates could be increased. Nurses think that supervision of treatment is their work and when patients are no longer admitted for treatment at the hospitals they will remain doing nothing. Other health professionals think that the strategy would not work because the identification of side effects and treatment would be difficult and patients would not adhere to treatment.

A study conducted in Africa by Mwinga and Fouire (2004:827) revealed that lengthy TB treatment periods of 6 to 8 months led to patients defaulting treatment, developing resistance to treatment, thus leading to their death. TB patients have different beliefs about what can cure their TB disease. A study conducted in Ghana by Van Der Werf, Dade and Van Der Mark (2009:250) showed that TB patients visited traditional health practitioners and faith healers because they were more easily accessible within their villages than travelling long distances to health facilities. Kiwuwa et al. (2005:118) indicated that health services delay initiating treatment after TB has been diagnosed. Because of the high mortality rates among TB patients, the cure rates are affected.

2.3 Theoretical/Conceptual-Based Literature Review: The Health Belief Model

The Health Belief model is a tool that scientists use to predict health behaviours. It was developed in the 1950s and updated in the 1980s (Green & Kreuter, 1999:13). The model is based on the theory that a person's willingness to change their behaviours is primarily due to the following factors:

2.3.1 Perceived Susceptibility

People will not change their behaviours unless they believe that they are at risk (Green & Kreuter, 1999:13). A person who has the knowledge of TB is afraid of becoming infected with TB bacilli. The stigma attached to it makes it difficult for people to accept the TB diagnosis. Advocacy, communication and social mobilization are necessary to remove the stigma about the disease (Green & Kreuter, 1999:13). TB is an infectious airborne disease and everyone is afraid of contracting the disease because it spreads easily to others. Family members of a TB patient are at risk of developing signs and symptoms of TB. It is, therefore, necessary for healthcare workers to trace the contacts of a TB patient. The contacts should be thoroughly screened to exclude TB disease. TB contacts under five years should be given prophylaxis to prevent them from contracting TB (Green & Kreuter, 1999:13).

2.3.2 Perceived Severity

The probability that people will change their health behaviour to avoid the consequences depends on how serious they consider the consequences to be (Green & Kreuter, 1999:13). TB drug resistance is also emerging and people are afraid of such complications. This can lead to separation from their families because of being admitted to the MDR-TB unit for six months or more depending on the laboratory test results (Green & Kreuter, 1999:13).

2.3.3 Perceived Benefits

People are not easily convinced about change of behaviour unless they know that they will receive something good by doing so (Green & Kreuter 1999:13). Some patients would believe that taking treatment would cure them, but those who do not see cure as a benefit are more likely to default treatment. It is up to healthcare workers to stand up and give patients more information about the advantages of taking treatment for the prescribed period (Green & Kreuter, 1999:13).

2.3.4 Perceived Barriers

The reason why people do not want to change their health behaviour is because they think that it will be difficult for them. Behaviour change can cost a person effort, time or even money (Green & Kreuter 1999:14). The negative consequences that may result from taking treatment can lead to the interruption of treatment. Cultural beliefs can also contribute to irregular treatment. Side effects are very frustrating to patients as they will make it difficult for them to take treatment. Nurses should ascertain if there is anything that can prevent the patient from taking treatment regularly (Green & Kreuter 1999:14).

The following elements can influence behaviour change in a person:

2.3.5 Cues to Action

These are external events that prompt a desire to make a health change. Cue to action is something that can make or encourage a person to take a step forward, towards

changing behaviour (Green & Kreuter 1999:15). The Advocacy, Communication and Social Mobilization Strategy assist people by involving traditional leaders, politicians, traditional health practitioners and communities at large. This would make them aware of the TB epidemic and the prevention and treatment thereof. Typical health promotion, education and communication programmes include TB messages screened on television, broadcasts by radio stations, taxi branding and distribution of pamphlets and posters (Green & Kreuter 1999:15).

2.3.6 Self-Efficacy

It is a belief that a person has the ability to make a health-related change. The faith that a person has the ability to do something has an impact on the actual ability to do it (Green & Kreuter, 1999:15). TB patients accept treatment support in order to comply with the daily activity of taking TB treatment in correct dosages and on time (Green & Kreuter, 1999:15).

2.3.7 Other Variables

Improper counselling to patients and family members at the time of diagnosis results in denial and not complying with treatment. Travelling long distances to facilities and keeping TB patients in long queues may lead to patients not returning back to facilities for the next check-up and treatment (Green & Kreuter 1999:15).

2.4 Summary

This chapter reviewed the literature relevant to this study. The issues discussed were factors that influence TB cure rate, including the client, health system, therapy and adverse effects. The health belief model was also described. The next chapter describes the methodology of the study.

The previous chapter discussed the literature relevant to this study. This chapter deals with the research methodology and techniques that were used to collect and analyse data in this study. The research design is described in relation to the following: setting, population, sampling, data collection and data analysis. Measures to ensure trustworthiness of the data are also described with regard to four principles, namely, credibility, dependability, confirmability and transferability.

3.2 Research Design

Research design is a logical strategy for gathering evidence about knowledge desired. It must be efficient, which means it must actually yield the knowledge desired (Burns & Grove 2003:31). The research design in this study was qualitative, exploratory, descriptive, and contextual in nature.

3.2.1 Qualitative Research Design

Qualitative research is concerned with how it focuses on the specific properties that pertain to a phenomenon. It explores why certain aspects of a phenomenon appear when they do and how they are perceived (Crabtree, 2007:179). In qualitative

RESEARCH METHODOLOGY

3.1 Introduction

The previous chapter discussed the literature relevant to this study. This chapter deals with the research methodology and techniques that were used to collect and analyse data in this study. The research design is described in relation to the following: setting, population, sampling, data collection and data analysis. Measures to ensure trustworthiness of the data are also described with regard to four principles, namely, credibility, dependability, conformability and transferability.

3.2 Research Design

Research design is a logical strategy for gathering evidence about knowledge desired. It must be efficient, which means it must actually yield the knowledge desired (Burns & Grove 2005:61). The research design in this study was qualitative, exploratory, descriptive, and contextual in nature.

3.2.1 Qualitative Research Design

Qualitative research is contextual because it focuses on the specific properties that pertain to a phenomenon. It explains why certain attributes of a phenomenon appear when they do and how they are connected (Creswell, 2003:190). In qualitative

research, people are studied in their natural setting by living with them and learning through observations and talking to them in order to discover the social world of their culture and language. Qualitative research identifies the characteristics and significance of human experiences as described by participants and interpreted by the researcher at different levels of abstraction (Burns & Grove 2005:61).

In this study, the researcher used a qualitative research design, which is a systematic and subjective approach to explore and describe the factors contributing to low TB cure rates. The conversation with participants was recorded and field notes were used to document non-verbal cues. A voice recorder was used to record what the participants were saying to assist the researcher to remember what has been said during the conversation (Burns & Grove 2005:61). Participants were interviewed in their own setting which is the PHC facilities for professional nurses and homes for TB patients. Patients were allowed to express their views in relation to factors that influence TB cure rates. Probing and paraphrasing were used to avoid influencing their responses.

3.2.2 Explorative Research

An explorative research design is aimed at investigating the dimension of a phenomenon, the manner in which the phenomenon manifests itself in relation to other factors (Polit & Beck, 2007:718). The researcher has used this method because it made it possible to look at the factors that contribute to low TB cure rates. It has also assisted in the generation of knowledge the researcher was unaware of. A detailed description of the contributory factors to low TB cure rates has been achieved through in-depth face-to-face interviews with both the patients and the professional

nurses. New knowledge has been acquired because participants have freely explained their own views of factors that contribute to low TB cure rates in their facilities (Burns & Grove 2005:361).



3.2 Descriptive Research

Qualitative research is descriptive because the researcher is interested in the process, meaning and understanding of acquired knowledge through words and pictures. The focus is on subjective exploration of reality from the perspectives of the insiders (Creswell, 2003:190). The data were used to produce a descriptive account which was reviewed by a participant who confirmed its accuracy.

3.3 Study Setting

The study was conducted in the Greater Giyani Municipality, Mopani District, in the Limpopo Province. The Limpopo Province has five district municipalities, namely, Capricorn, Mopani, Vhembe, Sekhukhune and Waterberg. The Mopani District is situated in the Far Eastern area of the province. To the east is neighbouring Kruger National Park, to the north is Vhembe District and to the west is Capricorn Municipality. The Mopani District is divided into five municipalities - Ba-Phalaborwa, Greater Giyani, Greater Letaba, Greater Tzaneen and Maruleng. Greater Giyani is situated in the far east of the district, to the north is Vhembe District, to the west is Greater Letaba Municipality and to the east is the Kruger National Park. Mopani district is predominantly rural and most people have low literacy levels. Therefore, the information gathered from this study might be crucial to the people so that they can develop health-seeking behaviours. The majority of the population

speaks Tsonga/Shangaan. Other languages spoken in the district are Northern Sotho and Venda. The population of Greater Giyani Municipality is 235881(Stats SA, 2001:25). There were 22 PHC facilities with one district hospital. The number of TB patients per year was approximately 4 500; primary TB patients were 4200 and 200 extra pulmonary TB cases. The cure rate for Greater Giyani Municipality since 2007 ranged between 60% and 70 %(DHIS, 2009:1).

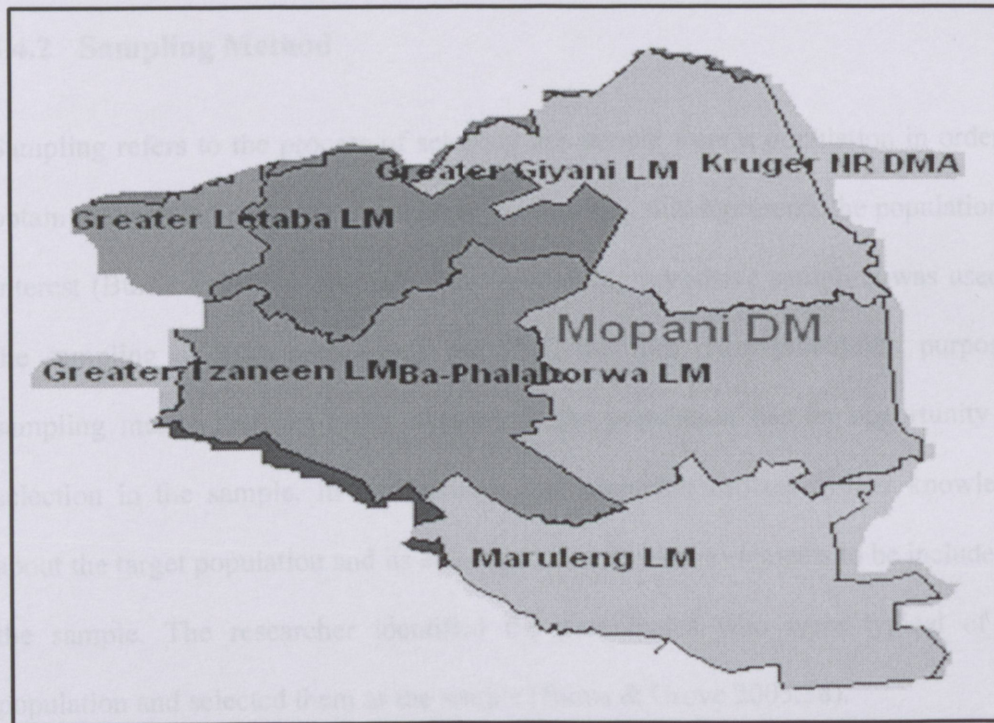


Figure 1: Map of Mopani District Municipality (Source: District Health Information System, 2009)

3.4 Study Population and Sampling

3.4.1 Population

Population is defined as all the elements that meet certain criteria for inclusion in a particular study. The study population refers to the entire aggregation of cases in

which the researcher is interested (Polit & Beck, 2007:28). The population can be individuals, objects or behaviour, depending on the study (Burns & Grove, 2005:51). In this study, the population comprised all professional nurses who were providing care to TB patients in Greater Giyani PHC facilities because they were considered the most relevant people who had knowledge about TB cure rates. The population also included all TB patients in the Greater Giyani PHC facilities.

3.4.2 Sampling Method

Sampling refers to the process of selecting the sample from a population in order to obtain information regarding a phenomenon in a way that represents the population of interest (Burns & Grove 2005:38). Non-probability purposive sampling was used in the sampling of both participants and PHC facilities. Non-probability purposive sampling means that not every element of the population has an opportunity for selection in the sample. In this method, the researcher utilizes his/her knowledge about the target population and its elements to handpick the elements to be included in the sample. The researcher identified the participants who were typical of the population and selected them as the sample (Burns & Grove 2005:38).

3.4.2.1 Sampling of Primary Healthcare Facilities

A purposive sampling method has been used to select PHC facilities. All facilities with a TB cure rate below 85% have been included in the study. The number of facilities that met the inclusion criteria was approximately 18 (Table 1).

3.4.2.2 Sampling of TB Patients

A purposive sampling method was used to select TB patients who had been discharged from the hospital, but were still on treatment.

3.4.3 Inclusion Criteria

Burns and Grove (2005:297) described inclusion criteria as “the characteristics that must be present for the element to be included in the study”. All PHC facilities in the Greater Giyani Municipality with a TB cure rate of below 85% were included in this study.

3.4.4 Sample Size

Table 1 shows that 18 facilities have a cure rate below 85%. All these facilities have been included in the study. The number of participants included in this study was approximately 18 nurses. In a qualitative study, the sample size is determined by data saturation. However, in this study, all 18 facilities were included (Polit & Beck, 2007:20). In this study, one professional nurse from each facility with a cure rate below 85% working with TB patients was included in the interview and a total of 18 professional nurses were selected based on data saturation. A sample size of 10 TB patients was reached when there was no new information and participants were repeating the same information given previously by others. In qualitative research, data saturation occurs when participants repeat the same information.

3.5 Data Collection

Data collection is a series of interrelated activities aimed at gathering appropriate information to answer emerging research questions (Creswell, 2003:181). The data gathering method of choice was an individual face-to-face interview conducted with the aid of an interview guide (Creswell, 2003:181). The researcher asked the participants questions to stimulate their thoughts. Probing and follow-up questions were asked to enhance the participants' responses. The following questions were included in the interview guide:

3.5.1 Questions for Professional Nurses

Can you describe to me how discharged patients on TB treatment are managed in your area?

In your own view, what factors could be contributing to low TB cure rates?

Can you describe to me the strategies that you think can assist in improving the cure rates?

3.5.2 Questions for TB Patients

Can you describe to me how you are being assisted in continuing taking your TB treatment?

Can you describe the challenges which you encounter when taking your treatment?

How do you interact with the local health workers and other TB patients?

The researcher and each participant were involved in a conversation in which both were co-participants with the objective of gathering information about factors that contribute to low TB cure rates (Morse & Field, 1998:20). The interviews took about 45-60 minutes. Individual face-to-face methods were used because they allowed the

nurses working with TB patients to express their views about low TB cure rates. Probing, follow-up and paraphrasing have been used to encourage participants to freely explain their own views on factors that contribute low TB cure rates. Individual face-to-face interviews assisted the researcher in gathering information from nurses working with TB patients about their concerns, non-verbal cues and opinions on factors that contribute to low TB cure rates. A voice recorder has been used to record the interviews and the data so gathered were transcribed verbatim for further analysis (Brink, 2006:159).

The researcher first identified participants by visiting the selected facilities. Then, appointments were made with participants to meet at a venue that was comfortable and free from any distractions. The researcher arranged a meeting with each sampled participant. The researcher introduced herself to the participant. Explanations about the nature, purpose and method of the research were outlined. Participants were further requested to take part in the study and they were assured about ethical measures such as confidentiality, anonymity and the right to withdraw.

3.5.3 A Voice Recorder

A voice recorder has been used during interviews, but only after informed consent has been obtained from the participants in order to capture all available data. The researcher created an environment that was favourable for conversation. Participants were informed that a voice recorder will be utilized so that information can be captured accurately. Permission to use a voice recorder obtained from the participants and the voice recorder was checked before use to ensure that it was in good working condition (Rossouw, 2005:146).

3.5.4 Field Notes

Field notes are written during interviews and are temporarily key words, cues or drawings that help to trigger the memory of the researcher about what happened during data collection (Newman, 2000:353). The notes represent the observers' efforts to record information and also to synthesize and understand the data (Polit & Beck, 2007:292). The researcher informed participants about the purpose of taking notes and requested their permission to take notes during the conversation. The researcher recorded notes on a notepad in the presence of the participants. The researcher jotted down key words, phrases or cues which have been used as the basis for analytical memos (Wilson, 2006: 222).

3.5.5 Observational Notes

Observational notes are descriptions of events experienced through watching and listening (Wilson 2006:222). In these notes, the researcher has recorded the who, what, where and how of the situation. The notes contained as little interpretation as possible (Wilson, 2006:222). In this study, the researcher has taken note of any non-verbal reactions from the participants during data collection.

3.6 Data Analysis Method

The researcher used qualitative data analysis methods to evaluate the data. Tech's open coding method of data analysis was used to guide the researcher in this study (De Vos, 2005:350). All data have been analyzed carefully, with understanding, to obtain a sense of the whole. Ideas have been written down as they came to mind. The

researcher selected one case and asked what this was about and thought about the underlying meaning in the information. Then, researcher's thoughts were written down in the margin. A list was made of all themes and similar themes were clustered together. The researcher applied the list of themes to the data. The themes - abbreviated as codes - were then written next to the appropriate segments of the transcripts. The researcher appraised preliminary organizing schemes to see whether new categories and codes emerged. The researcher searched for the most descriptive wording for the themes and categorized them. Lines were drawn between categories to show their relationships. The researcher made a final decision about the abbreviations for each category and codes were arranged in alphabetical order. The data belonging to each category were assembled and a preliminary analysis performed. The researcher re-coded existing material where necessary. Categories and sub-categories were developed (De Vos, 2005:350-361).

3.7 Measures to Ensure Trustworthiness

Trustworthiness is an approach used to clarify the notion of objectivity as it manifested in qualitative research (Guba & Lincoln, 2005:213). Four principles were applied to ensure trustworthiness - these strategies were credibility, dependability, conformability and transferability (Brink, 2006:118).

3.7.1 Truth Value

Truth value is the criterion that explains how one can establish confidence in the truth findings of a particular inquiry (Newman, 2000:171). The researcher has used the strategy of credibility, in order to ensure truth value. Credibility has been ensured by

the prolonged engagement of the researcher with the participants. Prolonged interaction was ensured by allocating enough time with participants, as the interviews were in-depth and face-to-face. More time has been spent with the participants during preparation for interviewing and during interviews which took about 40 to 60 minutes. Non-verbal cues, such as facial expressions, observed during interviews were recorded on a notepad (Guba& Lincoln, 2005:304). Member checking was utilized to establish credibility and to solicit participants' reactions to preliminary findings and interpretations. The researcher continuously checked the information gathered with the participants to confirm it (Polit& Beck, 2007:332). Data were also shared by making presentations in seminars where the researcher's peers and experienced researchers commented on the data (Polit& Beck, 2007:332).

3.7.2 Neutrality

Neutrality refers to the degree to which the results could be confirmed or corroborated by others (Guba& Lincoln, 2005:318). It also refers to the criterion for evaluating the quality and objectivity of data. The researcher used the strategy of conformability to ensure neutrality. In this study, the researcher discussed the findings with her peers, who have knowledge about qualitative research.

3.7.3 Consistency

Consistency is concerned with whether the same results will be obtained if the same phenomenon is being observed for the second time. It emphasizes the need for the researcher to account for the ever-changing context within which research occurs. The researcher is responsible for describing the changes that have occurred in the setting



and how they have affected the way researcher approached the study if the findings are not similar to a previous study (Guba & Lincoln, 2005:254). The researcher used the strategy of dependability to ensure consistency. The researcher adequately described the research method, in order to ensure consistency. Coding and re-coding of the results was also done (Guba & Lincoln, 2005:218).

3.7.4 Applicability

Applicability refers to the degree to which the results of a qualitative research can be generalized or transferred to other contexts or settings (Guba & Lincoln, 2005:256). It also means that the specifics of the research situation are noted and compared with the specifics of an environment which are familiar. When similarities between the two situations are substantial, then it can be taken that the results of the study would be the same in a similar situation (Guba & Lincoln, 2005:256). The researcher used the strategy of transferability to ensure applicability. The information recorded on the voice recorder was described in such a way that everyone could determine whether the findings of the study are applicable to the setting or not. In this study applicability has been ensured by describing the background information of the participants.

3.8 ETHICAL CONSIDERATIONS

The researcher ensured that human, humane, humanistic and moral reasons are upheld. Ethics in research also enhance the credibility and trustworthiness of data. The researcher ensured that the following aspects are observed:

3.8.1 Permission to conduct the study



Permission to conduct the study has been sought from the following institutions and a letter requesting permission to conduct the study will be written. Sample of letter (see Annexure 1).

- University of Venda Health and Safety Research Ethics Committee
- Limpopo Province Department of Health and Social Development Research Ethics Committee.
- Mopani District of Limpopo Province

3.8.2 Right to anonymity and confidentiality

The researcher did not allow unauthorized persons who may be family members or other health professionals to have access to raw data of the study. Information is not attached to names of participants or institutions. Records are kept locked at all times (Burns & Grove, 2005:196).

3.8.3 Informed consent

Informed consent means that participants have adequate information regarding the research, comprehend the information and have the power of free choice (Polit & Beck 2007: 93). This would enable them to consent voluntarily to participate in the research or decline participation. Participants were allowed to make informed decisions regarding participation in this study. The researcher explained the purpose of the study and the procedures involved, potential risks/benefits, how confidentiality will be maintained and the right to withdraw from participation. The researcher ensured that the explanation is at the level of the participants' comprehension. The participants then voluntarily gave consent, which was in a written form (Burns & Grove, 2005:196). (See annexure 2 for sample of form)

3.8.4 Right to privacy The private information of participants' was not shared without participants' knowledge or against their will. The researcher ensured that participants

do not lose their dignity, friendship, employment or suffer embarrassment or shame by participating in the study. Participants were made aware of the use of the audiotape. The participants were also shown the stop button on the audiotape so that they can press the button if they feel the information they want to disclose should not be recorded (Burns & Grove, 2004:196). (See Annexure 3).

3.8.5 Self-determination

The participants were assured of the right to withdraw from the study any time. Participants were also shown a stop button on the audio-tape so that they can stop the tape if they do not want particular information to be recorded (Burns & Grove, 2004:196).

3.8.6 The right to protection from discomfort and harm

The researcher ensured that participants are comfortable by selecting a convenient venue, time and day. The researcher also guarded against embarrassing the participants during interviews. Questioning and probing therefore was done cautiously. During an interview, the researcher was vigilant in assessing the participant's discomfort and where necessary participants were referred to professional intervention (Burns & Grove, 2004:196).

3.8.5 Right to fair treatment

The right to fair treatment is based on the ethical principle of justice, which holds that each person should be treated fairly. The researcher ensured that the population and the participants are selected fairly. The researcher also adequately discussed the role of participants and self in the study (Burns & Grove, 2007; 196).

3.9 Summary

This chapter described the detailed process on how the study was conducted in order to achieve the study objectives. The study design was qualitative, explorative and descriptive in nature. Ethical considerations and trustworthiness were described. Processes followed in data collection and analyses were outlined. The next chapter is an analysis and discussion of the data.

objectives of this chapter.

theories to reflect participants.

The results reveal opinions of participants within the PHC facilities of the study.

in this study were studied as follows:

results also reflect opinions of the participants and were continuing their work.

used against the findings which were

4.2 Demography of the study

Data were collected from participants that was two years.

participants who were

Giyani PHC facilities

and referred to the PHC facilities.

was saturated at 12 points.

rest of the participants

professional practice

57 years and those of

permanently employed

CHAPTER 4

4.1 Introduction

A discussion of the research methodology was presented in the previous chapter. The objectives of this chapter were to analyse raw data and reduce it into themes and sub-themes to reflect participants' views on factors that contribute to low TB cure rates. The results reveal opinions from professional nurses who were caring for TB patients within the PHC facilities of the Greater Giyani municipality. Nurses who participated in this study were attached to facilities that have a TB cure rate below 85%. These results also reflect opinions of TB patients who had been discharged from hospital and were continuing their medication at the selected facilities. Relevant literature was used against the findings whilst incorporating the Health Belief Model.

4.2 Demography of the Participants

Data were collected from 18 professional nurses working with TB patients for more than two years in PHC facilities of the Greater Giyani municipality. The other participants were 12 patients who were taking treatment from the selected Greater Giyani PHC facilities. The patients were those who started treatment at the hospital and referred to the PHC facilities for continued care and treatment. Data collection was saturated at 12 patients because no new information was forthcoming from the rest of the patient group. Patients were 3 males and 9 females whereas the professional nurses were all females. The age of patients ranged from 25 to 57 years and those of professional nurses from 31 to 48 years. Eight TB patients were permanently employed at farms and they were the only ones working in their families.

Their salary ranged between R600 and R1200 per month. The other 4 depended on their parents' old-age and child -support social grants. Each interview lasted between 45 and 50 minutes.

4.3 Presentation of the Findings

Data are presented in two parts - the first part represent data collected from the professional nurses and the second part data gathered from the TB patients

4.3.1 Professional Nurses: Themes and Sub-Themes

Table 2 shows the themes and sub-themes that emerged from the analysis of raw data collected from professional nurses who were caring for TB patients at PHC facilities in the Greater Giyani municipality. The participants expressed different views about the factors that contribute to low TB cure rates. Appropriate quotations drawn from the raw data are contextualized with the relevant literature to substantiate the themes.

Table 2: Professional Nurses: Themes and Sub-Themes

Theme	Sub-Theme
4.3.1.1 Poor management of TB patients on discharge from the hospital	<ul style="list-style-type: none"> • Poor referral system • Lack of knowledge about TB disease and its treatment
4.3.1.2 The impact of stigma on the management of TB patients	<ul style="list-style-type: none"> • The use of facilities far from the patients' homes • Cultural beliefs about TB disease

4.3.1.1 Poor Management of TB Patients on Discharge from the Hospital

Nurses described how TB patients were managed on discharge from the hospital. The data reflected that poor management of TB patients contributed to low TB cure rates. The following sub-themes were identified from the theme: poor referral system and lack of knowledge about TB disease and its treatment.

- **Poor Referral System**

During interviews, professional nurses mentioned different factors that affected the management of TB patients. Poor referral system between the hospital and the PHC facility was identified as the first factor that impacted the management of TB patients. The following were said to be the ways in which the poor referral system manifested: Lack of accompaniment of discharged patients from the hospital to the PHC facilities and lack of follow-up by the referring hospital. Participants described the referral system as inadequate because patients were given referral forms from the hospital without being told to go to the PHC facility with that referral form and without proper explanation of its importance. It was also revealed that the hospitals were failing to inform the PHC facilities about the discharged TB patients. This often resulted in patients not reaching the facilities to which they were referred. Participants also indicated that TB patients who were discharged from the hospitals were lost to follow-up because they also consulted traditional or faith healers who gave them alternative treatment.

Professional nurses also indicated that patients defaulted on treatment because they were not accompanied by healthcare professionals or relatives from the hospital to the PHC facility to make sure that they reached the place they were referred to. It was also said that there was also lack of follow-up by the referring facility until the patients were found by chance during outreach activities or feedback on performance

which was done by the TB coordinator.  This made them to identify that the referral system was ineffective.

One participant said: *“We only become aware that there is a patient who was supposed to come to our facility after two to three months when the local TB coordinator has given us print out of the report of the patients transferred from the hospital to the primary health care facilities and by that time the patient has already defaulted from treatment.”*

Another participant said *“We get some patients after a year when one of the family members have contracted TB disease and come for consultation at the facility, when we ask them if there are family members who had the same signs and symptoms is then that you realize that there is a person who did not complete treatment because the person did not reach the facility or has taken treatment for one month or two.”*

Another participant said: *“Most of our TB patients are found at home during door to door campaigns having their pink referral forms from the hospital without any TB treatment anymore.”*

Another participant said: *“Some of the TB patients go to private practitioners for their HIV condition. When they are diagnosed with TB and have to be referred to primary health facilities they don't go there until they are very sick because they will be taking the Anti-Retroviral Treatment only.”*

The literature indicates that poor referral of TB patients from Chris Hani Baragwanath Hospital to PHC facilities resulted in poor TB outcomes which included low TB cure rates due to patients who were lost for continued treatment. An intervention was

undertaken between 2003 and 2005 to improve the referral system to be successful. The evaluation of that intervention showed that 94% of patients were successfully referred to PHC facilities which, in turn, improved the TB cure rates (Edington & Hodkinson, 2006:1019). It has previously been reported that patients were also lost between the public and private healthcare institutions and programmes for TB and HIV due to poor collaboration (Wandwalo, Kapalata, Tarimo, Corrigan & Morkve, 2004:112). Discharged patients were instructed to go to a TB office located near the front gate of the hospital for completion of discharge procedures, but those who bypassed the TB office were not being registered and were thus missed ended up defaulting on taking treatment (Dong, Thabethe, Hurtado, Sibaya, Dlwati, Sibaya & Wilson, 2007:492). Considering the above, it is clear that a poor referral system can negatively impact the TB cure rate because of poor follow-up of the referred TB patients. It has also been noted that there is no communication between the hospital and the PHC facility due to failure of the hospital to inform the PHC facility about the discharged TB patients.

- **Lack of Knowledge About TB Disease and Its Treatment**

Professional nurses said in interviews that a lack of knowledge of TB disease and its treatment reflected poor management of TB patients. The data indicated that lack of knowledge by the TB patients was said to be the fundamental factor that contributed to the mismanagement of TB patients.

The data also revealed that there is a severe lack of information on TB among TB patients and the community at large. Participants were not aware of the dangers of not completing TB treatment which resulted in movement of patients from one place to another without notifying the healthcare professionals. According to Health Belief

Model (HBM), people will not change their behaviour unless they believe that they are at risk. In this study, it is clear that there is general lack of knowledge on TB and complications associated with the disease. The participants explained how TB patients moved from one farm to the other without continuing their TB treatment. Professional nurses further indicated that when TB patients felt better after two months of treatment, they moved from one farm to another while others ran away from their homes and visited relatives without informing the nurses of their whereabouts.

Most of the TB-infected patients delayed seeking medical assistance and some even died because they came to the PHC facility only when they were seriously ill. The HBM revealed that the change of behaviour to avoid the consequences of disease depends on how serious people can consider the consequences. In this study, it has been indicated that TB patients did not take the consequences of the TB disease as being serious which then led to complications and death. They also pointed out that the delay was caused by the lack of knowledge about the signs and symptoms of TB. They also said that TB patients defaulted on treatment when they felt better because they thought that they were cured.

One participant said: "TB patients go to farms without letting us know about their movement, we only get the report when we visit their families that they are working on the farms and the challenge is that they don't stay in one farm, they move from one farm to the other and is difficult to trace. This movement affect their management and collection of treatment from the primary health care facility."

One participant said: *“I once been involved in the tracing of TB patients at the farms and it was a painful experience for me because it took us the whole day to get the patient because we were referred from one farm to another because patients are not stable, other patients are found after two months which means that they are defaulters of treatment and others come back to the facilities when they are seriously ill. This affects their treatment adherence because when we discover that the patient is not coming back for follow up is when the period of the treatment given has elapsed.”*

Another participant said: *“We experience defaulters after the second month of treatment and when they are traced and put back on treatment they say that the reason for them not to take treatment anymore is because they felt better and think that they are cured.”*

Another participant said: *“TB patients visit the health care facilities when they are very sick and some die because of late reporting to the primary health facility. Reporting late to the primary health facilities is influenced by the thought that the disease is a result of witchcraft. They report to have visited the traditional health practitioners and told that they are having makhuma or xidyiso from which they were given traditional medicine to use as a cure for the disease.”*

Another participant said: *“Patients who report late to the health facility are saying that they didn't know that what they were experiencing might be the signs and symptoms of TB. They report to have used the over the counter medication to relieve their cough for a long time.”*

Another participant said: *“Some of the TB patients tell us that they interrupted treatment after taking it for two months because they were not feeling sick anymore and thinking*

that the nurses always want to have people in the facilities so that they can get paid at the end of the month.”



According to the literature, the delay in diagnosis and initiation to treatment contributed to TB cure rates below the national target of 85% (Kiwuwa et al., 2005:122). It has been observed that smokers delayed seeking medical assistance because they associated coughing with their smoking and not with TB symptoms (Kiwuwa et al., 2005:1 22). Furthermore, alcoholics and subsistence farmers also delayed visiting health facilities due to lack of knowledge about the signs and symptoms of TB (Hane et al., 2005:122). According to the HBM, a person is willing to change behaviour if it is understood that there are negative consequences, but if the behaviour is not changed efforts can be made to change the behaviour. In this situation, people do not differentiate between signs and symptoms of TB and the coughing from smoking and they do not make any effort to seek medical assistance.

Lack of an opportunity by TB patients to express their feelings is said to have contributed to them defaulting on treatment. However, Elbireer, Guwabudde, Mudiope, Sekandi and Manabe (2011:985) suggested that lack of relationships with patients affected adherence because patients do not have trust in the nurses and they generally will not comply, even if instructions were given to them because they do not trust that the treatment is the correct one and will be able to cure their disease. The HBM indicates that people are not easily convinced about change of behaviour unless they know that they will benefit something good as a result of that change.

Another study revealed that there was no proper communication of information between patients and healthcare providers on diagnosis, registration and during

continuity of treatment. The same study indicated that patients were not given enough information about TB and this resulted in patients defaulted on treatment (Thiam, Lefevre, Hane, Ndiaye, Ba, Fielding, Ndir & Lienhardt, 2007:383). As a corollary, most TB patients who are also HIV-positive die because they seek medical assistance late when they are very sick. Ghadhi, Moll, Sturm, Pawinsky, Govender, Lalloo, Zeller, Andrews and Friedland (2005:1576) revealed that the presence of other diseases like HIV/AIDS and MDR-TB affected cure rates negatively because most of the affected patients died.

A study conducted in two districts of Punjab province by Muhammad, Shaid, Muhammad, Soleed, Omer, Mushtaq, Siddiqui and Kram (2011:1490) revealed that inequality in the knowledge of TB between urban and rural residents in that province. It is generally accepted that there is poor knowledge of TB signs and symptoms, transmission, prevention and treatment of TB among people from the rural areas of the province. The study revealed that people used traditional medicine and consulted priests to receive prayers in order to get cured. It was also mentioned that the TB treatment period was described to vary from 3 to 6 months to those who were using government health institutions. Another study, conducted by Shiluvane, Risenga, Khoza and Lebesa (2011:131) in Vhembe district of Limpopo Province in South Africa showed that people have misconceptions about TB symptoms, transmission, causes and the risk factors for the disease which resulted in neighbours and the families of TB patients not sharing anything with them because of fear of contracting the TB disease.

Mabunda and Bradley (2011:99), in their study conducted in Mopani district which is also the study area of the research described in this thesis, demonstrated that a lack of

information about TB and its treatment had a negative impact on the management of TB patients. TB patients who experienced side effects dropped out of treatment after two months of effective treatment and lied about being discharged. It was also revealed that TB patients who claimed to be adhering to treatment were throwing away some of the treatment thinking that they are lessening the side effects within their bodies.

Based on the aforementioned discussion, it is clear that TB patients lacked the necessary information about their condition which resulted in non-adherence to treatment. This might mean that the primary healthcare nurses must intensify health promotion, education and outreach activities in order to disseminate TB information to the communities.

4.3.1.2 The Impact of Stigma on the Management of TB Patients

Professional nurses described the impact of stigma on the management of TB patients. It was indicated in the HBM that people are reluctant to change their behaviour because of the fear of having difficulties during that process of change. In this study, stigma has been identified as a factor that can prevent the patient from taking TB treatment because it is difficult to visit the facility for assistance when you know that the disease has stigma attached to it. Thus, stigma attached to TB disease is a barrier to patients seeking medical assistance and adhering to TB treatment. Professional nurses identified that TB patients were affected by the stigma attached to the TB condition. The following sub-themes emerged from the theme: The use of facilities far from the patients' homes and cultural beliefs about TB disease.

During interviews, professional nurses indicated that the stigma attached to TB disease has an impact on its management. The use of facilities far from the TB patients' homes was also identified as the main factor that affected the successful management of the TB patients. Professional nurses said that they were unable to attach patients to treatment supporters and the patients took responsibility for taking treatment alone. Professional nurses also indicated that it was very difficult for them to follow up on patients because they sometimes switched off their cell phones.

Another factor that was said to be a problem was that TB patients did not disclose their places of residence because of fear of isolation by family members and neighbours. The data analysis also revealed that TB patients who were employed did not disclose their TB status to their supervisors because of fear of dismissal from their jobs. This had a negative impact on the management of TB patients because the patient will take treatment secretly and without supervision, which can affect treatment adherence.

It was also revealed that cases in which TB patients lived far away from PHC facilities, professional nurses experienced difficulties in attaching them to DOTS supporters because some of the facilities did not have such provisions. It was noted that in some of the villages, people did not want to become DOTS supporters if they were not given a stipend.

One participant said: *"We have difficulty in the management of patients who are coming from the villages far from our facility because we don't know the treatment supporters in their villages. We just give the person treatment for self supervision and tell them how to take the tablets on daily basis. Sometimes we try to ask them to bring*

a person that they feel can support them with medicine administration but they normally don't bring them."

Another participant said: "We are having difficulty in making follow ups to patients who are coming from far when they don't turn up for treatment. It is very much difficult for us because we rely only on the patient and when the patient don't come you don't know whom to contact, sometimes the cell phone numbers provided to us are not correct or when you try to contact the patient telephonically the phone is off."

Another participant said: "During registration we advise the TB patients to use the facilities which are near to their homes for easy access, but the patients usually say that they don't want the people to know that we are suffering from TB as they will isolate them."

One participant said: "One of our TB patients was fired from work, then we reported the issue to the TB coordinator and then the employer was visited and given health talk about TB, then the patient got back the job and requested that other workers be tested for TB."

Another participant said: "We experience problems related to stigma when managing TB patients. There is a problem that if the patient is having TB people take it for granted that the patient is also HIV-positive and this is the reason why they don't want their TB status to be known by other people or even the family members."

Another participant said: "We experience problems in attaching patients to the DOT supporters because there are no volunteers in some of the villages because of lack of stipend."

The literature suggests that people who were diagnosed with TB were afraid of being known in the community because they would be stigmatized. Those who were employed were afraid of losing their jobs if it was discovered by their employers that they had TB. It was also said that TB patients did not even want their families to know about their TB status, especially women because they were afraid that their husbands would divorce them as they feared that their children would become infected. According to the HBM, people will change their behaviour only if they see that they will benefit something good. In situations where the disclosure of the disease will bring about negative effects on the patients' relationship, then there will be no treatment supporter and non-adherence will be a result (Tang & Squire, 2005: 99). It was further reported that the families also isolated TB patients because they were also afraid of societal isolation (Kelly, 2010:238). Since TB is viewed as a bad and dirty disease, the patient would be isolated by the family and the community. All these difficulties impacted negatively on adherence to TB treatment (Juniarti & Evans, 2011:1966).

In a study conducted in Vhembe District by Sukumani, Lebese, Khoza and Risenga (2011:166) it was showed that TB patients experienced a feeling of social isolation due to stigma attached to the relationship between TB and HIV. It was also recognized that neighbours and relatives did not want to visit the families of infected patients anymore because they feared contracting HIV. Shiluvane, Risenga, Khoza and Lebese (2011:131) in their study concluded that people who contracted TB were thought to be dirty, ate bad food and were looked down upon by others as ordinary people and they were stigmatized because of that. The findings of this study indicated that TB patients did not want their TB status to be known because of fear of stigma about the disease. It was also learned that stigma could affect the patients' livelihoods

if they were to lose their jobs. Thus, nurses should improve their communication skills to conduct TB outreach activities in households, communities and workplaces, especially with regard to disease infection, spread, that it is curable and to prevent unnecessary job losses.

• **Cultural Beliefs About TB Disease**

During interviews with professional nurses, it became apparent that TB patients have certain cultural beliefs about the disease. They described visits to traditional health practitioners and faith healers as a common practice among TB patients. The data analysis indicated that cultural beliefs about TB disease strengthened the problem of stigma and, hence, contributed to non-adherence and other attendant complications. Participants said TB patients who took TB treatment together with traditional medicines were not cured. Participants have noted that TB patients develop drug resistance and others died due to failure to adhere to treatment. They also said the reason why they preferred using the traditional medicine is because the patients associated the disease with witchcraft. Participants indicated that some patients believed God faith healers and that God would decide on the outcome of their lives. This influenced patients not to take treatment because they had faith only in God and they did not have trust that treatment will cure them, and thus nothing encouraged them to take treatment. According to the HBM, the faith that a person has in the ability to do something has an impact on the actual ability to do it. In this situation, it is clear that the TB patients did not have any faith in TB treatment and nothing positive could be done to urge them to take treatment.

One participant said: *“TB patients get wrong messages from the traditional health practitioners and faith healers who make them believe that they are not suffering from*

TB, but it is a result of witchcraft; others believe that it is a result of sleeping with a woman whose husband had passed on before the ritual ceremony is performed. TB patients also believe that the treatment from the health facilities will not be able to cure that type of TB.”

One participant said: “Some of the TB patients are mixing the traditional medicine and the TB drugs and those patients result in treatment failures, others developed drug resistance and others their conditions worsened and died.”

A review of the literature indicates that traditional health practitioners are powerful allies in TB and HIV prevention programmes and the separation make patients believe that they should choose between western health treatment and traditional cultural practices. It has been suggested that since TB patients have trust in traditional health practitioners, western healthcare systems should work together with traditional health practitioners in order to win over the TB patients (Dong et al., 2012:493). In Somalia, for example, the cultural beliefs concerning TB infection range from punishment for dishonesty, heredity, witchcraft, overwork and loss of faith. It is also believed that the treatment of TB rests with God because He is the One Who created them, He knows what they will undergo through their lives until death and there is no way that it can be changed by doctors or anybody (Citrin, 2006:2000).

A study by Hoa, Kihorson, Long and Diwar (2003:61) in Vietnam revealed that patients' beliefs had a negative impact on TB cure rate. The same study found that patients believed that TB was caused by hard work, inherited, too much thinking and that there was an alternative treatment to cure the TB disease depending on what caused the TB rather than using treatment from health institutions. TB patients visited

traditional health practitioners and faith healers because they did not have knowledge that the treatment provided from the health facilities was the only cure for TB disease (Van Der Werf, Dade & Van Der Mark, 2009:250). Fochsen et al. (2009:164) also indicated that this does not only delay the patient from getting cured, but it also worsened the patient's condition because patients develop drug resistance and others die.

Another cultural beliefs that there are different types of TB - one type is African and another type is western. The former is caused by having sex with someone who had a spontaneous abortion and is treatable by traditional health practitioners, the latter is caused by spread from TB sufferers as a result of smoking and environmental pollution and is treatable by TB drugs (Ilongo, 2003:81). The above discussion will have brought out that cultural beliefs influenced the stigma about TB disease and also prejudiced the management of TB patients. Thus, health departments should work together with faith healers and traditional health practitioners in providing the correct messages about TB and its treatment.

4.3.2 TB Patients: Themes and Sub-Themes

Analysis of the data indicated that TB patients experienced difficulties in adhering to treatment. According to the HBM, there are perceived barriers that can prevent patients from seeing the need to change their behaviour by accepting to take medication in order to be cured. Table 3 presents the findings from the TB patients on their experiences of the barriers to treatment adherence.

Table 3: Patients: Themes and Sub-Themes

Theme	Sub-Theme
4.3.2.1	The experience of TB patients on barriers to treatment adherence
	<ul style="list-style-type: none"> • Side effects of TB treatment • Shortage of TB treatment at PHC facilities • Shortage of food during the course of treatment • Long duration of TB treatment and transport constraints

4.3.2.1 The Experience of TB Patients on Barriers to Treatment Adherence

TB patients described their experiences concerning the barriers to treatment adherence. This theme emerged from the data analysis. Sub-themes that emerged from the description of the barriers to treatment adherence by the patients are side effects of TB treatment, shortage of TB treatment at PHC facilities, shortage of food during the course of treatment, and long duration of TB treatment and transport constraints.

• Side Effects of TB Treatment

During interviews, TB patients related their experiences concerning the taking of TB treatment. They mentioned that the side effects they experienced from the TB treatment included nausea and vomiting. Patients indicated that sometimes they did not take treatment regularly because of the experiences related to the side effects. Some of TB patients thought that the treatment was worsening their condition and they did not report these side effects to health professionals, but instead continued collecting treatment to convince nurses that they complied with treatment. Patients said that side effects inconvenienced their daily activities as they were also expected to perform household activities.

One participant said *“Eeey! I become very sick when I take the TB tablets then I decided not to take it anymore but I went there to collect treatment on monthly basis to convince the nurses that I am complying. Yoo!! Those pills makes me very sick”*.

Another participant said: *“I can’t even walk a short distance after taking treatment because it makes me feel dizzy for an hour or more that is why I tell that person who is coming at my home that I don’t want to take this treatment daily. This is affecting my daily routine because I must also do the household chores”*.

The literature corroborates that most TB patients did not complete their treatment course because they experienced side effects and treating side effects was found to be very expensive (Xianquin, Men, GuoTianhua, Yan, Xiaolu, Guangxue, Van der Werf & Van der Hof, 2010:33). However, another barrier was identified in the literature, namely, the negative attitude of healthcare professionals towards TB patients which led to non-adherence to treatment (Selig, Belo, Teixeira, Cunha, Brito, Sanches, Luna, Muller, Gamba, Belo, Vento & Trajman, 2003:856).

Some patients did not comply with TB treatment because the side effects were not explained to them (Wares et al., 2003:330). Xianquin et al. (2010:33) revealed that patients who experienced side effects did not continue taking TB treatment because of the cost for the treatment of side effects. It was found that patients who did not continue with treatment because of side effects did not have knowledge that they will experience such effects and that they were not supposed to stop taking their treatment (Xianquin et al., 2010:34).

Thus, TB patients experienced side effects which made them believe that the TB treatment was worsening their condition. Therefore, TB patients should be given

treatment for preventing side effects together with their TB treatment. This therapeutic approach will eliminate to some extent the experience of side effects and allow them to develop trust in the TB treatment. It is also necessary for nurses to always refer to the TB guidelines when managing TB patients.

- **Shortage of TB Treatment at Primary Healthcare Facilities**

During interviews, TB patients identified a shortage of TB treatment at PHC facilities as one of the barriers to treatment adherence. TB patients indicated that they sometimes resort to the use of treatment from traditional health practitioners because when they consulted, they always received treatment. They also indicated the difficulty in reaching the hospital where they had to collect their treatment when there was shortage at local PHC facilities, especially as they made use of public transport. TB patients also said that they even got tired of visiting the health facilities when they were not sure of the exact date when treatment would be available.

One participant said *“When there is no treatment at the health facility, I go to the traditional health practitioner to get treatment so that I can have something to use in the meantime, when treatment is available I go and collect it then start using it again. Hey (he laughs), my traditional health practitioner are always having treatment to give me because he knows that people can come anytime for assistance”*.

Another participant said: *“We sometimes get tired of visiting the facility when there is no treatment and they don't tell us when treatment will be available, we just come to check on daily basis. Those with enough funds are referred to the hospital for the collection of treatment by themselves but some of us wait for the treatment to be brought here at the local health facility”*.

The literature implies that an inadequate anti-TB drug supply and management system poses a considerable risk to TB patients of developing acquired drug resistance (DOH, 2009:45). A study conducted in Russia by Dimitrova, Balabanova, Atun, Drobniewski, Levicheva & Coker (2006:269), concluded that a lack of treatment was a barrier to treatment adherence and when TB patients did not come for further treatment, there was no vehicle for tracing such patients. A shortage of staff also contributed to poor treatment adherence because TB patients were not attended to fast enough when they visited the facilities.

A Stop TB partnership study conducted in the UK by Capstick, Laycock and Lipman(2011), reported that 63% of the 77 treatment centres reported difficulties in obtaining anti-TB drugs. This resulted in 27% of TB patients interrupting treatment and 19% had to alter the types of drugs used. It was also revealed that the centres treating MDR-TB also experienced such difficulties which resulted in 16% of patients interrupting treatment and 5% had to modify their regimen. It is clear that the PHC facilities do not keep sufficient stock of anti-TB drugs and often have to wait for the delivery of treatment on the day, which is not even known beforehand. Dispensing facilities should calculate correctly the number of patients on TB treatment and procure an extra 10% of stock, according to the TB guideline (2009:44).

- **Shortage of Food During the Course of Treatment**

During interviews, TB patients explained how a shortage of food affected their adherence to treatment. Patients said that it was difficult for them to take treatment on an empty stomach because they experienced abdominal pains after taking treatment. This made them to discontinue from treatment supporters so that they did not have taken treatment. Analysis of the data indicated that most of the TB patients were


living in poverty and often had nothing to eat. TB patients said that they were assisted by treatment supporters who sometimes gave them their food to eat before treatment. They also said that they received food parcels from social workers, whenever available. They indicated that during the times when there was nothing to eat they were taking treatment on an empty stomach and they ended up experiencing abdominal pains.

One participant said: *“I don’t have a job and money to buy food because I was the only one at home who sometimes got some piece job so that I can support my family, now I am sick and I don’t have energy to look around for the job”*.

Another participant said: *“Sometimes they refer us to the social worker who gives me some food parcels, but sometimes there is nothing and when I take treatment on my empty stomach I experience abdominal pains. I sometimes run away when I see that now the treatment supporter might be coming because I will be forced to take treatment even if I will not get anything to eat”*.

One participant said *“The treatment supporter sometimes comes with her own food to give me so that I have something to eat before taking treatment. I once dropped out from taking this treatment and went to Johannesburg to look for the job because I had nothing to eat”*.

The literature maintains that social support has a positive influence on TB patients. It makes them adhere to treatment and get cured (Walley, Khan & Newell, 2009:664). The results indicate that there are people who had very little food to eat during treatment while others had less contact with health workers. TB patients who complied with treatment were those who were given food parcels during their

treatment period. Mabunda et al. (2011:99)  stated that lack of food is the main stumbling block for treatment adherence because one cannot take treatment on an empty stomach.

The literature indicates that the unavailability of anti-TB drugs affected TB patients' adherence. It is evident that TB patients experienced lack of food which was barrier to treatment adherence because they avoided taking treatment on an empty stomach. Consequently, TB patients should be encouraged to start with community projects so that they can raise money to buy food. It might also mean that inter-departmental collaboration is needed like liaising with the department of agriculture for assistance with such initiatives.

Long Duration of TB Treatment and Transport Constraints
TB patients reported that long periods of taking TB treatment affected their daily routine activities and adherence to treatment. Long periods of TB treatment present challenges to the relatives of TB patients because it exhausts them financially. They also said that they became tired of taking treatment for such a long period of time and that they experienced challenges concerning transport for accessing the health facility because of shortage of funds.

One participant said: *"This TB treatment is like as if you were given a punishment because you are supposed to stay at home until a person who gives you the treatment arrives, it means that you should drop all your business for months and concentrate on this treatment of yours"*.

Another participant said: *"I sometimes feel so weak and frustrated that I cannot reach the facility and when I ask for assistance with transport funds you find that there is no one to give you. All at home will say that why is it taking so long for you to complete*

the treatment course? There is no money because we should also concentrate on some of the family needs".

The literature indicates that the unavailability of anti-TB drugs affected TB patients' adherence to treatment. TB patients said that they experienced problems related to shortages of funds for transport because they were too weak to reach the facility by foot (Van Der Werf, Dade & Van Der Mark 2009: 250). Participants indicated that these problems made it difficult for them to take TB treatment because they were unemployed and their relatives got tired of giving them financial support.

- **Long Duration of TB Treatment and Transport Constraints**

It was also revealed that patients in rural areas experienced difficulties in reaching the treatment points because they could not afford to pay for their daily transport costs. Long periods of treatment disturbed them from doing their daily activities and exhausted the patients and relatives financial and emotional support structures, and it resulted in non-adherence to treatment (Sagbakken, Frich & Bjune, 2008:1457). It is therefore important to include family members and relatives in the management plan of the patient so that they understand what is expected of them during the entire treatment period.

One participant said: "This TB treatment is like as if you were given a punishment because you are supposed to stay at home until a person who gives you the treatment arrives, it means that you should drop all your business for months and concentrate on this treatment of yours".

Another participant said: "I sometimes feel so weak and frustrated that I cannot reach the facility and when I ask for assistance with transport funds you find that there is no

one to give you. All at home will say that why is it taking so long for you to complete the treatment course? There is no money anymore because we should also concentrate on some of the family needs”.

The literature indicates that TB patients experience difficulties in reaching the facilities for collection of treatment due to shortage of funds for transport because they are weak to reach the facility by foot (Van Der Werf, Dade & Van Der Mark 2009:250). Participants indicated that these problems make it difficult for them to take TB treatment because they are unemployed and their relatives cannot sustain financial support. Patients in rural areas experienced difficulties in reaching the treatment points because they could not afford to pay transport costs. Transport costs thus affected treatment adherence. It was also revealed that this prevented them from doing their daily activities because wherever they went they had to think of the time for taking treatment. Lengthy periods of taking treatment exhausted the patients and their relatives of financial and emotional support and it resulted in non-adherence to treatment (Sagbakken, Frich & Bjune, 2008:1457).

Financial constraints was also revealed in the study conducted by Sukumani, et al (2011:168) in that TB patients ran out of funds when they are supposed to collect treatment at the health facility by means of taxis which are expensive. In this study, it was also revealed that even the family members of TB patients became exhausted physically and psychologically because of the demand for support for the duration of treatment.

4.4 Summary

This chapter analyzed the data collected from professional nurses and TB patients selected for the study. Three themes were identified, namely, poor management of TB patients, the impact of stigma on the management of TB patients and the experience of TB patients with regard to barriers to treatment adherence. The next chapter will discuss the recommendations, limitations and conclusions of the study.

5.1 Introduction

Chapter 4 discussed the analysis of the data in relation to the relevant literature on factors that contribute to low TB cure rate in the Greater Giyani municipality. This chapter will focus on the recommendations, limitations and conclusions in alignment with the purpose and objectives set out for the study. Recommendations that might influence policy and service delivery with regard to improvement of treatment outcome will be described. Conclusions based on the findings of the study will also be outlined. This chapter includes an appraisal of whether the objectives of the study were met.

5.2 Overview of the Study

The purpose of the study was to explore and describe the factors that contributed to the low TB cure rates in PrIC facilities of the Greater Giyani Municipality in the Mopani District of the Limpopo Province. The objectives of this study were to:

1. Determine the views of nurses concerning factors that contributed to the low TB cure rate in the Greater Giyani Municipality;
2. Explore how TB patients were managed after discharge from hospital;

RECOMMENDATIONS, LIMITATIONS AND CONCLUSIONS

5.1 Introduction

Chapter 4 discussed the analysis of the data in relation to the relevant literature on factors that contribute to low TB cure rate in the Greater Giyani municipality. This chapter will focus on the recommendations, limitations and conclusions in alignment with the purpose and objectives set out for the study. Recommendations that might influence policy and service delivery with regard to improvement of treatment outcome will be described. Conclusions based on the findings of the study will also be outlined. This chapter includes an appraisal of whether the objectives of the study were met.

5.2 Overview of the Study

The purpose of the study was to explore and describe the factors that contributed to the low TB cure rates in PHC facilities of the Greater Giyani Municipality in the Mopani District of the Limpopo Province. The objectives of this study were to:

- Determine the views of nurses concerning factors that contributed to the low TB cure rate in the Greater Giyani Municipality;
- Explore how TB patients were managed after discharge from hospital;

- Identify the challenges that we encountered by TB patients when taking treatment at home; and
- Determine the strategies that could be used to improve the low TB cure rate within Greater Giyani Municipality.

The objectives of the study were met during data collection which was conducted through the use of individual face-to-face interviews with participants, followed by data analysis. The research design used in this study was qualitative, exploratory, descriptive, and contextual in nature. In this study the population consisted of professional nurses working in PHC facilities which had a cure rate below the national target of 85%. The study population also consisted of TB patients who collected their treatment from those facilities. These patients were initially diagnosed with TB at the hospitals and subsequently transferred to the PHC facilities for continued care.

Data saturation occurred at 12 patients because it became apparent that no new information were forthcoming from the remainder of the patients. Three of the patients were males and 9 females, the professional nurses made up 18 and all were females. The age of patients ranged from 25 to 57 years, and those of professional nurses ranged between 31 and 48 years. Eight TB patients were permanently employed on farms and they were the sole breadwinners in their families. Their salary ranged from R600 to R1200 per month. The other 4 patients depended on their parents' old-age and child-support grants. Tech's open-coding methodology was used to analyze the data in this study.

Data analysis of the verbal descriptions from both patients and professional nurses during interviews revealed the following themes and sub-themes: Professional nurses: poor management of TB patients on discharge from the hospital, the impact of stigma in the management of TB patients, poor referral system, lack of knowledge about TB disease and its treatment, the use of facilities far from the patients' homes and cultural beliefs about TB. The themes and sub-themes that emerged from TB patients were: the experience of TB patients on barriers to treatment adherence, side effects of TB treatment, shortage of TB treatment at PHC facilities, shortage of food during the course of treatment, long duration of TB treatment and transport constraints.

5.3 Recommendations Based on the Themes and Sub-Themes

5.3.1 Poor Management of TB Patients on Discharge from the Hospital

It is recommended that all TB patients be counselled on: diagnosis, signs and symptoms of the disease; advised about their responsibilities as patients; and involvement of family members on the treatment management plan and support needed for successful cure. Guidelines on the discharge of TB patients from the hospitals and referral to PHC facilities should be written, communicated and distributed to all health facilities and private health institutions.

5.3.2 The Impact of Stigma on the Management of TB Patients

Community stakeholders should become involved in TB prevention, health promotion and education activities devoted to disease spread and cure so that the stigma attached to TB can be eliminated. TB education and awareness programmes should be

included in the curriculum of primary schools so that children are knowledgeable about the condition.



5.3.3 The Experience of TB Patients on Barriers to Treatment Adherence

All families of TB patients should be visited and given health talks about TB so that they understand TB issues to prevent loss of jobs. It is also important that employers of TB patients be educated about the disease, especially if an employee is infected with TB. It is also recommended that TB patients be included in community projects to raise funds for treatment costs such as food and transportation, such that they can be sustained in order to alleviate financial burdens on themselves and their families.

5.3.3.1 Operational

It is recommended that all TB patients be counselled about their condition on diagnosis to remove stigma and beliefs about TB which can improve adherence. The health officer should send the referral forms to the PHC facilities where the patients will be registered. The professional nurses should involve family members during counselling of the patient, particularly with regard to the demands and requirements for successful cure and so that they are able to support the patients in all aspects during treatment period. Professional nurses should assist in the establishment of support groups so that patients are able to support each other and curtail the stigma attached to TB disease. TB patients should also be able to share their experiences and find solutions to the challenges they face. All PHC facilities should keep 6 months treatment supplies for each registered patient in order to avoid treatment interruption.

The healthcare professionals should also keep the treatment in the boxes and write the patients' name outside the box for inventory control purposes.

5.3.3.2 Information

Healthcare professionals should involve community stakeholders in the training of home-and community-based caregivers such as traditional leaders, faith-based healers and traditional health practitioners so that they can assist in the early identification of people with signs and symptoms of TB and refer them to health facilities. Healthcare providers should conduct awareness campaigns in the communities and intensify health talks about how TB can spread and that TB is curable only when the whole course of treatment is completed. Posters and pamphlets should be written in local languages so that those who are able to read can do so.

Posters and pamphlets should also be distributed in schools and churches so that learners are able to refer to them. Teaching the patients about their rights and also their responsibilities as TB patients is also imperative. TB coordinators should arrange DOTS at a workplace so that patients have access to someone to supervise them when taking treatment on a daily basis. Professional nurses must teach patients about treatment side effects and stress the point that they should immediately report any side effects to nurses before they stop taking treatment. They should also be given information on the development of drug-resistant TB which may be the result of non-adherence to TB treatment. The patients should be given information by professional nurses about the benefits of completing the course of treatment in order to get cured.

5.4 Recommendations on Nursing Education

The study revealed that there is lack of knowledge about TB in the community and among TB patients and their families. There is doubt whether detailed information about TB are provided by healthcare professionals. Therefore, it is recommended that infectious diseases and their treatment be fully presented in the nursing curricula. This will assist nurses to acquire the requisite knowledge of TB in order to be able to manage TB patients correctly and give them essential information about TB.

5.5 Recommendations for Further Research

The findings of this study revealed that there is poor management of TB patients discharged from the hospitals and that the stigma attached to the disease has a negative impact on TB patients which result in non-adherence to treatment. Recommendations for future research include:

- The perceptions of TB disease towards families of TB patients, and
- The research be conducted in other municipalities in order to compare the findings.

5.6 Recommendations on Policy Making

Health policy makers should review the policies regarding the discharge procedure from the hospitals to PHC facilities in order to ensure the arrival of the TB patients referred to those facilities. The policy should include the involvement of the family members before the patient is discharge so that they know what is expected from the patient. The policy should also include the accompaniment of TB patients to their respective homes on discharge from the hospitals. The policy to involve TB patients

in community projects should be developed so that they are able to obtain money for transport and buy fresh food and vegetables which will provide them with essential nutrients to aid recovery.

The Department of Social Development should be involved in the promotion of this policy because it is the sole government funder of community projects. A policy on the establishment of treatment points in each village should be considered so that all TB patients from each village collect treatment at a central point to avoid having to travel to the next village where there is a facility. It will also avoid the issue of having no DOTS in other villages due to lack of stipend. Facilities should use a tracking diary system in order to identify treatment interrupters within 24 hours for tracing and resuming treatment before they become defaulters. The diary should record the dates when the TB patients are due back at facility for follow-up. Every patient should be recorded on the relevant specific date related to the follow up. Appointment tracer teams are very much important for the follow-up of lost patients. The tracer teams could also assist in the visiting of families of TB patients to give them information about TB.

5.7 Limitations of the Study

There were some difficulties in the recruitment of the participants, especially the professional nurses because they thought that the researcher wanted to find faults about the management of TB patients. The study was conducted in only one sub-district of the Mopani district. The study did not include the DOT supporters even though they are also participating in the supervision of patients receiving TB treatment.

5.8 Conclusions

The conclusions that follow are discussed in relation to the objectives of the study.

5.8.1 Views of Nurses Concerning Factors that Contributed to Low TB Cure Rates in the Greater Giyani Municipality

The professional nurses described the factors which contributed to low TB cure rate as the defaulter rate which resulted from non-adherence to treatment by TB patients. Non-adherence is caused mainly by a poor referral system of TB patients from the hospital to the PHC facilities, lack of knowledge about TB disease, and the impact of stigma attached to the disease. Stigma has far-reaching consequences for TB patients, including fear to disclose their disease status to other people, employers and family members which caused patients to default on treatment. Some patients also defaulted because they had no treatment supervisor.

5.8.2 How TB Patients are Managed after Discharge from Hospital

The study revealed that there is a major oversight in the management of TB patients discharged from the hospital because they were left to go home on their own and then expected to report to the PHC facility for treatment. It was also noted that there is no communication or follow-up between the hospital and PHC facilities, and that TB patients were not given any TB information on diagnosis, which resulted in many obstacles to treatment adherence.

5.8.3 Challenges Faced by TB Patients when Taking Treatment at Home



It was noted from this study that most of the TB patients come from poor families, which made it difficult for them to get financial support and food security. Also, the health facilities frequently ran out of stock for food supplements and TB treatment. The cultural beliefs about TB resulted in TB patients seeking assistance from traditional health practitioners and faith based healers, which negatively impacted on the TB cure rate.

5.9 Summary of Strategies to Improve the Low TB Cure Rate within the Greater Giyani Municipality

This chapter covered the recommendations, limitations and conclusions based on the objectives of the study. Recommendations based on the themes and sub-themes that emerged from the data analysis in this study have already been presented in previous sections. Briefly, these include: proper management of TB patients on discharge from hospitals and referral to PHC facilities, counselling of patients and affected family members, elimination of stigma attached to the disease through health promotion and education programmes, prevention of job losses because of TB, provision of community projects to raise funds for food, treatment and transportation costs, securing supplies of anti-TB drug supplies to prevent treatment interruption and non-adherence, involvement of home- and community-based caregivers such as traditional leaders, faith-based healers and traditional health practitioners, professional development nursing curricula that address infectious disease prevention and treatment, policy amendments to eliminate gaps in TB prevention and treatment, and further research.

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INTERVIEW RESEARCH INSTRUMENT

INTERVIEW GUIDE FOR TB PATIENTS

A. Demographic Information

- Gender, age and marital status will be collected from the TB records in the health facilities
- Educational level

B. Family Composition

- Number of people staying in the household
- Number of children under five years of age

C. Family Income

- Is there any family member who is employed?
 - Yes
 - No

D. What is your family income?

- 0-to-R250
- R251-to-R500
- R501-to-R700
- R701-to-R900
- R901-to-R1000
- R1000.00 and Above, Specify the amount
- Number of people receiving the grants and type:.....

E. Can you describe to me how you are being assisted in continuing taking your TB treatment?

F. Can you describe the challenges which you encounter when taking your treatment?

G. How do you interact with the local health workers and other TB patients?

ANNEXURE B

INTERVIEW GUIDE FOR PROFESSIONAL NURSES

A. Biographic Information

▪ Age:

▪ Gender:

B. Working experience in years:

C. Can you describe to me how discharged patients on TB treatment are managed in your area?

D. In your own view what factors could be contributing to low TB cure rates?

E. Can you describe to me the strategies that you think can assist in improving the cure rates?

INFORMATION SHEET

Introduction

Good morning/ afternoon. My name is Velaphi Maswanganyi. I am a student at the University of Venda. I am collecting information about the factors that contribute to low TB cure rate in Greater Giyani municipality. I will appreciate if you could be willing to participate in the giving of information concerning the topic of my choice. The interaction will take approximately 60 minutes of your time.

The study is entitled: Factors contributing to low TB cure rate in Greater

Giyani municipality.

Purpose of the Study

The purpose of the study is to explore and describe the factors contributing to low TB cure rates in primary healthcare facilities of greater Giyani Municipality in Mopani District of Limpopo Province. The targeted population will be TB patients discharged from the hospital and continue taking their TB treatment in the primary healthcare facilities and professional nurses who are working in those selected facilities having two years' experience in working with TB patients. The questions will be about describing the challenges that TB patients are facing and the strategies to improve the cure rate.

Your response to the questions will remain confidential, the information that you will provide will not be linked to any identifying particulars like names and addresses. The University, Human Research Ethics and other authorized persons might inspect the information but confidentiality will be maintained throughout the processes.

The study is not related to any monetary benefit. Your taking part in this study may not benefit you directly but may benefit others in the future.

Right to Refuse or to Withdraw from the Study

Your participation is voluntary and if you want to withdraw from the interviews you can do so without any penalty. This would not have any impact in you concerning the receiving of the services.

With this short introduction I would like to invite you to participate in the interview of the study.

CONSENT FORM

REQUEST TO CONDUCT THE STUDY

Informed Consent

I am a masters student at the University of Venda. I am presently engaged in a research study entitled “Factors contributing to low TB cure rate in Greater Giyani municipality, Mopani District”.

The study is conducted under the supervision of the Mrs N.Mashau and Dr R.T Lebeso of the Department of Advanced Nursing Science.

I need to conduct interviews with TB patients and professional nurses who are caring for those TB patients. The interviews will be conducted within 45-60 minutes and will be audio taped for verification of the findings by my supervisors and an independent coder.

The name and dignity of each participant will be preserved by observing the following ethical standards throughout the interview process:

- Voluntary participation and freedom to withdraw without any penalty
- Informed consent signed
- Raw material will be kept under lock and key to ensure confidentiality
- Information related to the interviews will only be accessible to my supervisors, Department and Health, and the independent coder.
- Field notes will be destroyed and the audio tape recorder be erased as soon as possible
- The summary of the research will be made available to the participants if they wish to have it.
- No names of participants will be mentioned during discussions

I hereby understand the content of this research after the researcher’s explanation.

Thank you

Nandzumuni Velaphi Maswanganyi

Researcher:

Participant:

REQUEST TO CONDUCT THE STUDY

I am Nandzumuni Velaphi Maswanganyi a student doing a Masters degree in Public Health. In this degree we are expected to complete a full dissertation.

The study title: Factors contributing to low TB cure rate in Greater Giyani municipality, Mopani District'

Objectives of the study are:

- Determine the factors contributing to low TB cure rates in Greater Giyani Municipality;
- Explore how TB patients are managed after discharge from hospital;
- Identify the challenges that are encountered by TB patients when taking treatment at home; and
- Determine the strategies that can be used to improve the low TB cure rate within Greater Giyani Municipality.

The study wants to determine the factors contributing to low TB cure rates in Greater Giyani Municipality

Participants will be protected against any harm or discomfort by taking into consideration the following issues: anonymity, informed consent, right to privacy and confidentiality'

I, therefore, request an approval for the collect data from patients who will be identified through the primary healthcare facility records.

I hope that my request will be taken into consideration

Regards

Maswanganyi N.V

Date:

P1: Hmm, it is a little bit difficult because most of the factors that affect the cure rate are patient related factors like financial constraint because they should pay for taxis to reach the facilities, others are patients who are from other counties and they migrate from one place to the other.

B. TB PATIENTS

R: Good morning!

T: Morning to you!

R: Can you describe to me how you are being assisted in continuing taking your TB treatment?

T: When I arrive at the health facility the nurse will take me to the room which we always use when we visit the health facility, then they will write something in the card and give me my tablets then I go home.

R: Can you describe the challenges which you encounter when taking your treatment? Another Problem is that I have is that I am not working and I don't have food to eat, they used to give TB patients a grant but this time they are not giving us anymore., hey ... We are going to die of hunger because I don't have strength to can work anymore.

T: Sometimes when I visit the health facility I don't get my tablets and the nurses will say that they are running short of the TB tablets.

R: How do you interact with the local healthcare workers and other TB patients?

T: I see them when I come for collection of treatment.

R: I want you do describe the way you interact with them during that time.

T: Nurses are very busy in this facility to such an extent that they don't want to listen to my problems, but it depends on a person because sometimes you will find nurses who ask you some questions about my health.