ASSESSMENT OF KNOWLEDGE, PERCEPTIONS AND BELIEFS RELATED TO TUBERCULOSIS IN THE RURAL COMMUNITIES OF VHEMBE DISTRICT IN LIMPOPO PROVINCE

by

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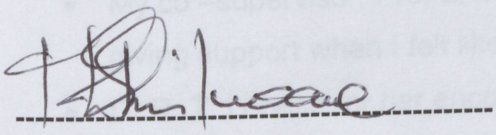
TB	TUBERCULOSIS
WHO	WORLD HEALTH ORGANISATION
HIV	HUMAN IMMUNE DEFICIENCY VIRUS
AIDS	AQUIRED IMMUNE DEFICIENCY SYNDROME
MTB	MYOBACTERIUM TUBERCULOSIS
BCG	BACILLE CALMETE GUENIN
MoH	MINISTRY OF HEALTH
DOTS	DIRECTLY OBSERVED TREATMENT
MDG	MILLENIUM DEVELOPMENT GOALS
UNMDG	UNITED NATIONS MILLENIUM GOALS
IUATLD	INTERNATIONAL UNION AGAINST TB AND LUNG DISEASE
ART	ANTIRETROVIRAL THERAPY
SA	SOUTH AFRICA
DoH	DEPARTMENT OF HEALTH
DNA	DEOXYRIBONUCLEIC ACID
RNA	RIBONUCLEIC ACID
GI	GASTROINTESTINAL
MDR TB	MULTI- DRUG RESISTANT TB
XDR TB	EXTENSIVELY DRUG RESISTANT
SANPAD	SOUTH AFRICA NETHERLANDS RESEARCH PROGRAMME ON ON ALTERNATIVESW IN DEVELOPMENT

DEDICATION

This work is dedicated to my late father TH Mabyalane, my mother E. M Mabyalane, my husband Berry Shiluvane, my daughter Basani Shiluvane, my sons Dumisani and Hlavutelo Wisani Lunghile.

DECLARATION

I, NKHENSANI GRACE SHILUVANE, hereby declare that the dissertation for MAGISTER CURATIONS degree at the University of Venda, hereby submitted by me, has not been submitted previously for a degree at this or any other university, that it is my own in design and execution, and that all reference material contained therein has been duly acknowledged.



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(SHILUVANE NG MRS)

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ABSTRACT

The purpose of the study was to assessthe knowledge, perceptions, and health beliefs related to TB among people in the rural communities of Vhembe District in Limpopo Province. The research design was qualitative, descriptive and exploratory in nature. The study was conducted amongst the rural communities at Xigalo and Kurhuleni villages in the TB crisis municipality, Thulamela,in Vhembe District of Limpopo Province. The following themes emerged from the study:

Theme 1: Participants knowledge about TB;

Theme 2: The views of participants with regard to TB;

Theme 3: Participants' perceptions of TB;

Theme 4: The community's interaction with TB patients;

Theme 5: Preferred methods of TB treatment as described by community members.

Conclusion: People in the community still lack knowledge about TB as a disease. Its correlation with HIV/AIDS promotes the stigmatization of people suffering from TB, which results in people with TB avoiding the use of TB treatment because they feardisclosure and being perceived as being HIV positive.

Key concepts: TB, knowledge, perceptions, HIV, AIDS, stigma and beliefs

CHAPTER 1

OVERVIEW OF THE STUDY

1.1. INTRODUCTION

Tuberculosis (TB), although preventable and curable, kills an estimated 2 million adults and children each year, making it one of the most lethal infectious diseases in the world (Gondrie, Maher, Van Gorkom & Raviglione, 1999:762). The Notional Portal of India (2009:1) indicates that 98% of those deaths occur in low-income countries (Raviglione, Dye, Schmidt, & Kochi, 1997:624). In 2006, one third of the world's population was infected with Mycobacterium tuberculosis, the bacteria that cause TB (WHO, 2007:23). About five to ten per cent of those infected develop the disease and this number increases 10 times in people infected with Human Immune Deficiency Virus (HIV) (Lawn, Afful & Acheampong, 1998:635). Knowledge, perceptions and beliefs about health are vast among different cultural groups worldwide. This influences perceptions that people have about different diseases including HIV and Acquired Immune Deficiency Syndrome (AIDS) and TB.

Liefooghe, Mitchiels, Habib, Moran and Demunynck, (1997:1685) suggest that cultural, environmental and institutional factors contribute to health services not being used and symptomatic patients delaying presentation. Factors such as experiences with TB, cultural beliefs and poverty determine individual responses to treatment and subsequent behaviour. Historically, TB has been stigmatised as a disease of the poor. Those with TB have been thought of as "dirty" people, who eat bad food, have bad hygiene (Westway & Wolmarans 1994:447), and are "low class" of society (Liefooghe et al., 1997:1635). Another factor that has been associated with TB stigma is the lack of knowledge or awareness of the causes of TB and the ways in which infections occur. However, the emotional and social distress of individuals is less frequently mentioned as a known consequence of TB infection.

In South Africa, the TB epidemic has developed into one of the worst in the world. For this reason this study focuses on the assessment, perceptions and beliefs related to TB among rural communities in the Vhembe district of the Limpopo Province in South Africa.

1.2. BACKGROUND OF THE STUDY

Stevens (2009:16) reports that in 1865 a French military doctor, Jean-Antoine Villemin, demonstrated that TB could be passed from humans to cattle and from cattle to rabbits. On the basis of this evidence he postulated that TB was contagious and that it was a micro-organism that was the cause of the disease. In 1882, a German scientist, Robert Koch discovered the MTB and the fight against TB began in earnest. A further milestone came in 1985, when Wilhelm Konrad von Roentgen discovered radiation. Since then the progress and severity of patients' diseases could be followed and reviewed. The French bacteriologist, Albert Chalmette, worked together with Camille Guerin to develop a vaccine against TB. By 1921 they had developed a bacillus that was harmless to man, yet had the ability to stimulate the production of antibodies. From 1924 the vaccination of newborns was practised. The Bacille Chalmette Guerin (BCG) is still used today. In 1943, during the Second World War, an American scientist, Selman A. Waksman, discovered streptomycin, an antibiotic that could kill TB bacteria. In the following year, a rapid succession of anti-TB drugs was developed. This was essential because with streptomycin monotherapy resistant mutants began to appear, endangering the success of antibiotic therapy. Following the development of streptomycin other drugs were produced as anti-TB agents, namely, isoniazid (in 1952), pyrazinamide (in 1954), ethambutol (in 1962) and rifampicin (in 1963).. These anti-TB drugs are still used today (Stevens, 2009:16).

Before Villemin's identification of TB as a contagious disease, TB was known as phthisis, a Greek term for wasting away. The swollen glands of the neck were known as *scroful*, and since the kings of England and France were believed to have special healing powers, the most desired treatment was being touched by the king. TB of the

skin was called *lupus vulgaris* and TB of the spine was termed *Putt's disease*. TB was also called *consumption* in Europe during the first half of the 19th century, but the notion that it might be contagious was not widespread. No treatment was available and many superstitions surrounded the cause of the disease. Many people died of TB then as there was no treatment available. People who were infected with TB were stigmatised and were isolated in sanatoria, usually in high mountains as it was believed that the mountain air offered some hope of cure (Balt, Edington, Lotki, Preller & Margot 1998:3; Dennil, 2005: 7).

The first credible understanding that TB might be an infectious disease was made by Benjamin Marten in 1772. He proposed that TB might be transmitted by a breath emitted from the lungs and that it may be caught by a second person. The spread of TB reached a peak in Western Europe and the Americas in the 1700s and early 1800s and spread worldwide as a result of colonisation. Such peaks were associated with the Industrial revolution, poor living and working conditions, poor housing, overcrowding, malnutrition and unsanitary circumstances (Dennil, 2005:7).

TB was spread to Africa some 100 to 200 years ago and became known in sub-Saharan Africa at the beginning of the 20th century. The absence of TB in Southern Africa was documented as late as the first half of the 20th century (Dennill, 2005:7; Van Rensberg, Meulemans & Rigouts, 2005:5). Known as the "white plague", TB was brought to South Africa around the turn of the nineteenth century by British and European immigrants seeking their fortunes on the Witwatersrand. Men working in the mines were vulnerable and susceptible to the disease due to overcrowded and generally poor working and living conditions in the compounds. Miners who became sick were sent to their homes without receiving any treatment. The worst epidemic erupted in the Western Cape, where a large number of mine workers lived (Packard, 1992:12).

In 1993 the World Health Organization (WHO) declared TB a global emergency. The epidemic was growing and becoming more dangerous each year. Alarming worldwide

information was presented on how this advancing disease was the most common opportunistic infection associated with the HIV infection. Alarming information was presented on how TB would continue to spread throughout the world if it continued to be neglected (DoH, 1998:233).

In 1996, the South African Ministry of Health (MoH) considered the WHO's recommendation for TB to be considered as a public health problem and that the Directly Observed Treatment short course (DOTS) should be adopted (Bennstam, Strandmark & Diwan, 2004:229).

In March 2000, Ministers of the 22 high burden countries called for the accelerated expansion of control measures and for increased political commitment and financial resources to reach targets for global TB control by 2005. The goals were to detect at least 70% of people with infectious TB and to cure at least 85% of those detected (DoH, 2007:6)

In 2005 at the WHO-AFRO Regional Committee meeting held in Maputo, 46 Ministers of Health unanimously declared TB an emergency in Africa. A resolution at this meeting warned that unless "urgent extraordinary actions" were in place, the situation would worsen and the 2015 Millennium Development Goals (MDG) would not be met. In response to this resolution, the Stop TB Partnership developed a Global Plan to stop TB within the period of 2006-2015, thus building on the Partnership's first plan for 2002-2005. This plan envisaged new, improved TB drugs and TB diagnostic tools by 2010 and a TB vaccine to be available by 2015. A concerted effort is being made by the WHO, together with the national TB programmes, to expand the coverage of effective TB control measures based on the DOTS. The United Nations MDG's target for the incidence of TB is to halt it and reverse it 2015. (Stevens, 2009:16).

Dr Karel Styblo of the International Union against TB and Lung Disease (IUATLD) pioneered the DOTS strategy in Tanzania in 1970. When the WHO Global TB Programme declared TB a global emergency in 1993, it began promoting the DOTS

strategy worldwide. It concentrates on curing infectious patients so as to stop them from spreading the infection further (Dennil, 2005:57).

In South Africa, a revised NTCP was established in 1996 to take advantage of the new opportunities that were offered by the reform process after the new government was established in 1994. As a result, DOTS was adopted as a cost-effective, safe, and effective mainstream strategy for TB control. Despite the fact that the NTCP had existed to supervise the control of the TB epidemic countrywide, and that for several years, effective drugs and short-course regimens had been available and the DOTS strategy had been implemented, South Africa still failed to conquer the TB epidemic. In addition, the HIV-fuelled TB epidemic was outstripping the ability of health services to cope with the problem in many countries in sub-Saharan Africa, including South Africa. NTCP did not often achieve adequate case detection and treatment outcomes, therefore it became necessary to explore ways of complementing TB care provided by government health services. As a result, the implementation of the DOTS strategy was introduced. (Harries, Maher, Graham, 2004:3). A concerted effort was made by the WHO, together with national TB programmes, to expand the coverage of effective TB control measures based on the DOTS.

A problem in the management of TB is that making the TB diagnosis is often delayed. The cause of the delay might be patient-related or health-worker related. According to Matebesi, Heunis, Van Rensberg and Elgoni (2004:153), there is often considerable delay between the onset of symptoms and contact being made with health-care providers. Some of the factors causing delays in seeking health include the perceptions and beliefs, risky health-seeking behaviours, the age of the individual, the educational level, a poor perception of health services, economic constraints and long distances patients have to travel to clinics (Van Rensberg et al., 2005:154). These delays negatively affect the desired treatment outcomes.

1.3. STIGMAS ASSOCIATED WITH TB

Literature provides evidence that there are various stigmas associated with TB, and that these stigmas have sustained the TB epidemic in the burdened countries. Research suggests that cultural, environmental and institutional factors contribute to health services not being used and symptomatic patients delaying presentation. Factors such as experiences with TB, cultural beliefs, and poverty determine individual responses to treatment and subsequent behaviour. Such factors are also discussed in the literature consulted. Stigma has been assessed because of its potentially negative impact on TB control through delayed diagnosis or poor adherence to anti-tuberculosis treatment. As mentioned above, emotional and social distress of individuals is less frequently mentioned as a consequence of TB. Another factor that has been associated with TB stigma is the lack of knowledge or awareness of the causes of TB and the ways of contracting the disease (Liefooghe .Baldiddawa, Kipruto, Vermeira, & Demunynck, 1997:809; Smith & Manning, 2004:233; Zhang, Dou & Yu, 2007:825).

In their research in Botswana, Steen and Mazonde (1998:163) discovered that health seeking behaviour of TB patients reflected the notion that TB was nothing major and was caused by heavy, dusty, or mine work, smoking, being poisoned, drinking, witchcraft and germs. Only a few sufferers demonstrated that they had a clear understanding of TB because they agreed that TB is caused by germs.

Another factor associated with TB stigma is similar to the one above and concerns the fact that some patients delay seeking care. Reasons provided include the lack of knowledge or awareness of the causes of TB and the risk factors for contracting TB (Liefooghe et al., 1997:1685). It is noteworthy that Liefooghe et al. (1997:809) conducted focus group interviews in ethnically diverse communities in north-western Kenya in an attempt to understand beliefs about causation, transmission and symptoms associated with TB and the treatment-seeking patterns of TB patients. Community members and TB patients participated in the focus groups. The majority of participants correctly believed that TB was contagious. This gave rise to the belief that

the disease itself and TB patients were dangerous and something to fear. Thus they also believed that TB was difficult to cure and usually fatal. The participants in the research also reported that they did not know the difference between TB and the HIV/AIDS pandemic, and that they thought it was shocking, frightening, disappointing and sad for an individual to be told that he or she had TB. Patients thought the disease was incurable and that they were going to die soon (Liefooghe et al., 1997: 809).

People had their own way of identifying the disease and they visited modern health-care institutions at a very late stage. Causes and aggravating factors responsible for TB were believed to be evil spirits, as well as the eating of certain foods like sorghum, maize and potatoes. There were also misconceptions about the transmission and treatment, although people suspected that the disease was transmitted by air. Participants thought that modern treatment prohibited sexual activity, and for this reason many did not want to visit the health-care institutions. They believed that the disease could be transmitted sexually and that sexual activity would affect the potency of the patient. Similar findings were made by Liam, Lim, Wong and Tang (1999: 300) in Ghana. These researchers suggest that defaulters had inadequate knowledge about TB, and support the observation elsewhere that inadequate knowledge or understanding of the disease and its treatment, as well as misconceptions of the implications of symptoms of the disease were potential determinants of poor compliance. Knowledge of TB and its treatment has been shown to be important in studies of adherent and non-adherent patients in Africa (Kaona, Tuba, Siziya & Sikoana, 2004:164).

A study conducted in Zambia reported that many non-adherent (45%) and adherent (39%) TB patients felt they could discontinue treatment once they started feeling better. Non-adherent patients also reported that a lack of knowledge of the benefits of completing treatment and the strength of drugs were reasons for discontinuing treatment (Kaona et al., 2004:200; Demissie, Getahun & Lindtjorn, 2002:2009). Other researchers report that respondents discontinue treatment because of the belief that

they should abstain from sex while on treatment (Edington, Sekatane & Goldstein 2002:1075; Demissie et al., 2003:2009).

Sachs and Krantz (1991:1283) concluded that the consequences of sickness are often a threat to society as a whole. In their research in the Congo, they noticed people's negative reactions to and their condemnation of those infected with TB. Interestingly, the participants in this research called TB "the disease of distance" and described it as a person invading people. Isolation and stigmatisation were the methods used to protect society from the threat of TB. Sontag (2001:310) suggests that the same perceptions towards TB exist in all cultures. However, in some cultures maintaining a relationship with someone infected with TB infected is looked upon as taboo.

Notably Gibson, Cave, Doering, Ortiz and Harms (2005:931) found in their study of Aboriginal communities in Canada that a lack of knowledge of TB is strongly associated with perceptions of and experiences with the disease. Redeeming this situation can be accomplished in collaboration with lay people, particularly those who have recovered from active TB, their family members and health workers from the community. The study also revealed the perception of some participants that it is an irresponsible lifestyle that causes TB. Others thought that people contracted TB from overworking or not taking care of their health. Participants also believed that people were more susceptible to catching TB when they let their health run down.

In a different context Long, Johnson, Diwan and Winkvist (1999:815) in Ghana discovered that patients' understanding of the stigma attached to TB was related to the fact that they refused to accept diagnoses and even when they did, they would hide their condition from their employers, friends and family members. They also associated stigma with perceptions of individuals and groups that infected/affected people would place them at risk. It was also indicated that the stigma attached to TB seems to discourage patients from seeking treatment and may lead to reality evasion, where a patient fails to consider that he or she has TB and resorts to self-treatment to cure his/her health problem. Because patients were placed in isolation in TB wards the

belief that TB is very contagious was increased, and the association of TB with HIV aggravated the stigma further. Many patients were not treated by members of the community or provided for by relatives due to the stigmatisation. The study also indicated that when people were diagnosed with TB they were shocked because it meant that they would lose their jobs, get divorced and change their social involvement. No one wanted to be known as a TB patient because the disease was seen as incurable and people thought that the patient would die very soon (Liefooghe et al., 1997:1686).

In a similar study conducted in the five local health systems of Nicaragua to explore the social stigma of TB, Macq, Solis, Martinez, Martiny and Dujardin (2005: 205) discovered that family members seem to have the most homogenous and supportive feelings and behaviours towards TB patients, whereas communities develop fear, rejection and mistrust of TB patients. In general, the community reacted differently from family and friends, even though feelings and perceptions were mixed. In their responses community members mainly talked about others' reactions and not their own, probably because of feelings of guilt and discrimination towards sick people. The study also investigated the feelings and behaviour of health care providers and found that feelings and behaviour were guided by fear and thus was oriented towards isolation of the patient. Some refused to care for TB patients, while others did their jobs but tried to reduce their contact time of with TB patients. According to the aforementioned researchers, the family members in this study had supportive feelings and behaviours unlike the community members.

In an Ethiopia-based study, Getahun and Maher (2000:174) found that TB patients were highly stigmatised to the extent that they lost their work, and that marriages sometimes broke down if others got to know about the disease. The patients were under strong pressure to take medication in silence and for the shortest possible time. They often interrupted their treatment when symptoms disappeared. Recognition of this problem led to the revitalisation of TB control activities, including the formation of

the "TB clubs" which contributed to the effective implementation of a TB programme in the Este district of Ethiopia.

Macfarlane and Elleher (2002:1389) explored perceptions to illness determinants of older people in Ireland. Their findings reveal that as TB used to kill whole families people were afraid to visit the homes of TB patients because the disease was understood to be highly contagious. The participants in this study further referred to TB as a germ that got into the lungs and which family members 'took' from one another.

A study conducted by Bennstam, et al. (2004:299) discovered that in the society investigated, TB was considered to be a disease affecting not only individuals but also society as a whole and that it changed the harmony in life. Persons who were stigmatised were regarded as undesirable and abnormal by society. They also considered this stigma management to be a feature of society. They observed that there were no gender differences regarding stigmatisation, perceptions of traditional healers, or the use of the ancestors' treatment. Participants in the study thought that men and women, young and old should all start with ancestral treatments before going to the health centres. It was discovered that women had a greater preference for traditional interventions than men did, which resulted in longer delays in diagnosis among women.

Focusing on Ghana, Long et al. (1999:815) discovered that participants with or without TB were knowledgeable about TB, and that traditional beliefs related to TB were common in the area. Fear of social isolation made sufferers reluctant to reveal their disease status, thus causing unnecessary delay in diagnosis and treatment. The study shows that patients who had open perceptions towards TB were more likely to be compliant. The long delays that patients faced in their search for a diagnosis of TB in Ghana was due to the economic factors as their meagre incomes had much to support. It also indicated that patients with low-incomes had a higher risk of defaulting the moment they felt much better, and were more likely to stop treatment in order to work and provide for their families. According to the researcher, poverty hindered patients

from complying with treatment. Due to lack of funds patients resorted to traditional treatment.

Barnhoon and Adriaanse (1992:292) in India suggest that health workers' poor interest in psychosocial issues such as beliefs, norms and knowledge fostered by patients' own problems, reduced the patients' acceptance of the treatment procedure. The health workers' pessimism about the patients' ability to change their behaviour could serve as a barrier in the relationship between them. TB is a contagious, sensitive disease to diagnose and treat. Community members believed that TB should be diagnosed and treated in a hospital or by medical doctors and not at the peripheral level. The Indian study found that the treatment was perceived as long, agonising and cumbersome. Getahun and Maher (2000:174) in Ethiopia found that factors such as inadequate health service infrastructure, reduced access to healthcare and limited human and financial resources prevented the adequate implementation of control measures against the spread of TB.

Still in East Africa, Liefooghe et al. (1997:809) discovered that in Kenya, not unlike Ethiopia, the beliefs and perceptions of tuberculosis demonstrated that TB was well-known in the communities and many vernacular names for the disease exist. It was also discovered that contracting TB was attributed to causes such as smoking, alcohol use, hard work, exposure to cold and sharing utensils with TB patients. They further indicated that TB was also perceived as a difficult disease because it disrupted patients' social lives and caused stigmatisation for the family and the patient. The community members avoided contact with TB patients and, as a result, the patient and the family were isolated. Relatives even stopped children from having contact with their parents. This confirms the findings from the previously mentioned study that discovered that health units failed to investigate chronic coughs in a certain proportion of suspected TB patients and that TB was not properly investigated or accurately diagnosed in facilities because of stigmatisation. It was discovered that traditional treatment was considered a valid alternative to modern treatment and believed to be effective and much shorter. Personal experiences, perceptions of social network and

health beliefs interacted with and influenced health-seeking behaviour. The community's perception of TB strongly influenced the patients' perceptions towards TB.

Liefooghe et al. (1 997:809) found t hat diverse communities in North West Kenya understood beliefs about causation, transmission and symptoms associated with TB and accordingly the profile of treatment-seeking patterns of TB patients. Community members and TB patients participated in focus groups as part of the investigation. The majority of participants correctly believed that TB was contagious. This caused the belief that TB and TB patients were dangerous and something to fear. Thus they also believed that TB was difficult to cure and usually fatal. TB patients reported delaying care-seeking until their initial cough was accompanied with more serious symptoms such as "sharp chest pain, breathing difficulties, vomiting blood, loss of appetite, or feeling very tired".

In a case study in Pakistan, Maher et al. (1999:762) discovered that there was the perception that TB was a family disease rather than an affliction affecting an individual. The behaviour of patients was not completely under control of their own thoughts, perceptions and beliefs as the beliefs and expectations of other people also guided a person's behaviour. Social norms, especially determined by the family, social class and ethnic group were thus very important for patient's compliance. It suggests that patients who had open perceptions of TB were more likely to be compliant than those who did not. Furthermore it indicates that compliant behaviours are associated with social support from the family or other persons like doctors, health workers and neighbours.

Mfinanga, Morkve, Kazwala, Clevaland and Sharp (2003:933), discovered that perceptions, practices and the lack of knowledge of TB in Tanzania played a role in the spread of the disease. Traditional beliefs and failure to recognise symptoms may delay diagnosis. The study discovered that delayed diagnosis would eventually worsen the spread of the disease in the community. Lack of knowledge and erroneous beliefs influenced the transmission of infection and the delay in diagnosis and treatment. The

delay reported in the study was associated with those who visited traditional facilities first, and those who had information of TB prior to diagnosis.

The study concluded that the insight obtained from these perceptions and beliefs could help in planning an appropriate approach to a public health education package which would be effective in correcting beliefs that were not favourable for disease prevention. It was also suggested that strategies such as health promotion through community involvement, incorporation of TB information into school curricula and mass media programmes that gave, strong advice about preventing the disease, as well as more studies on pulmonary cases were needed.

1.4. STIGMA ASSOCIATED WITH TB IN THE TIME OF HIV / AIDS

TB is the most common life-threatening opportunistic infection in people living with HIV (Corbett, Watt, Walker, Maher, Williams, Raviglione & Dye, 2003: 1009). The WHO reported that there were close to 1.4 million new cases of TB and 456,000 deaths among people with TB/HIV co-infection worldwide in 2007. Africa accounted for an estimated 79% of TB cases among people living with HIV (WHO, 2001:147).

A positive HIV status is the most important risk factor for the progression from latent TB to active TB, and HIV increases the likelihood of death due to TB (Corbet et al., 2003: 1020). In sub-Saharan Africa people with TB have only about 10% lifetime risk of latent TB infection developing into active TB disease, while people with TB/HIV co-infection have a 10% annual risk of the co-infection developing into the disease (Lawn Afful, Acheampong, 1998: 635). Yet in 2007 only 7% of people living with HIV in Africa were tested for TB and only 37% of TB patients were tested for HIV (WHO, 2001:148).

There is a high incidence of extra pulmonary TB, occurring outside the lungs and which is difficult to detect through sputum microscopy among HIV positive patients (Steingart, Henry, Laal, Hopewell, Ramsay, Menzies, Cunningham, Weldingh & Pai, 2007: 147). As a result, TB is often not detected by conventional sputum tests in HIV positive

patients who are co-infected (Brodie & Shungler, 2005:247). Such patients then go without treatment and may unknowingly transmit TB to other members of the community. As a consequence, in such circumstances TB spreads rapidly without control (Dye, Watt, Bleed, Hosseini & Raviglione, 2005:2767; Kenyon, Halabi, Moeti, Moreki & Binkin, 1999:234; Churchyard, Kleinschmidt, Corbert, Mulder & De Cook, 1999:791; Wilkinson & Davies, 1997: 596; Cantwell & Binkin, 1996:220). Corbert et al. (2003:1009) estimate that 31% of all new TB cases in adults aged 15 - 49 in the WHO African Region were attributable to HIV infection, whereas worldwide HIV infection only accounted for 9% of all new TB cases.

Literature reports consulted show that the incidence of TB in sub–Saharan Africa has increased parallel to the HIV epidemic. TB remains the most common opportunistic infection and cause of death among the HIV infected. In the South African region South Africa it was discovered that admissions for tuberculosis had increased more than two fold be tween 2000 and 2005 (Rowe, Makhubele, Hargreaves, Porter, Hausler & Pronyk, 2005:263; Lawn et al., 2006:201; Maher et al., 2005:714). This is largely because HIV positive patients are plagued by a weakened immune system which makes them more susceptible to TB infection and makes it harder for the body to fight off disease.

The WHO reports that the African sub-region is burdened by the highest incidence per capita of TB disease than any other region in the world (WHO, 2007:40). Sub-Saharan Africa accounts for more than a quarter of the global burden of TB, with an estimated 2.4 million active cases and 540, 000 TB deaths annually (WHO, 2005:30; WHO, 2007:43).

It was discovered that in Botswana the incidence of TB is one of the highest in Africa, and has been rising since 1990. TB is regarded as the most common cause of death in the country. There is an established relationship between TB and HIV predisposing to TB. Thus, the increase in TB incidence has been paralleled by an increase in HIV prevalence In addition, the national TB incidence rate in 1993 was 327/100,000,

whereas the reported HIV prevalence in TB patients varies between districts, ranging from 21% to 67% in the same year (DoH, 1996: 163).

It is noteworthy that in Malawi Crampin, Glynn, Floyd, Malema, Mwinuka, Ngwira, Mwaungulu, Warndorf and Fine (2004:194) discovered a relationship between TB and gender, thus revealing that in HIV-positive individuals the infection was a similarly strong risk factor for TB in both men and women. TB was associated with both men and women having family or household contact with the disease. For women but not men, contacts outside the family or household were also a risk factor for contracting TB, however, it seems as if contracting TB was not associated with current or recent pregnancy, or with smoking or exposure to smoking. It was also discovered that there was no difference between men and women in health service usage or delay. The study also found that HIV infection was the major factor influencing the age and gender distribution of TB cases in Malawi, and that the risk was increased in younger women and older men. The effect of HIV appeared to be less significant in the oldest age group.

1.5. TB IN SOUTH AFRICA

South Africa is burdened by one of the worst TB epidemics in the world, with disease rates more than double those observed in other developing countries and up to 60 times higher than the rates in the USA or Western Europe. The South African Medical Research Council estimates that the country had 180 507 cases (55%) reported) in 1997, or 419 per 100 000 of the total population, of these 32.8% (73 679 cases) were probably infected with HIV (Fourie, 2003:1).

The TB problem in South Africa is largely as a result of historical neglect and a poor management system. Prior to the introduction of the TB Register in 1995, cure rates were unknown, and consequently control efforts could not challenge poor results. The implication of this failure is evident in the fact that, in 1997, a cure rate of only 54% was recorded.

Statistics on TB indicate that it is a major problem in South Africa. Between 1996 and 2006, the number of people diagnosed with TB in the country tripled from 109 328 to 342 315. The cure for the country was at 57.6% in 2005 compared with the WHO target of 85%. This suggests that Limpopo Province has not performed well due to lack of a specially designated managerial post for monitoring and evaluating a region burdened by one of the worst TB epidemics in the world (WHO, 2007:275).

In South Africa the control of TB relies on passive case-finding and thus depends entirely on whether and when people decide to present themselves to a health facility. This causes delays in the diagnosis of TB and intensifies the disease in infected individuals. It also increases their risk of death, and prolongs the period of time they are actively infectious. The dangers of prolonged delay are heightened for those co-infected with HIV. Reducing delays in the diagnosis of TB has been cited as the main objective in the battle to reduce overall death rates in Sub-Saharan Africa (Lawn et al., 1998:635).

As a relatively wealthy country among its neighbours, South Africa was ranked third among the 22 highest TB disease burdened countries in 2005 (rank based on estimated number of incidents) (WHO, 2007:20). The situation was so grave that TB was declared a national crisis by the National Minister of Health in 2005 (DoH). According to the WHO on line TB Database and WHO 2007 Global Tuberculosis Control Report South Africa had over 267,000 reported cases of TB in 2005, with the prevalence of 511 per 100,000 of the population and an incidence rate of 600 cases per 100,000 of the population. Fifty eight per cent of new cases were HIV positive (WHO, 2007:29). This number was largely the result of incomplete treatment in the past, inappropriate treatment, or both (Raviglione, Dye, Schmidt & Kochi1997:625).

South Africa was involved in the early steps of the development of a TB and HIV strategy with the implementation of the WHO ProTEST initiative in four districts in 1991, namely Bohlabela (Limpopo), Ugu (KZN), East London (Eastern Cape) and

Cape Town Central District (Western Cape). A joint strategy for HIV and AIDS, STI and TB control in South Africa was developed in 2001. The WHO document "Guidelines for implementing Collaborative TB and HIV Programme Activities" provides tools to support the planning, coordinating and implementing of collaborative TB/HIV activities that have adapted to the country's situation, at district level. A package of care was developed for HIV positive patients, i.e. routine screening for TB and offering treatment to those with TB, as well as TB-preventative therapy for those found not to have TB. For TB patients the package includes offering HIV counselling and testing to all TB patients, offering cotrimoxazole routinely to those who test HIV positive and ART to those who are eligible, as well as on-going psychosocial support and early diagnosis and treatment of other opportunistic infections. By the end of the 2006/7 period, 211 sub-districts were offering TB and HIV activities (87%) to TB patients and offered HIV counselling and testing. The test uptake was 68%. TB screening amongst people living with HIV was low but 29% of the patients screened were found to have TB (DoH, 2007:21)

Focusing on the Bohlabela district of the Limpopo Province in South Africa, Rowe et al. (2005:263) discovered patterns in the adherence of TB preventive therapy for HIV-positive patients in rural South Africa. They indicated that admissions for tuberculosis had increased more than twofold in between 2000 and 2005, and that the preventive therapy for HIV-positive individuals was shown to be efficacious and cost effective. They suggested that the programme should be implemented in other comparable settings in light of the growing epidemic. In that study, patients cited their need to use public taxis to reach clinics and the associated financial costs as a significant obstacle to accessing regular health care. The issue of hunger was also mentioned, as patients had to take the treatment with food. Lack of control over economic resources was also cited. Most female and adolescent patients indicated that they depended on their parents or husbands for financial support. It was stated that patients who completed their programmes were those who had disclosed their conditions to someone who was able to support them emotionally and financially. It was also stated in the study that the lack of social and family support affected their adherence to the treatment. Patients

also cited the issue of the clinic environment where the presence of supportive nurses played a role in their regular visits to the clinic, fetching medication, and the availability of support groups from the clinic.

Nachega, Gounder, Doherty, Adendof, Cootzee, Msandiwa, Gray, Intgre and Chaison (2002:7) in South Africa discovered that there was a concurrent explosive epidemic of HIV and TB. The knowledge and perceptions about TB were assessed to be used for TB-preventive therapy, research planning and adherence strategies.

In conclusion, it seems as if there is a high proportion of HIV-infected individuals who have sufficient knowledge about the germ theory, transmissibility and the importance of TB preventive therapy. They also seemed to be aware of the vulnerability of malnourished people to getting TB. This knowledge and perception may motivate a significant number of HIV infected patients to join future TB therapy initiatives, preventive programmes and adherence to treatment.

1.6. PROBLEM STATEMENT

According to the TB statistics in Limpopo the rate of treatment defaulters was high at 7.6% (DoH, 2006) whereas the target is 5% and below (WHO, 2007:30). It has been reported that the health services in Limpopo Province in South Africa have experienced a decrease in case-finding and the cure rate recorded for the province as a whole (57%) is far from the WHO 2015 target of 71.4% (DoH, 2006). Vhembe district was identified as one of the four districts with both a high number of TB cases and low cure rates, and was selected as a focus area for the TB plan (DoH, 2006). However, lack of information regarding the socio-cultural and other determinants contributes to the problem (DoH, 2007-2011).

1.7. PURPOSE OF THE STUDY

The purpose of the study was to increase the understanding of the knowledge, perceptions and health beliefs related to TB among people in the rural communities of Vhembe District in Limpopo Province.

1.8. OBJECTIVES

The objectives of this study were to address the following:

- Assess knowledge of TB among people in the rural communities of Vhembe District;
- Determine the people's perceptions, and health beliefs related to TB.

1.9. SIGNIFICANCE OF THE STUDY

- The findings of the study may help the communities to develop strategies to diminish discrimination and stigmatisation of TB patients.
- The relationship between the government and organisations working with TB will be strengthened, so that the organisations can work together to dismiss some of the misconceptions about TB so that more TB patients can be identified and appropriate care and support provided.
- Traditional healers and pharmacists will find a point of synergy and a scope of involvement in TB and treatment as they are the first line of action in TB treatment.
- Observing the levels of awareness on level of knowledge, perceptions and beliefs will contribute to the planning of health education programmes.
- Information provided to family members by health-care providers on how to care for TB patients at home will enable them to provide care for all patients at home.

1.10. THEORETICAL FRAMEWORK

The theoretical framework of the Health Belief Model by Green and Kreuter (1999) was used to guide this study. The model stresses that individuals must possess some minimal level of health knowledge and motivation towards health. It stresses that individuals should see themselves as vulnerable to illness and believes that illness is serious. The model guided the researcher on how to increase the understanding, knowledge, perceptions, and health beliefs related to TB among people in the rural communities of Vhembe District in Limpopo Province. People were convinced that the treatment could be efficacious and that it was possible to obtain control over the disease and that the cost was not too high in view of its benefits (Rosenstock, 1966:944). The Health Belief Model includes six determinants of behaviour: perceived susceptibility, perceived severity, perceived benefits, perceived barriers, health motivation and cues of action.

Perceived susceptibility: This is a person's perception of the likelihood of contracting a disease or if people think that they cannot get a particular disease or have a particular medical problem. In this study it was assumed that informing the participants that if they did not smoke no-one in their families would suffer from lung disease.

Perceived severity: A person's perception of the seriousness of the consequences of contracting a disease. In this study it was assumed that informing or telling the people that TB was fatal would not increase the death rate.

Perceived benefit: Perceived gateways to health promotion are significant. It is difficult to convince people to change their behaviour if there is not something in it for them. In this study it was assumed that if patients take the medication their symptoms would improve.

Perceived barriers: Opinions of the tangible the psychological, or one of the other major reasons that people have for not changing their health behaviours are regarded as relating to physical difficulty only, yet elements of social difficulty are just as important. In this study it was assumed that perceived barriers inform participants that treatment may cause side effects.

Health motivation: It was assumed that motivating participants to engage in preventive behaviour and efficacy of response to TB medication would cure them.

1.11. DEFINITION OF TERMS

Knowledge

Knowledge is expertise and skills acquired by a person through specialised education, or the theoretical or practical understanding of a subject, what is known in a particular field or, in total, facts and information. In this study knowledge is information that a participant has regarding TB.

Perceptions

Perception is the process of obtaining awareness or understanding of sensory information or the process by which organisms interpret and organise sensation to produce meaningful information (wikipedis.org/wiki/perception). In this study perception is a learned tendency to respond in some characteristics way towards tuberculosis.

Belief

Belief is constituted by "assent to a proposition or affirmation, or the acceptance of a fact, opinion, or assertion as real, without immediate personal knowledge; reliance upon word or testimony; partial or full assurance without positive knowledge or absolute certainty, persuasion, conviction and confidence (www.christian republic.co.za.). In this study belief is understood as the perceptions that participants have about TB.

Rural

The South African School Dictionary (2004:734) defines rural as "relating to or involving the countryside". In this study "rural" refers to the communities of Xigalo and Kurhuleni where the study was conducted.

1.12. RESEARCH DESIGN AND METHODOLOGY

The research design chosen was qualitative, descriptive and exploratory, in order to increase the understanding of the knowledge, perceptions, and health beliefs related to TB. The target population in this study was the rural communities of Xigalo and Kurhuleni in the Vhembe district of Limpopo province. The non-probability purposive sampling approach was used to select participants in the eight focus groups. Each focus group comprised of 10-12 participants according to age groups. The ages of participants ranged from 34-59 years. The ages of the youths ranged from 18-34 years and the elderly ranged from 60-75 years. Parents involved in focus group interviews were (9) Males and 10 females. Among the youth 18 participants were males and 19 were females. Among the elderly participants involved in the focus group 9 were males and 10 females. Sixty five people participated in the study. The number of male participants was low, this might be because the interviews were conducted during the day when most men had gone to work. Another factor was that most males worked far away from home and they only come back during weekends and at the end of the month.

Semi-structured interview guides were used to collect data. Interviews were audio-taped and field notes taken. The information from the tape recorder was transcribed verbatim before undertaking data analysis. Data was coded and based on the questions in the interview guide, i.e. the themes of the findings derived from the interview guide, followed by the coding of sub themes and descriptions. Measures to ensure trustworthiness were adhered to. The researcher observed the requisite ethical principles that needed to be applied to the research process, namely: the right to privacy, the right not to be harmed, informed consent, anonymity and confidentiality, and the right to withdraw from participation in the study. Details of the research design and methodology are described in Chapter 2.

1.13. DISSEMINATION OF INFORMATION

The information gained from the research will be disseminated in the following areas:

- Department of Health Limpopo, Provincial Presentation Research day held once a year.
- Workshops conducted for primary health-care workers.
- Workshops conducted for all stakeholders in the community to disseminate results and the use of media in broadcasting information by means of radio talks and the use of pamphlets in the language of the village people.

1.14. CONCLUSION

Chapter 1 described the introduction to the study, background of the study, problem statement, and purpose of the study, objectives of the study, significance of the study, theoretical framework, and definitions of terms, research design and methodology, dissemination of information, outline of chapters. Chapter 2 addresses the research design and methodology in detail.

1.15. OUTLINE OF CHAPTERS

This chapter comprises the overview of the study, introduction of the study, background of the study which in turn includes: stigma associated with TB, stigma associated with TB and HIV/AIDS in South Africa, TB in South Africa, problem statement, purpose of the study, objectives, significance of the study, theoretical framework, definition of terms, research and methodology, dissemination of information and the conclusion.

Chapter 2 presents a discussion on research methodology: the introduction, purpose of the study, objectives of the study, research design, population, data collection method, data analysis and ethical considerations pertaining to the research project.

Chapter 3 comprises an analysis of data collected during the semi-structured interviews with participants who were residing in Xigalo and Kurhuleni villages in Vhembe district of Limpopo province. Data analysis reflected the biographical information, thematic presentation of the knowledge, perceptions and health beliefs of the participants with respect to TB.

Chapter 4 provides the conclusions and recommendations of the study. A summary of conclusions and findings is discussed and includes recommendations regarding the community, research, nursing education, patient care and nursing administration.

CHAPTER 2

RESEARCH DESIGN AND METHODOLOGY

2.1. INTRODUCTION

Chapter 1 laid bare the fundamentals as it brought to view the introduction, explained the background of the study and indicated how the problem was identified. It discussed the study purpose and the research objectives were briefly described in the previous chapter and in this chapter a detailed discussion is presented. The chapter outlines the research design and methodology, population of the study, sample and sampling approaches, data collection instrument, ethical considerations and data analysis.

2.2. PURPOSE OF THE STUDY

The purpose of the study was to increase understanding of the knowledge, perceptions and health beliefs related to TB among people in the rural communities of Vhembe District in Limpopo Province.

2.3. OBJECTIVES

The objectives of this study are to:

- Assess knowledge of TB among people in the rural communities of Vhembe District.
- Determine the people's perceptions and health beliefs related to TB among people in the rural communities of Vhembe District.

2.4. RESEARCH DESIGN

According to Burns and Grove (2001:225) the design of a study is the end result of a series of decisions made by the researcher concerning how the study would be

conducted. Burns and Grove, (2001:261) also refer to the research design as "a blueprint for conducting the study that maximizes control over factors that could interfere with the validity findings". Research design is further considered to be the entire strategy for the study, from identifying the problem to the final plans for data collection. In addition it is limited to clearly defined structures within which the study is implemented (Burns & Grove, 2001: 261).

As a blueprint, the design is not specific to a particular study but it is a broad pattern or guide that can be applied to many studies. Designing a study helps the researcher to plan or implement the study in a way that can help her/him to obtain the intended results, thus increasing the chances of obtaining information that could be associated with real situations (Burns & Grove, 2001:262; Cormack, 1996:111).

Creswell (2003:2) defines design in qualitative research as "the entire process of research from conceptualizing a problem, to writing the narrative", while the tradition of inquiry is the term used to refer to "an approach to qualitative research that has a distinguished history in one of the disciplines, having spawned, distinct methodologies that characterize its approach" (Creswell, 2003:2). The research design of the present study was qualitative, descriptive and explorative in nature. The researcher used this approach to describe the knowledge, perceptions and beliefs related to TB.

2.5. QUALITATIVE RESEARCH

Qualitative research is a systematic, subjective approach used to describe life experiences and to give them meaning (Burns & Grove, 2001:61). Qualitative research is the investigation of a phenomenon, typically in an in-depth and holistic fashion, through the collection of rich narrative materials using a flexible research design (Polit & Hungler, 1997:466). Qualitative research is an artistic, philosophical approach that is thought to produce the "self". The primary concern some researchers have with qualitative research is that it lacks the objectivity and control that are essential to "hard" scientific science (Burns & Grove, 2001:62). It is a loosely defined category of research

design and models, all of which elicit verbal, visual, tactile, olfactory and gustatory data in the form of descriptive narratives like field notes, recording, or other transcriptions from audio and video tapes and any other written record, picture or film. In qualitative research people are studied in their setting in order to discover the social world of cultures and languages by living with them and learning by observation and talking to them.

In this study 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, 2001: 62). Qualitative research design was used in order to increase understanding of the knowledge, perceptions andhealth beliefs related to TB among people in the rural communities of Vhembe District in Limpopo Province.

The following are the advantages and disadvantages of qualitative research:
The advantages of using qualitative design in this study are as follows:

- The data was non-numerical; it was in the form of written words and audiotapes.
- Analysis of data involved an examination of words rather than numbers.
- Data was analysed concurrently with the data collection, a series of common steps were used for analysing the data and for coding themes and categories.

The disadvantages of using qualitative research in this study are:

- It was difficult to prevent or detect researcher-induced bias. Due to in-depth data gathering approaches the scope was limited.
- A large amount of data in the form of narratives was gathered, and this made analysis extremely time-consuming. As a result, the researcher spent hours reflecting on the possible meaning and relationship of data (Brink & Wood, 1994; Polit & Hungler, 1997).

2.6. DESCRIPTIVE STUDY

This design was aimed at exploring the dimensions of the phenomenon, the manner in which it was manifested and other factors to which it was related (Polit & Hungler, 1997:14). Descriptive designs emphasise in-depth descriptions of a specific situation, group interaction or social object. This information was gained through the use of focus group interviews using the semi-structured interview guide. The documented information on the phenomenon was analysed and classified to provide new insight into the phenomenon. In this study description of knowledge, perceptions and beliefs related to TB were achieved.

2.7. EXPLORATORY

According to Mouton and Marais (1999:43) the aim of exploratory research is to explore a relatively unknown research area to gain new insight into the phenomena under study, rather than collecting accurate and replicable data. A study should be designed to explore the dimensions of a phenomenon or to develop or refine hypotheses about the relationship between phenomena (Polit & Hungler, 1997:456). Grinnell (1993:136) explains that exploratory design is at the lowest level of the continuum of knowledge that can be derived from research studies. During the present study, the researcher went to the natural settings of the people in the Vhembe district of Limpopo province to assess the knowledge, beliefs and perceptions related to TB as a disease of the community. The aim was to extend the theoretical knowledge available about people's knowledge in the TB - HIV/AIDS context. It was necessary for the researcher to apply an explorative design in order to attain the objectives of the study. The researcher remained open to any new ideas and explored the best solutions in order to achieve the best report.

2.8. SETTING OF THE STUDY

The study was conducted in two rural villages (Xigalo and Kurhuleni) of the Vhembe district in Limpopo province. The province is considered to be poor with approximately 87% of its people living in rural areas. Just over 97% of the population is classified as black Africans, while whites make up 2%, and coloured and Asian people make up 0.4% and 0.5% respectively (Barron, Day and Monticello, 2007:670). Vhembe district consists of four municipalities namely: Thulamela, Mutale, Makhado and Musina.

Xigalo village, with a population of 6000, is found in the Thulamela municipality, while Kurhuleni, with a population of 4000, is located in the Makhado municipality. These two municipalities had the lowest population growth in both 2000 and 2004. The female population in Makhado stands at 55% as is also the case in Thulamela (55

2.9. POPULATION

Population is the entire aggregation of cases that meets a designated set of criteria (Polit & Hungler, 1997: 223). The accessible population is the population of people available for a particular study and is often a non-random subset of the target population (Polit & Hungler, 1997:451). The target population comprises the total number of participants about whom a researcher wants to make generalisations (Polit & Hungler, 1997:230). The target population in this study involved all the people residing in the two villages, namely Xigalo and Kurhuleni.

2.9.1 Inclusion criteria

Burns and Grove (2001:295) describe inclusion criteria as the characteristics that must be present for an element to be included in the study. Participants resided in Vhembe district of Limpopo province in the selected villages of Xigalo and Kurhuleni. Participants were Xitsonga-speaking people between the ages of 18 and 75.

2.10. SAMPLING METHODS

Sampling refers to the process of selecting a sample from a population in order to obtain information regarding a phenomenon in a way that represents the population of interest (Burns & Grove, 2001:802; Brink, 1996:133).

2.10.1 Non-probability sampling

The study used a non-probability, purposive sampling method to select samples of villages and participants. Burns and Grove (2001:804) describe non-probability sampling as one in which not every element of the population has an opportunity of being selected in the sample. In non-probability sampling the elements are chosen by non-random methods. The odds of selecting a particular individual were not known because the researcher did not know the population size or the members of the population. On the other hand, purposive sampling is defined as the "conscious selection by the researcher of certain subjects or elements to include in the study." It is sometimes also called "judgmental" or "theoretical sampling" (Brink & Wood, 1994:221).

For the purpose of this study the researcher selected participants who were residing in Xigalo and Kurhuleni villages. The non-probability, purposive sampling approach was used to select participants and place them in eight focus groups. In all, 103 participants were interviewed. The sample consisted of nine elderly males and eleven elderly females aged between 60-75, nine male and ten female parents between 34-59 years, and eighteen males and nineteen females aged between 18-33 years. All participants were Xitsonga speaking people and were interviewed in Xitsonga. They were from two different villages in Vhembe District, Limpopo Province.

The participants in this study were mainly females. The number of male participants was low, a fact that might have been caused by the interviews being conducted during the day when most men had gone to work. Another factor could have been that most males worked far away from home and they only came back during weekends and at

the end of a month. The youth groups were found to be accessible since the clinics used in the interviews were close to school premises.

2.10.2 Advantages of purposive sampling

The study used purposive sampling to allow the researcher to select and handpick the sample based on the participants' knowledge of the phenomenon being studied (Brink 1996:135).The researcher purposively chose participants who were seen to be able to provide most relevant information in relation to the aims of the study.

2.10.3 Disadvantages of purposive sampling

In this study each member of the population did not have an equal chance of being included in the sample. The potential of sampling bias might have entered the selection process since this strategy relies on the researcher's knowledge and the generalisability of the results is limited.

2.11. DATA COLLECTION

Burns and Grove (2001:393) define data collection as the process of selecting subjects and gathering data from subjects. The data gathering method of choice was focus group interviews. Krueger (1994:6) defines a focus group as a carefully planned discussion designed to obtain perceptions on a defined area of interest in a permissive, non-threatening environment, free from interruptions. According to Carey (1994:226) a focus group is "a semi-structured group session, moderated by a group leader held in an informal setting, with the purpose of collecting information on designated topics". The focus group interviews allowed the researcher to interact with participants and provided the opportunity for clarification of responses, follow-up questions and the asking of probing questions (Reed & Paton 2002:765). Focus group discussions are informal sessions in which participants are asked to discuss their perceptions on a specific topic. In the present study, eight focus group interviews were conducted although the size of the sample was determined by the saturation of data.

Six focus group interviews were conducted at the clinic and two in schools. The empty room at the clinic was used as the neutral venue for data collection. Participants seemed to be happy and eager to participate. The researcher introduced the questions and an audiotape was used with the permission of the participants. Each focus group interview lasted for more or less 45 minutes. The items below represent the detailed information with regard to questions asked during the focus group interviews:

- In your opinion, what is tuberculosis?
- How do you think people can get TB?
- What is your view about tuberculosis?
- How do you interact with TB sufferers?
- Tell me about your preferred method of treatment for tuberculosis.

Advantages of using focus group interviews in this study:

- Questioning was flexible and it was easy for participants' to reveal their real perceptions.
- Focus group discussions generat ed more critical comments than interviews (Kitzinger J.C, 1995:299).
- The participants shared their thoughts with each other, the information was not expansive, and it was flexible, stimulating, cumulative, elaborative, assistive in information recall and capable of producing rich data (Fontana & Frey, 1994:361; MacDougall Baum, 1997:532).

Major disadvantages of focus group in this study:

- Some participants were uncomfortable expressing themselves in a group.
- Stronger and/or more confident members of the groups tended to have major control or influence over the verbalisation of other group members.

Detailed information was gathered through open-ended questions that provide verbatim quotations. The questions set out in the semi-structured interview guide were translated from English into Xitsonga. The word TB was communicated through the

Xitsonga term "Vuvabyi bya rifuva" commonly used in the two villages. Focus group interviews were conducted with groups of 10-12 participants whose knowledge, perceptions and beliefs were solicited simultaneously in such a way as to give participants the opportunity to describe their knowledge, belief and perceptions from their own experience. The participants' points of view are reflected below. The data obtained were taken as correct and believable reports of the participants' opinions and experiences. The researcher learnt the most by participating or getting immersed in the research situation.

Typically, a focus group presents a unique opportunity to a group of participants to discuss their needs, objectives and perceptions in an interactive environment. The opinions and statements of the participants enabled the researcher to derive strategic information and draw interesting conclusions.

As mentioned above, eight focus group interviews were conducted, 4 groups each from Xigalo and Kurhuleni villages in the rural communities of Vhembe district in Limpopo province. The first focus group interview at Xigalo village was conducted in the morning at the clinic. There were 12 participants, sitting under the tree because it was very hot that day. C hairs were supplied by the home-based caregivers who organised the group. The focus group interview lasted 45 minutes. The second focus group was also held at the clinic in one of the rooms one afternoon. There were 10 participants, 4 males and 6 females, aged between 35-50 years. Chairs were provided for the participants by the home-based caregivers. The weather was not favourable as it was hot, but the home-based caregivers supplied us with a fan.

The third and fourth focus group interviews were conducted at the school with youths aged between18-19 years. Both lasted 45 minutes. The home-based caregivers arranged for a venue at the school that was conducive for the interviews because it was cool and chairs were available for the participants. The third group had 11 participants consisting of 6 females and 5 males, while the fourth group had 12 participants: 6 males and 6 females. The groups were cooperative during the interview.

In Kurhuleni the focus group interviews were conducted on the clinic veranda where chairs were provided. The venue was conducive to conducting successful sessions because it was moderately warm. The interviews lasted for an hour. The participants in two groups were aged from 35-60 years. The first group comprised 13 participants, 7 females and 6 males, while the second group had 11 participants, 5 males and 6 females. The interview lasted for one hour. The participants seemed happy and eager to participate and reflected that they were actually getting a chance to voice their concerns with regard to TB.

The other two groups were youths aged between18 and 20. The environment was conducive to conducting a successful interview. Chairs were available and the day was not hot. All the participants were ready for the interview and they all contributed. The first group consisted of 10 participants: 5 males and 5 females, while the second group consisted of 11 participants: 6 males and 5 females. The interviews each lasted for one hour. Data was collected in Xitsonga and translated into English. The interviewer encouraged participants to talk freely about all the topics on the guide.

The focus group interviews were audio-taped, and the recordings were transcribed. Each focus group was numbered from the first interview in the first village to the last interview. Observation and field notes pertaining to participants' responses were documented. The data gathering was conducted in a comfortable, non-threatening environment to explore and obtain perceptions about the given problem or topic of interest.

2.12. DATA ANALYSIS

According to Polit and Hungler (1997:39) data analysis is a systematic organisation of research data. The researcher used techniques such as coding, the process of translating verbal data into categories or numeric form (Polit & Hungler, 1997:39). The information from the tape recorder was first transcribed verbatim before data analysis was undertaken. In the present study, data was coded based on the themes, subthemes and descriptions gained from the responses to the questions (Polit & Hungler, 1997:40). The data was then compared against the taped and documented data for accuracy. Data belonging to one group was assembled in one place to assist further reading. Themes and sub-themes were formulated according to the data which was critically checked. Data analysis involved the reduction of a great deal of data.

2.13. MEASURES TO ENSURE TRUSTWORTHINESS

Trustworthiness is a method of establishing rigor in qualitative research without sacrificing relevance. Guba's model for ensuring and assessing trustworthiness was used in this study (Lincoln & Guba 1995:216). The four criteria that were used to ensure trustworthiness as described in the model are:

Truth value (Credibility)

It established how confident the researcher was with the truth of the findings based on research design, participants and context (Lincoln & Guba 1995:216).

Consistency (dependability)

The concept dependability implies trackable variability, that is, variability that can be ascribed to identify sources (Lincoln & Guba, 1995: 216). In this study the researcher coded the data and waited for a certain period and returns to recode the same data to ensure accuracy.

Neutrality (confirmability)

Neutrality refers to the degree to which the findings are a function solely of the participants and conditions of the research and not of biases, motivations and perspectives (Lincoln & Guba, 1995: 216). In this study the researcher achieved this by prolonged engagement with participants during focus group interviews.

Conformability refers to criteria for evaluating the quality of data by referring to objectivity or neutrality. Conformability was ensured by playing the tape recorded interviews back to the participants to check if what they had said was what they meant (Polit & Hungler 1997:319).

Applicability (Transferability)

Transferability refers to the degree to which the findings can be applied to another context and setting or with other groups (Lincoln & Guba, 1995: 215). In this study transferability was ensured by densely describing the background information of participants.

Table 2.1.

PRINCIPLE	DESCRIPTION
1. CREDIBILITY	The researcher spent time with participants; The researcher interacted with the groups prior to the interviews and established relationships with them; The interviews were not rushed, the researcher took time with each group; Field notes were taken throughout.
2. DEPENDABILITY	The study was audited by peer researchers; The data was coded and the same data was later recoded to ensure accuracy.
3.CONFIRMABILITY	The researcher spent sufficient time with participants during the focus group interviews; The researcher ensured that her opinions

	were not reflected in the participants' views; Focus group interviews, field notes and literature control were conducted.
4.TRANSFERABILITY	The information was recorded on audiotape and was described in such a way that everyone can determine whether the findings of the study were applicable to the setting; The purposive sampling technique was used to select participants who fitted the criteria described; The participants' characteristics, the research content and setting were described in detail.

2.14. ETHICAL CONSIDERATIONS

Ethics is doing what is right and good during the research process. It is the application of all ethical principles to the research process. Ethics in research ensures that the human, humane, humanistic and moral reasons for the research are upheld. Ethics in research also enhances the credibility and trustworthiness of data (Burns & Grove 2001:196). The researcher should ensure that the rights of participants are observed, protected and respected (Polit & Hungler, 1997:134). In this study the researcher ensured that the following aspects were observed.

2.14.1 Right to confidentiality

Confidentiality is related to the researcher's management of private information shared by the participants that should not be shared by others without authorisation by the participants (Burns & Grove, 2001:196). In this study the home-based caregivers could not gain access to the raw data of the study. The participants were informed that the researcher did not intend to report the results of the study to the Department of Health, Limpopo Province. The researcher ensured that the interview schedule was kept in a safe place.

2.14.2 Principle of anonymity

Anonymity relates to keeping the participants nameless in relation to their participation in the study (Brink, 1996:42). Anonymity meant that the names of the participants were not used.

2.14.3 Informed consent

Informed consent means that the participants are fully informed and understand the research project in which they are being asked to participate. In this study the researcher explained the purpose of the study before getting the participants' consent. The manner in which data was collected and used serves to ensure that confidentiality, privacy and anonymity were maintained. For this reason written consent was obtained from participants. All this was done to ensure that there was no relationship of mistrust among participants (Burns & Grove, 2001:196). A sample of a consent agreement is provided (See Annexure B).

2.14.4 Right to privacy

Privacy is a right. An individual has to determine the time, extent and general circumstances under which personal information has been shared or withheld from others (Burns & Grove, 2001:196). Privacy was maintained throughout this study. The researcher ensured that participants were treated equally, regardless of their socio-economic status, and whether they were illiterate or learned.

2.15. PERMISSION TO CONDUCT THIS STUDY

Upholding ethical considerations was ensured by securing permission from:

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

2.16. CONCLUSION

This chapter describes the research design and methodology, including the setting and population, sample and sampling method, data collection, data analysis, measure to ensure trustworthiness, ethical consideration, permission and conclusion. The following Chapter 3 presents the analysis of the data obtained from focus groups interviews to assess knowledge, perceptions and beliefs related to TB.

DATA ANALYSIS, DISCUSSION, PRESENTATIONS OF FINDINGS AND LITERATURE CONTROL

3.1. INTRODUCTION

Chapter 2 discussed the research design and methodology of this research in detail. This chapter deals with data analysis and the presentation of findings of the data obtained through the use of focus group interviews. The purpose of this chapter is to present information obtained from participants and to assess them against the objectives of the study, namely to: assess knowledge, perceptions, beliefs related to TB among people in the rural communities of Kurhuleni and Xigalo in the Vhembe district; and to determine the people's perceptions and health beliefs related to TB. Literature control was conducted to validate the findings. The data analysis reflects the biographical information, thematic presentation of the knowledge, perceptions and health beliefs of the participants with respect to TB.

Table 3.1. Biographical information of participants.

Villages	Participants	Number of focus groups	Age range of participants	Gender
Xigalo and Kurhuleni	Parents	Two focus groups: Group one, nine participants interviewed at Xigalo, Group two 10 participants interviewed at Kurhuleni	34-59	9 males 10 females
Xigalo and Kurhuleni	Youths	Four focus groups: Group one 10 participants interviewed at Xigalo. Group two 8 participants interviewed at Xigalo. Group three 9 participants interviewed at Kurhuleni. Group four 10 participants	18-33	18 males 19 females

		interviewed at Kurhuleni.		
Xigalo and Kurhuleni	Elderly	Two focus groups: Group one: 9 participants interviewed at Xigalo. Group two: 11 participants interviewed at Kurhuleni.	60-75	9 males 11 females

3.2. DISCUSSION OF FINDINGS

Table 3.2 outlines the summary of the findings of the research according to themes, subthemes and descriptions. After the interviews four themes emerged, namely: participants' knowledge about TB, participants' views and perceptions about TB, interactions between participants and TB patients and participants' opinions on methods of TB treatment. Detailed descriptions of each theme, subtheme and descriptions are provided in the paragraphs that follow. Findings were supported by the use of verbatim quotations and literature control.

TABLE: 3.2. PRESENTATION OF THEMES: SUBTHEMES AND DESCRIPTIONS

THEME	SUB-THEMES	DESCRIPTIONS
Participants' knowledge about TB	Participants' knowledge on definition of TB	• TB patients/sufferers present with coughing up blood stained sputum; • Participants reflect that patients cough for more than two weeks; • Participants mentioned that TB is a disease of the lungs; • Participants indicated that TB is flu.

	The participants' knowledge about causes of TB	• TB is caused by staying in a dusty area; • Participants reflect that TB is caused by smoking, eating unhealthy food and drinking alcohol; • TB is caused by staying/sleeping with patients and working with coal without a mask; • Participants indicated that TB is caused by dirty blankets and hair in the food.
	The participants' knowledge of the signs and symptoms of TB	• Participants revealed that TB patients present with loss of weight, fast breathing, loss of appetite and fatigue, have hot bodies, easily become tired and have difficulty breathing; • Makes the participants to delay in seeking health care services and end up deteriorating;
	TB seen as HIV/AIDS	• TB patients lose weight, have chest problems and tiredness as HIV/AIDS patients do.
Participants' views and perceptions about TB	Positive views and perceptions towards TB patients	• Participants reflected acceptance and support for TB patients. • No discrimination of TB patients was identified in the participants' presentation.
	Negative views and perceptions about TB patients	• Participants displayed negative perceptions towards TB patients as they feared transmission.

Attitude towards interaction between participants and TB patients	Positive attitude towards interacting with TB patients.	• Participants reflect that they eat with TB patients, live with patients in the same house • TB patients are supported by relatives
	Negative attitude towards interacting with TB patients.	• Isolation of TB patients • Discrimination of TB patients • Not using same utensils with TB patients Participants believe that TB is incurable
Participants opinion of methods of TB treatment	Belief in hospital medicine.	• Participants also believe that TB treatment can improve the health of those infected with HIV/AIDS and prolong their lives.
	Belief in traditional medicine	• Participants presented different opinions on traditional treatment such as Christian belief and traditional methods used by TB patients.

3.2.1. Participants' knowledge of TB

Overwhelmingly the participants in all the focus groups indicated that they had knowledge about TB. All groups expressed that they knew the definition of TB, the causes of TB and signs and symptoms. However, the descriptions discussed below reflect knowledge deficits in aspects related to TB, its definition, causes and clinical manifestation.

3.2.1.1. Participants' knowledge on definition of TB

With respect to their knowledge of the definition of TB, participants presented differing information which reflected their level of understanding related to TB knowledge as well as lack of knowledge. Parents and the elderly, especially female participants indicated that they thought that TB is caused by germs believed to be available in different environments, more specifically where people live. It was regarded as highly infectious and capable of causing death to human beings. The youth groups overwhelming indicated different perceptions than that of the adults where TB is seen as being similar to HIV.

One elderly female said: ***"TB is flu and contagious which is characterised by germs which is dangerous if a person does not take treatment properly. It is life threatening if not treated. It is highly infectious, easily spread, it is communicable and deadly."***

One female youth participant said "***It is a killer disease if not treated immediately***"; ***"TB is a lung disease."***

One male parent participant said ***"TB is a coughing and infectious disease, and is dangerous if not treated. TB is cough or flu which can be transmitted to other people and a patient with TB should be isolated"***.

In the study conducted in Kenya by Liefooghe, et al. (1997:809) titled "From their own perspective, A Kenyan community's perception of TB", participants stated that TB is a contagious, 'sensitive' disease that is difficult to diagnose and treat; they described it as a chronic disease that affects the lungs. Five focus group interviews were conducted with a total number of 49 people in different areas such as urban, rural and hospitalised: one group of hospitalised TB patient, two with rural participants and two with urban participants.

These objectives were similar to the objectives of the present study. As a result, the findings of both studies revealed similar responses with respect to participants' knowledge of the definition of TB.

In another study entitled "TB knowledge, attitudes and beliefs among North Carolinians at increased risk of infection", it was also revealed that TB is seen as an infectious disease that frequently affects the lungs and can be fatal if untreated. The purpose of that study was also to capture and describe knowledge, attitudes, and beliefs about TB among persons at high risk of TB infection. Eleven focus groups in different populations at high risk for TB infection, that is, Spanish-speaking immigrants, people from homeless shelters, and persons attending a drug/alcohol rehabilitation centre. Participants in the study also knew that a skin test can be used to diagnose TB. However, participants frequently had incorrect beliefs regarding the cause, transmission and treatment of TB. Many participants thought that TB is transmitted in the same fashion as other infectious disease such as HIV/AIDS. A general sentiment of fear and aversion towards persons ill with TB was expressed (West, Gadkowisk, Ostbye, Piadrahita & Stout, 2008:14).

A study conducted by Nachega et al. (2002:7) reported in a journal article titled: "On a pilot study of knowledge, attitudes and perception to TB in HIV-infected Sowetan Adults in South Africa", involved 28 HIV-infected adults attending Chris Hani Baragwanath Hospitals' Perinatal HIV Research Unit, Soweto,. The objectives of the study were to assess the knowledge, attitudes, and perceptions of TB and to use the information for TB preventive therapy research planning and adherence strategies. There was a high proportion of HIV-infected individuals among the research population who had a sound knowledge of germ theory, transmissibility and the importance of TB preventive therapy, as well as the vulnerability of malnourished people to TB. This knowledge and perception may motivate a significant number of HIV-infected patients to join future TB therapy preventive programmes and adhere to their treatment.

According to the study conducted by Brassard, Anderson, Menzies, Schwartzman and McDonald (2008:192) entitled "Knowledge and perceptions of tuberculosis among a sample of urban' high–risk Aboriginal people in Montreal who were undergoing a tuberculin skin test (TST) were interviewed as part of a larger study. A total of 164 eligible Aboriginal persons volunteered to participate in the study. The study revealed

that close to one-third (54/164) reported knowing little about TB, and participant responses indicated that there were many prevalent misconceptions about symptoms, transmission, cause and risk factors of the disease. However, a study conducted by Long et al. (1999:862) indicated that in general, participants had good knowledge of TB being a dangerous, contagious and infectious disease, caused by germs. The aim of the study was to describe the perceptions and beliefs of Vietnamese people regarding TB and its risk factors with special reference to differences between men and women. Sixteen focus group discussions were organised in four districts, representing different regions of Vietnam and consisting of men and women, TB patients and non-TB participants. Men were perceived to contract TB more often than women, as they were more exposed to risk factors during both work and leisure time. According to the information above they seemed to have minimal knowledge of TB. A patient with adequate knowledge of TB and treatment is more likely to comply with treatment than one with limited knowledge.

The examples of studies presented above produced similar findings to those of the present study that reflects people's knowledge regarding the definition of TB as a disease. It seems as if some of the information might discourage people from seeking early intervention more specifically where TB is regarded as being connected to HIV due to fear of stigmatisation. Because TB is a highly infectious disease, delays in seeking medical intervention might lead to the escalation of the spread of the disease to other people in the community.

3.2.1.2. Participants' knowledge about causes of TB

During the interviews, it was clear from participants' responses that they knew about causative organisms. The majority of participants in each focus group indicated that TB was caused by either a bacteria or, commonly, by a virus. The verbatim quotations below reflect different information presented by participants related to causes of TB.

One female parent participant said ***"TB is caused by a virus which is infectious"*** probing further the participant indicated that "***TB is caused by staying in dusty area,***

working in a Barber shop, droplet infection and contaminated sputum and drinking dirty water and unhealthy food."

Promptussananon and Peltzer (2005:74) conducted a study entitled "Perceptions of TB: Attributions of cause, suggested means of risk reduction, and preferred treatment in Limpopo Province in South Africa". The study was aimed at investigating public perceptions about causes, suggested means of risk reduction, and preferred treatment of TB. The study included a sample of 80 community members from four different age groups chosen by quota sampling in a semi-urban community. Participants expressed views that exposure to dust, dirty air, chemicals, eating unclean food, using dirty dishes, and drinking unclean water were causes of TB. The findings further revealed that people in a semi-urban area of Limpopo province had limited knowledge and understanding of TB. It was suggested that the healthcare workers should provide services for increasing basic knowledge about causes and risk reduction of TB in the population in every age group.

Another participant did not relate TB with bacteria or other causative organisms. The male parent participant said: ***"The saliva which has been spitted should not be stepped on by children, and we should cover our mouth with tissues whenever we are speaking. TB is also caused by eating unhealthy food, sitting, eating or staying with patient and staying in a dirty place". My neighbours seem to dislike the patients with TB. However, they don't like to share anything with them."***

One elderly male participant said: ***"TB is transmitted by using same glass or utensils with infected person, people with TB stay away and eat separately from healthy people and kids were not allowed to sleep next to patient with TB to avoid infection."***

Another elderly female supported the opinion presented above by saying that: ***"TB is caused by sharing utensils or sleeping with the infected person"*** and further indicated that ***"family members including children refused to have meals with TB***

patients, fear that sharing of plates, bowls, spoons and cups with each other could spread the virus."

Other female parent and youth participants also showed little knowledge of the causes of TB, One female parent participant said: ***"TB is caused by smoking, drinking alcohol e.g. whisky, spitting saliva everywhere."*** While one participant in the group of youths said ***"TB is caused by cigarette smoking, working with coal without masks."***

The study conducted in South Africa by Westway (1989:2005) on "Knowledge, beliefs and feelings about tuberculosis" had findings which correlate with the present study. The purpose of the study was to ascertain the knowledge and beliefs about TB of people in the community. The findings of the study stated that the major causes of TB were food, a germ/bacillus, smoking and drinking. It revealed further that TB was thought to be spread by coughing and spitting or by using infected articles.

Carey, (1994: 66) conducted a study on "TB beliefs among recent Vietnamese Refugees in New York State" in which participants revealed that they believed that the causative factors were malnutrition, overwork, alcohol, cigarettes, poor hygiene, polluted environment as well as humidity or dusty environments.

The study conducted by Gibson, et al. (2005:931) "on socio-cultural factors influencing prevention and treatment of tuberculosis in immigrant and Aboriginal communities in Canada" found that some participants thought they contracted TB from overwork or from not taking care of themselves. Four of the 11 participants who thought people contracted TB because they did not or were unable to take good care of their health, also answered that TB is contagious. Participants believed that people were more susceptible to catching TB when they let their health run down. Two of the seven people who suggested that TB was caused by living in an unhealthy environment saw that as the primary cause of TB. Most of the participants did not believe TB was contagious.

In the study conducted in Filipina by Nitcher (2006:555) participants revealed that they believed that cigarette smoking was associated with TB, not only because they thought that smoke was harmful to the lungs, but also because they had observed that smoking sometimes reduced the appetite. The study found other beliefs about causation such as exposure to certain elements and that TB could be transmitted when an infected person coughs.

In the study conducted in North Carolina by West, Gadkowski, Ostbye, Piadrahita, Truls and, Stout (2008:14), participants indicated that TB could be transmitted by people using the same glass or utensils as an infected person, by holding hands with an infected person, from dirty needles, by blood, and even AIDS. Participants frequently had incorrect beliefs regarding the causes, transmission and treatment of TB. Many patients thought that TB is transmitted in the same fashion as infectious diseases such as HIV/AIDS. Dalal and Singh (2008:193) found that hospitalised male patients in India held similar causative beliefs as participants in the present study, namely that inadequate diet, strenuous work routine, unhygienic practices caused TB.

Another unique belief regarding the cause of TB was that TB is hereditary. The quotation below reflects this information.

Two elderly female participants raised the concern that **"TB can be hereditary"**

The study conducted by Liam et al. (1999:300), with evidence drawn from Vietnam, indicated that the main cause of TB was also viewed as being hereditary. While the study conducted by Hoa, Chuk, Thorson (2009:8) entitled "Knowledge, attitude and practices about tuberculosis and choice of communication channels in a rural community in Vietnam", revealed that more than half of the respondents thought TB was hereditary. The information in this paragraph supports the findings identified in this study.

Lewis and Collier (2007:602) indicate that TB is caused by MTB, a gram, positive, acid-fast bacillus, that is usually spread from person to person via airborne droplets, which are produced when infected individuals with pulmonary or laryngeal TB coughs, sneezes, speaks, or sings. Once released into a room, the organisms are dispersed and can be inhaled. It is commonly spread to the individual who has had repeated close contact with an infected person. TB is not highly infectious, and transmission usually requires close, frequent or prolonged exposure. The disease cannot be spread by hands, books, glasses, dishes or other fomites.

According to Mogotlane (2005:13-25) the mode of infection is by inhalation of the bacillus and the disease is spread by coughing. TB is further described as a disease of poverty, overcrowding and poor nutrition with poor hygiene, bad food, poor quality water and inadequate sanitation completing the picture. Participants had limited knowledge about causes of TB. Some reported biomedical causes of TB, such as germs and transmission from infected people.

Misconceptions about causes of TB included smoking, exposure to cold and dirty air, eating and drinking unclean food and water and using dirty dishes. Some of the participants in this study perceived heredity as a cause of TB. This shows that some participants still lacked knowledge about causative organisms. Health professionals, including nurses, doctors and other members of multi-disciplinary teams need to educate the community about causes of TB. In addition, some participants mentioned that TB is caused by a virus, a perception that reflects that participants could not differentiate a virus from bacteria; this is contradicted by Lewis and Collier (2007:601) who found that the participants in their study indicated that TB is caused by MTB.

3.2.1.3. Participants' knowledge of the signs and symptoms of TB

During the interviews participants showed that they knew that TB is a disease with significant morbidity and mortality. Participants also believed that TB is a major opportunistic infection in people with AIDS and is an important cause of morbidity and

mortality in AIDS patients. Some participants had general knowledge about signs and symptoms of TB.

One female youth participant said that, ***"The person with TB lose weight, fast breathing, fatigue and loss of appetite. TB patients cough up blood stained sputum, hot body, easily become tired, loss of appetite, become thin, lose weight and colour of the skin becomes dark. TB patient coughs for a long time or for more than two weeks, excessive sweating, feeling hot and difficulty in breathing"***

Another female parent participant supported this and said, ***"TB patients have wheeze, fast breathing for a long time, fatigue and loss of appetite, body weakness"*** while an elderly male participant said, ***"The person with TB have hot body, easily becomes tired, feeling hot, shortness of breath and tiredness."*** The study conducted in South Africa by Westway (1989:2005) entitled "Knowledge and attitudes about tuberculosis of black hospitalised TB patients" that revealed that patients knew that the signs and symptoms of TB were coughing, weight loss, loss of appetite, coughing blood, night sweats, tiredness, chest pain and breathlessness. Furthermore they thought that the major signs and symptoms of TB were coughing, loss of appetite, weight loss and night sweats.

The study conducted by Liefooghe et al. (1997:809) revealed that participants thought that the signs and symptoms of TB included unexplained weight loss, fatigue, fever, night sweats, chills and loss of appetite. They also believed that signs and symptoms of TB of the lungs included coughing that lasted three or more weeks, coughing up blood, chest pain or pain with breathing or coughing. Five focus groups were used in that study, four from the community and one consisting of hospitalised TB patients, ten participants (within the age range of 8-13) were selected by convenience sampling: those persons who could provide the best information and who were willing to participate in the study, while in the present study purposive sampling was used to create 8 focus groups consisting of non-TB infected persons.

In the present study participants frequently mentioned that TB patients had continuous, persistent and prolonged coughs, and that the coughs were accompanied by other symptoms such as difficulty in breathing, wheezing and chest pains. Loss of appetite and consequent weight loss were also considered typical symptoms. Participants also believed that TB sufferers became very thin and weak; they felt tired, lacked energy and were no longer able to work. Coughing up blood was also seen as a definite sign of TB. It would appear that TB was widely known among the participants and many spontaneously reported that they had observed TB cases in their near surroundings. TB was perceived to be a dangerous disease that affected the lungs, or air passage. It was seen as 'sensitive' because it was considered to be highly contagious.

Based on the above information it was clear that the participants perceived the most common symptoms as loss of weight, loss of appetite and symptomatic coughs, fever, haemoptysis and night sweats were seen as less common. It is very important to make the general public aware of the danger of TB as well as the early signs and symptoms of a persistent dry cough accompanied by weight loss and night sweats.

Lewis and Collier (2007:602) indicate that systematic manifestations may initially consist of fatigue, malaise, anorexia, weight loss, low-grade fevers and night sweats. These authors' perspective differs from that of the participants, indicating that they thought that weight loss was not excessive until late in the disease and it was often attributed to overwork or other factors. They also indicated that a characteristic pulmonary manifestation of a cough that becomes frequent and produces mucoid or mucopurulent sputum, as well as dyspnea is unusual, and that chest pain characterised as dull or tight may be present. Hemoptysis is not a common finding and is usually associated with more advanced cases.

A continuous and persistent cough was symptom of TB frequently mentioned by all groups of participants. The participants further indicated that coughing was accompanied by other symptoms such as difficulty in breathing, wheezing and chest pain, loss of weight, loss of appetite and that TB patients become very thin and weak. In some groups participants recognised 'coughing blood' as a definite sign of TB. Fever

and sputum were less often cited by the participants. Some participants mentioned that sharp chest pain, breathing difficulties, vomiting blood, loss of appetite or feeling very tired were symptoms that made them consult health services.

3.2.1.4. Participant's perceptions towards TB patients as seen as HIV/AIDS

The participants elicited different perceptions with respect to TB and HIV/AIDS. They saw TB as being related to HIV/AIDS and this made them delay seeking health-care services. The result of this was that patients deteriorating at home and developing complication of the disease.

One female parent participant said: ***"TB is seen as HIV/AIDS because patients lose weight, have chest problems and tiredness. Some people take TB as HIV and patient feels weak and loses appetite and if TB patient does not follow treatment it can turn to HIV. Others see TB as HIV/AIDS and others see it as a killer, cause in the olden days people used to be isolated and it was incurable and I understand that it has a relationship, and when a person has AIDS, usually cannot live longer, because there are diseases that come together to attack and make us very tired"***

One elderly male participant expressed the ideas that: ***"TB is AIDS; I heard in the hospital that people who have AIDS also have TB and other diseases and they have TB first, AIDS can attack because we are weak. For AIDS, we don't get it by only if we have sex."*** While a male youth participant opposed this by stating that ***"An AIDS carrier is weakened by HIV which kills their antibodies, and then becomes vulnerable and easily exposed to other diseases and therefore pass away very soon, TB is TB and AIDS is AIDS. They are different. AIDS is more serious. When AIDS is strong, the TB cough is weak, but depends on our energy. If our energy is weak, the disease will be strong"***

A study conducted by Peltzer, Mugundaniso and Petros (2006:608) on HIV/AIDS/TB entitled "Knowledge, beliefs and practices of traditional healers in Kwazulu Natal,

South Africa," investigated the knowledge, beliefs and practices related to HIV/AIDS/STI and TB of traditional healers in South Africa. A sample of 233 traditional healers was interviewed in three selected communities in KwaZulu Natal. The findings of the study revealed that the most common conditions seen were STIs, HIV/AIDS although most healers had an accurate knowledge of the major HIV transmission routes and believed that there was cure for AIDS.

A study conducted by Banerjee, Harries, Nyirenda and Salaniponi (2000:1047) found that most of the people in their sample (61%) believed TB patients were not accepted in the community. The increasing prevalence of HIV/AIDS throughout sub-Saharan Africa has increased the number of patients with TB and the stigma of TB has been heightened by its perceived association with the HIV (Corbert et al., 2003: 1009). A similar study conducted by Maher, Harries and Getahum (2005:167) in sub-Saharan Africa, entitled "TB and HIV interaction: impact on patients and programmes; implications for policies," indicates that sub-Saharan Africa carries an overwhelming share of the global burden of AIDS and of HIV-associated TB. The impact of HIV on TB patients and programmes has implications for TB control policies. The impact on patients includes the effect of HIV on diagnosis and on the patterns of HIV-related TB, the response of HIV-infected TB patients to TB treatment, the benefits of antiretroviral therapy (ART), and the quality and continuity of care for TB patients.

According to Maher et al. (2005:167) in order to provide the recommended international standards of care for TB patients, clinicians need to be aware of the impact of HIV on TB patients and programmes, and the implications for the policies that provide the framework for this standard. It was indicated that policy makers need to understand the impact of HIV on TB patients and programmes.

The study conducted in Thailand by Jittimanee, Nateniyom, Kittikraisak, Burapat, Akkslilp, Chumpathat, Sirinak, Sattyawuthipong and Varma (2009:7) found that HIV-infected TB patients frequently had attitudes consistent with high TB stigma and had important knowledge gaps. The study also revealed that stigma and low disease-

specific knowledge were common among HIV infected and TB patients and were associated with similar factors. Further research is needed to determine whether reducing stigma and increasing TB and HIV knowledge among members of the general community and patients reduces diagnostic delay and improves patient outcomes.

According to Ransom and Johnson (2009:49) in the study which explored the significance of perceptions, knowledge, practices and attitudes toward HIV/AIDS of two important groups in South Africa, namely health-care providers based in public health clinics and their patients. The findings revealed that there were gaps in the HIV/AIDS knowledge of some of the health-care providers and that participants' health beliefs and practices were embedded in the social conditions in which they lived and worked which had a ripple effect on their risk behaviours and obviated any large public health intervention messages or advice from health-care providers.

The discussions above show that TB and HIV/ AIDS are related. TB seems to be a stigmatising disease, because it tends to strike people in poor living quarters more often than people who live in hygienic circumstances. This might cause further delay in seeking medical intervention when TB unnecessarily progresses to an illness due to the fear of the stigma attached to HIV/AIDS. This is detrimental to patients as TB disease is a curable condition.

3.2.2. Participants' view and perceptions about TB

3.2.2.1. Positive views and perceptions about TB patients

The participants' descriptions of how they related to TB patients reflected acceptance and support for these people. No discrimination of TB patients was identified in the participant's discussions during the focus group interviews. The verbatim quotations below illustrate their feelings.

One elderly male participant said: ***"Our relationship with TB patients is good because we take them like any other person and not stigmatising the disease, we***

do not treat them badly, but we show them love and care despite their disease, some people take care of TB patients, advise them to go to the clinic, give those proper foods, fruit and vegetables"

One female youth said, ***"TB patients are people like any other person and we must accept them by giving them medicine."***

"From my understanding, no one can avoid that, we should have a bag in which we can spit, so that the spread of the disease to others can be prevented, and when I cough and speak I need to cover the mouth, don't speak to the children face-to-face."

A female parent participant said, ***"We remind TB patients about taking treatment and take them to clinic for check-up, give them healthy food, make sure that they stay in clean environment, and give them clean purified water."*** While another elderly male participant said, ***"My experience is that it is very hard when one gets the surprise of the diagnosis but at the same time, with the support of the family, life goes on,"*** When a probing question ws asked, he said, ***"My sister told me that with TB, one must not drink from the same cup as others. My mother disagreed. She said that it is not true, because the nurse said so. I had a 4 year old patient in my family, the doctor told us to keep his glass and plate apart but we didn't do it because we loved him very much."***

In the study conducted by Rowe, et al., (2005:263), three participants from the study revealed that home-based care workers took care of TB patients and that they were supportive and encouraged healing. One participant indicated that he/she felt relieved when people stayed together with others who were sick. Another participant indicated that he/she was happy to stay with them, and help them take their treatment, accompany them to t he cl inic to collect treatment and remind them to take their medication.

According to Rowe et al. (2005:263) participants further stated that patients on TB treatment often stopped their treatment because of a lack of support during the

treatment period. One participant in that study indicated that family members took care of TB patients, and helped them in a very supportive manner, even taking the clients to the clinic and helping them to join support groups. The presence of social and family support, confidentiality and a caring clinic environment were identified as influential factors towards good adherence to TB treatment.

Participants in all groups stated in general that they perceived TB as a normal disease, hence they did not discriminate against TB patients. This also indicated that TB patients were supported by being accompanied to clinics to collect treatment and to remind them to take th eir medication at home. This type of behaviour should be encouraged in different communities. It is crucial that TB should be accepted as a disease and in this way the stigma attached to it will be reduced. Once TB is accepted, teaching people in communities about it will be very easy and people will most likely take information seriously. This may help promote early diagnosis of TB and the immediate use of TB treatment by people who present with the signs and symptoms, which is important in fighting the epidemic.

3.2.2.2. Negative views and perceptions towards TB patients

Participants stated that TB was not openly discussed in their homes and communities, and approximately half of them reported that they were not concerned about contracting TB.

One elderly male participant said, ***"Neighbours seem to dislike TB patients; they don't like to share anything with them. I know better than them that the virus of TB is passed through sharing of objects and doctors advise us to avoid sharing objects, if we go to bathrooms, it can also infect us"***

One female parent participant shared that, ***"People do not want TB patients closer to them and they don't want to use same utensils, the patients must use their own utensils separated due to fear of transmission.***

A male youth participant said, ***"The person with TB is not allowed to sleep with kids ..... afraid that they would be infected, let him or her eat and have his clothes washed separately; their clothes need to be boiled and dried and any cloth/tissue he used, people with TB were refused to have meals with all family members, including his/her own children, for fear that sharing plates, bowls, spoons, cups with each other could spread the virus."***

According to the study by Brassard et al, (2008:192) mentioned in paragraph 3.2.1.1 above, only 54 out of 164 participants reported knowing a little about TB, and that participant responses indicated that there were many prevalent misconceptions about symptoms, transmission, causes and risk factors of the disease. The majority of participants felt that TB was not openly discussed in their homes and communities, and approximately half (90 of 164) of participants reported that they were concerned about contracting TB. The majority of participants felt that TB was not openly discussed in their homes and communities, and approximately half (90 of 164) of respondents reported that they were concerned about contracting TB.

According to a study conducted in the Republic of Ireland by MacFarlane and Elleher (2002: 1389) it became clear that TB used to kill many people, even whole families, and that people were afraid to visit the homes of TB patients because the disease was understood to be highly contagious. In contrast, Liefooghe et al. (1997: 809) in their study conducted in Kenya, mentioned above in Paragraph 1.3, also revealed that TB was known as "a very serious disease" because it was viewed as being very contagious. Community members in their study revealed that they always avoided having contact with TB patients, and as a result patients in some families were isolated. Relatives stopped children from having contact with their parents who had TB because they were afraid of infection and this promoted the issue of isolation of TB patients who did not have anyone at their disposal for support (Liefooghe e t al., 1997:809).

The study conducted by Westway in South Africa (1989:2005) mentioned above in paragraph 3.2.1.2. found that people who contracted TB were thought to be dirty, ate bad food, were of average income and ordinary people. Individuals who had a family history of TB attached significantly less social stigma to the disease than those who did not have a family history of TB.

In a related context, Dodor and Kelly (2009:170) in a study conducted in Ghana revealed that due to fear of infection, most communities were of the view that TB patients should not be part of the society and should not marry or engage in such relationships with healthy people but that they should marry TB patients. The participants also thought that those TB patients should not sell food the community and should not be allowed to represent them in any public function because they could infect others. Whenever it becomes unavoidable for the community members to interact with someone with TB, they indicated that they would cover their mouths with handkerchiefs, turn their heads or sit facing downwind from TB patient to avoid inhaling the air they had breathed. When a TB patient joined community members at any function, he/she was expected to abide by a certain 'code of conduct'. The stigmatisation of the community members towards the disease and its sufferers could lead individuals with very obvious signs and symptoms of TB to attribute them to other non-stigmatising conditions or hide the diagnosis from others as well as default ontheir treatment.

According to Bennstam et al. (2004:299), in a study entitled "Perception of TB in the Democratic Republic of Congo: Wali ya Nkumu in the Mai Ndombe District," TB-infected participants described how they were neglected, not accounted for, and excluded from normal relationships and visits from friends. The study also revealed that patients who were infected with TB had to stay far away from others in the village. Their reasoning was that if someone contracted TB she/he would stay on her/his side and the others would stay on theirs, otherwise everybody would contract TB. They would talk about her/him indicating that it was a very bad disease and that sharing cups or eating with them was no longer done. The family members would go out into

the forest to give the sick some food, they would place the food in a special location and shout so that the patients could come out of hiding and fetch their food. TB was considered bad and dirty, and husbands and wives had been known to abandon their spouses because of the disease.

From the above-mentioned information it is clear that people in general had negative attitudes towards TB patients, because TB patients were neglected by their families. The participants did not share the same utensils with the patients. They indicated that the husbands and wives abandoned their spouses because of the other's TB history. A young person with TB could not get married, even after recovery; some had difficulties finding spouse for them because of their TB history (Bennstam et al., 2004:299).This neglect could further aggravate conditions of TB patients thus leading to stigma and poor adherence with more complications such as MDR and XDR TB. This type of behaviour should be discouraged and community members should be taught about TB as a disease, including the precautionary measures to be taken to prevent the spread of the disease. Bennstam

Furthermore, taking cues from Mogotlane et al. (2005:13-29), it is important to ensure that TB patients understand the necessity of taking the prescribed medication and that the treatment must be taken for 6-8 months in order for it to be successful. Common side effects must be explained and patients must be encouraged to return if they experience problems.

Findings in this study found that participants seemed to have negative perceptions because they were fear of infection from TB patients, hence they felt that getting closer to them or sharing something with them would make them contract TB. The findings are related to all the studies presented above which shows that participants understand that TB is an infectious disease. Communities need to be taught that TB is only infectious before treatment has been taken, that it is curable, and that once patients are cured they are no longer infectious.

3.2.3. Attitudes towards interaction between participants and TB patients

Participants indicated both positive and negative attitudes towards their interaction with TB patients.

3.2.3.1. Positive attitudes towards interacting with TB patients

There was little evidence that in reality friends would discriminate against a TB patient. On the contrary, the participants reported that their friends provided encouragement and support.

One male parent participant said, ***"We have to accept TB patients, eat, socialise, comfort, clean, cook and help them to take treatment"***

One elderly male participant said, ***"We must support patient and advise him/her to take medicine as ordered and, TB patients are like us, we help them take their medication and if patient is getting treatment we can share plates and cups".***

In the study conducted by Macq, et al. (2005:205) in an interestingly titled report, "Exploration of the social stigma of tuberculosis in five "municipios" of Nicaragua to reflect on local interventions", the social stigma in five local health systems of Nicaragua, prior to implementing the interventions to reduce it, were explored. The methods used in the study were in-depth interviews and focus groups involving stakeholders in the care of people affected by TB. The study proceeded by the researchers analysing interactions between family members, fine line government

The findings above demonstrate that there are people in communities who understand and interact positively with TB patients, which shows that changing people's attitudes towards the disease is a good step towards addressing the pandemic. If people understand TB and take positive steps towards ameliorating the suffering, it might help to reduce the spread of the disease and encourage faster access to health care facilities by people who were infected through their interaction with other TB patients.

3.2.3.2. Negative attitudes towards interacting with TB patients

Participants bemoaned the fact that there was discrimination against TB patients by family members who isolated them from other members of the family. Participants indicated that people gossiped about TB patients. For these reasons it is imperative that health workers should organise home visits and make sure that TB clubs are successfully put into action.

TB patients isolated themselves from friends and family, not only because of fear of infecting others, but because of discrimination. These concerns about discrimination by others may come from historical perceptions from the days when TB was much more difficult to cure, coupled with limited understanding in village communities that things have changed (Evans & Thomas 2009:12)

Another male youth participant said, ***"I felt odd to sit together with friends. Though I had an idea that it is curable, I felt whether I would live no longer or it would happen forever, for whole lifetime..... If my friend open my bag and there is my treatment card, I become afraid, thinking what they could have thought, and feeling fear of whether they change their behaviour towards me like not sitting with me and not taking food together"***

One female parent participant said, ***"People in the village hate TB patients"*** on probing, she said, ***"They usually talk about TB patients behind their back and some they don't allow TB patients to socialise with them, they are afraid to come close to TB patients. Therefore TB patients are afraid to go out to meet other people"***

One elderly female participant said, ***"Some people reject TB patients, though they are normal people who need to be loved, they isolate them."*** On probing she further indicated that, ***"They don't talk to them unless there is a specific reason. People even scare to get married with the lady with TB"***

Another elderly female participant said ***"My husband knows that I was suffering from TB, he had taken me for check up. He told me whatever the doctor said, I was suffering from TB but cannot eat from the same plate with children because it is a danger and communicable disease. We should not sleep together in a single bed."***

One male youth participant said, ***"TB patients must have their own household materials so that they cannot infect other people."*** He further indicated that ***"People don't want to use same utensils with sufferers."***
One female parent participant said, ***"Others don't want to be close to TB patient and they fear transmission, people suffered from TB may be separated from others".*** On probing she said that, ***"TB patients felt odd to sit together with friends, though they know that it is curable, people are not sitting with TB patients, not taking food together, and not talking in a good way."***

One female youth participant said, ***"We eat with TB patients, discuss with them in the class, socialise with them, clean and wash clothes for them; we have to live with them in a clean environment we stay with them."*** She went on to say that, ***"nowadays it is not like that of older times; community people now take it as a normal thing."***

According to a study conducted in Nepal by Baral, Karki and Newell (2007:211) aptly titled "Causes of stigma and discrimination associated with tuberculosis in Nepal," indicates that TB is highly stigmatised, with considerable discrimination against sufferers. This is consistent with the findings of this study.

The study was aimed at taking the first steps towards determining the causes of discrimination associated with TB. The study included thirty four in-depth interviews which were performed with TB patients, family members, and members of the community. Study findings demonstrated that causes of self-discrimination identified included fear of transmitting TB, and avoiding gossip and potential discrimination.

Causes of discrimination by members of the general public included: fear of a perceived risk of infection, the perceived link between TB and disreputable behaviour, and perceptions that TB was a divine punishment (Baral et al., 2007:211).

It is noteworthy that the study conducted by Macq et al., (2005:205) in Nicaragua mentioned above used five out of nine municipal teams coached to tailor and introduce a patient-centred package. New TB patients were assigned to the intervention group when they were diagnosed in municipalities effectively implementing at least TB clubs and home visits. The results of the study revealed that TB clubs and home visits were effectively implemented in two municipalities after June 2004 and in 3 municipalities after January 2005.

3.2.4. Participants' opinion on methods of TB treatment

Participants indicated that they preferred different methods of TB treatment.

3.2.4.1. Belief in western medicine

Tuberculosis is a curable disease. For people also infected with HIV, TB treatment can improve their health and prolong their lives. Verbatim quotations presented below represent information given by participants.

One female parent participant said, ***"I prefer to take treatment from clinic for six months and in the hospital they take patients to x-ray, and I also believe in western medicine because nurses are able to treat TB, and receive assurance and advice from health workers--------nowhere is better than the hospital, if doctor give TB patient whatever medicine, he or she must take and follow him."***

One elderly male participant said, ***"I prefer hospital treatment because doctors are able to treat TB, because doctors have been trained to treat such conditions, at home TB patients used treatments from hospital, prefer hospital treatment because they have their own way of diagnosing TB and they diagnose more conditions instead of TB.***

One female youth said, ***"I do believe in drugs and medical people-------they are very qualified."***

These remarks strike resonance with the study conducted by Westway (1989:2005) mentioned above in paragraph 3.2.1.2, indicated that participants believed that TB can be cured, patients went to hospital to be cured, that treatment took between 6 and 9 months and the whole family should be taken to the clinic, hospital and doctor when one family member had TB. The majority disagreed with the statement that TB can cure itself without treatment from a medical doctor.

To return to the findings of the study conducted by Rowe et al. (2005:263) it has since been revealed that when TB patients take treatment correctly, they get better faster. According to a study conducted in South Africa by Promtussananon and Peltzer (2005:74) the preferred treatment method among participants focused on medical treatment. In a survey of women in Cape Town, Metcalf Kima , and Cattamanchi (2002:120) found that all women would seek medical treatment if they had tuberculosis as opposed to men who would not. This finding should be factored in when tailoring tuberculosis programmes. However Cambanis, Yassin, Ramsay, Squire, Arbide and Cueves (2005:330), in their study on "Rural poverty and delayed presentation to tuberculosis services in Ethiopia" problematised this observation by pointing out that the belief that the social stigma of TB could destroy a marriage, while rarely acknowledged was equally shared by men and women. The most significant gender-associated observation from this study was that many more men than women were screened for TB. The study also commented on a case in which a woman's husband prevented her from seeking help.

Significantly, the source of sought help is a trust issue on its own. A study conducted by Afari-Twumasi, Nel, Hiemstra and Kellerman (2005:23) titled "Patient's tuberculosis knowledge and reasons for non-adherence to treatment in the Bisho- Zwelitsha district, Eastern Cape province," in which eighty five patients were interviewed, found that

respondents preferred doctors and nurses to be the source of TB information, and preferred treatment to be supervised by clinic staff. The study identified a few but significant problems faced by TB patients that should be considered by healthcare workers and authorities in the primary prevention of non-compliance with tuberculosis medication.

Lewis and Collier (200 7:514) indicate that the treatment of TB rarely requires in-hospital treatment. Most clients are treated on an out-patient basis. Hospitalisation may be used for diagnostic evaluation, for the severely ill or debilitated or for those with adverse drug reactions or treatment failures. Table 3.4 below reflects TB treatment as used, indicating the drugs used, the mechanism of action, side effects and comments for the treatment usage.

According to Lewis and Collier (2007:517), most treatment failures are due to patients neglecting to take medication, discontinuing medication prematurely or taking it irregularly. Nurses should develop a therapeutic, consistent relationship with the patient. On-going reassurance helps the patient understand that keeping faithfully to treatment can mean cure.

Patients have to be counselled in the pre-treatment and follow-up phases to determine any obstacle to treatment and adherence. Once that is successful appropriate assistance should be offered where possible. In addition, efforts should be made by clinic staff to replenish stocks of TB medication, especially in busy clinics, to avoid the problem of irregular drug supplies, which could discourage patients.

3.4. Table for TB treatment

DRUG	MECHANISM OF ACTION	SIDE EFFECTS	COMMENTS
Izoniazid	Interferes with DNA metabolism of tubercle bacillus	Peripheral neuritis Hypersensitivity (skin rash, arthalgia, fever)	Used as a single prophylactic agent for active TB individuals
Rifampicin	Broad-spectrum	Hepatitis, febrile	Commonly used

	antibiotic. Inhibits RNA polymerase of tubercle bacillus	GI upset and hypersensitivity	with Izoniazid
Ethambutol	Inhibits RNA synthesis and is bacteriostatic for the tubercle bacillus	Skin rash, GI upset, malaise, peripheral neuritis, optic neuritis	Side effects are uncommon and are reversible with discontinuation of the drug
Pyrizinamide	Bactericidal. Exact mechanism unknown	Jaundice (rare), fever, skin rash, hyperuricemia	Very active when used with streptomycin
Streptomycin	Inhibits protein synthesis and is bactericidal	Audio toxicity, nephrotoxicity, Hypersensitivity	Should be used with caution in older clients, those with renal disease and pregnant women.
Ethionamide	Inhibits protein synthesis	Gi upset, hepatotoxicity, hypersensitivity	Valuable for re-treatment of resistant organism. Contraindicated in pregnancy

3.2.4.2. *Belief in traditional medicine*

Participants in the present study told of different treatment options, such as Christian beliefs and traditional methods, that are used by TB patients in attempts to cure the disease. Some of these methods are captured in the following verbatim quotations:

One elderly female participant said, ***"Other people go to traditional healers for treatment; they buy their medicines in the market, I believe in Christianity to cure TB because the pastors will pray for me."***

One male participant said, ***"All the medicine, any type of medicine, no matter what the provider is prescribing to us, we have to start with the name of Allah, and we are saying that, God, If this one will be a treatment for me, make it or not, the judgment is yours. At the same time we are asking God: make me the good treatment for the disease."***

Another elderly participant said: "***The bottom line is God created all the human beings and He knows the day that he created them. He knows the day that he was born until his death, so all the passages that he is going to pass, that person, God, he designed it. So there is no way that it can be changed by doctors or by spiritual leaders or by anybody."***

A study conducted by Citrin (2006:1) focused on the Somali TB cultural profile. In 1999 and 2000, the researcher used six focus group discussions among members of the Somali community in Seattle. The study revealed the role that culture plays in shaping people's attitude towards illness and their compliance with medical treatment.

There existed a vast array of treatments used to care for TB patients, but, where possible, treatment tended to combine traditional remedies, prayer, elderly practitioners, and western medicine. The order in which these were sought, particularly as a result of the strong social stigma attached to the disease, tended to favour traditional treatment that could be used privately (Citrin (2006:1).

One male elderly participant in the present study said, ***"I believe in traditional medicine because it cures TB completely, I believe in traditional medicine because I trust (Inyanga)."***

Another male youth participant said, "***Patients like to go to traditional healers because after taking the medication, the disease gets better and does not have side effects like western medicines, the patients come from the hospital, and they are hopeless and still cough. They take medicine for 4-5 times drinking and they are healed."***

A female parent participant said, ***"Some TB patients live far from the hospital so they use traditional medicine with western medicine. But some they don't go to hospital because they live in rural areas and there isn't any hospital."*** She indicated further that some TB patients who went to traditional healers did have money, and others lived very far away from clinics and hospitals.

A study conducted in Ghana by Dodor and Afenyadu (2005:727) investigated factors associated with TB treatment default and completion at the Effiia-Nkwanta Regional Hospital. The research included three separate focus groups discussions with health workers, defaulters and completers. The findings indicated that modern treatment was thought to inhibit sexual activity and, so many people did not want to visit the healthcare institutions. In the past they thought tuberculosis was caused by evil spirits and by eating certain foods, so they used to go to local healers and to 'holy water' (tebel) before going to the health centres.

As far as intervention-seeking patterns are concerned, the study by Rowe et al., (2005: 263) titled, "Adherence to TB preventive therapy for HIV-positive patients in rural South Africa," explored patient and health-worker perspectives on adherence to tuberculosis preventive therapy. Their aim was derive lessons for improving access to care amongst human immunodeficiency virus (HIV)-infected individuals in resource-poor settings. The findings of the study revealed that barriers to adherence included fear of stigmatisation, lack of money for food and transport, the belief that HIV is incurable, competition between Western and traditional medicine, and reluctance to take medication in the absence of symptoms. The patients believed i n traditional medicines sold on the street as well as special tea served by a local church that practised faith–healing, both of which seemed to compete with the approaches of Western medical. Many people believed that they should not take the clinic medication in conjunction with medication from traditional healers. Members of the church were taught that they could not combine the clinic medication with their (church) tea.

In the same vein, in a study titled "Health seeking behaviour in Batswana with Pulmonary tuberculosis" conducted by Steen and Mazonde (1999:163), there were attempts to provide updated information about the health-seeking behaviour of TB patients in Botswana. Allied to this was a discussion of possible implications for TB work. Data was collected in a survey of patients with smear-positive pulmonary TB in Kweneng District in 1993/1994. The findings of the study revealed that patients used traditional treatment after modern treatment had been initiated. The most common

reason for using or planning traditional treatment was 'to get better'. Seven patients in that study had attended faith healers. The reasons given for attending or planning to attend faith healers were generally the same as for attending traditional healers. The study was conducted in health facilities, thus the researchers could not rule out bias of participants towards under-reporting the use of traditional medicine or positive beliefs with regard to it. However, the findings gave them an interesting view of the dual use of modern and traditional health sectors and of TB patients' perceptions.

Some participants believe in using traditional medicine, stating that traditional healers should not be overlooked. They are adamant that after being diagnosed at the hospital there is nothing wrong with receiving treatment from traditional healers. In fact they saw the medication of traditional healers as being less cumbersome than modern treatment. Other participants even indicated that the two services could be used side by side. They even indicated that traditional healers were better than modern doctors. Traditional healers were seen as a valid alternative when modern health services had failed and were not easily accessible. This brings to view the knowledge gap that is still exists in the communities with regards to TB patients which necessitates further teaching and reinforcement that TB is an infectious disease requiring immediate treatment (Steen & Mazonde, 1999:163).

3.3. DISCUSSION OF FINDINGS - SUMMARY

3.3.1. Participants' knowledge about TB

3.3.1.1. Participants' knowledge about the definition of TB

Participants had different definitions of TB. On the one hand, the elderly understood that TB was like flu and contagious and it was dangerous if a person did not take treatment. On the other, the youth group defined TB as a killer disease if not treated immediately. The parents group saw TB as an infectious disease characterised by coughing and thought that it was dangerous if not treated. According to the researcher participants revealed the same understanding as participants in other studies and it shows that their definitions of TB were accurate.

The observations made in this study are consistent with, and supported by, a study conducted by Brassard et al. (2008:192) among Aboriginals where participants knew that TB is a dangerous, contagious and infectious disease caused by germs. Participants also understood that TB was a disease of the lungs and that TB was like flu. On the other hand, the study conducted by West et al. (2008:14) indicates that participants in that study had misconceptions regarding the cause, transmission, and treatment of TB. They thought that TB was transmitted in the same fashion as other infectious diseases such as HIV/AIDS.

3.3.1.2. Participants's knowledge about causes of TB

In the present study participants had various views of the causes of TB. The parent group indicated that they thought that TB was caused by a virus which was infectious and was caused by staying in dusty areas, drinking dirty water and eating unhealthy food. Promptussanonn and Pelter (2005: 74), echo this finding, thus supporting the prevalence of participants' belief that exposure to dust, eating unclean water is seen as a cause of the disease.

The elderly participants in this study mentioned that the thought TB was caused by cigarette smoking and drinking alcohol. This perception was supported by youth group of participants who believed that the disease was caused by cigarette smoking and working with coal without wearing a mask. The study by Carey and Smith (1994:225) revealed that people thought that causative factors were alcohol, cigarettes, dusty environments and poor hygiene.

All the participants in this study mentioned that they thought that TB was caused by sharing utensils and sleeping with infected persons. This finding strikes resonance with a study conducted in South Africa by Westway (1989:2005) in which participants stated that they thought that the major causes were food, a germ, smoking and drinking and that TB was spread by coughing and spitting or by using infected articles.

Misconceptions about the causes of TB included smoking, exposure to cold and dirty air, eating unclean food and water, and using dirty dishes, while other participants in the study perceived heredity as a cause of TB. This shows that some participants still lacked knowledge about causative organisms. Health professionals including nurses, doctors and other multi-disciplinary team members need to educate the community about causes of TB. Again, some participants mentioned that they thought TB was caused by a virus. This indicates that the participants could not differentiate a virus and bacteria. This is contradicted by Lewis and Collier (2007:601) who found that people understood that TB is caused by MTB.

3.3.1.3. Participants knowledge of the signs and symptoms

All groups in the present study recognised that a cough is a major symptom, and they frequently mentioned that TB patients had continuous, persistent and prolonged coughs. They understood that it is a symptom of TB, especially if the cough is accompanied by other symptoms such as difficulty breathing, wheezing and chest pains. Loss of appetite and consequent weight loss were also understood as typical symptoms. Participants also revealed that they were aware that TB sufferers became very thin and weak; they also felt tired, lacked energy and were no longer able to work. Coughing up blood was also seen as a definite sign of TB. TB was widely known among the participants and many spontaneously reported that they had observed TB cases in their nearby surroundings. TB was perceived to be a dangerous disease that affects the lungs, or air passages. It was seen as 'sensitive' because it is considered to be highly contagious. The findings revealed that signs and symptoms were clearly understood by all participants, regardless of the age group or gender.

3.3.1.4. TB as seen as HIV/AIDS

The discussions by participants confirmed the researcher's assertion that in the local Vhembe context incidents of TB and HIV/AIDS were related. According to Ransom and Johnson (2009:45-59) there are gaps in the knowledge of some health providers about TB and HIV/AIDS. TB and HIV/AIDS are seen to be stigmatising diseases that tend to strike people living in impoverished surroundings.

3.3.2. Participants' views and perceptions of TB

3.3.2.1. Positive views and perceptions about TB

The participants in all the groups stated that they perceived TB as a normal disease, hence they did not discriminate against TB patients. They also indicated that TB patients were supported by being accompanied to clinics to collect treatment and by being reminded to take the treatment at home. This type of behaviour should be encouraged in different communities, and is crucial for fostering the acceptance of TB as a disease and thereby reducing the stigma attached to it. Once TB is accepted, teaching people in communities about the disease could be very easy and people would probably take the information seriously.

3.3.2.2. Negative views and perceptions about TB

The mentioned perceptions of participants clearly show that they had negative attitudes towards TB patients, because TB patients were neglected by their families in some cases. The participants did not share utensils with patients. They indicated that they were aware that husbands and wives abandoned their spouses because of a history of TB. This neglect could further aggravate the condition of TB patients thus leading to stigma and poor adherence to treatment with resultant complications such as MDR and XDR TB. This type of behaviour should be discouraged and community members taught about TB as a disease. Such teaching should include the precautionary measures to be taken to prevent the spread of the disease (Bennstam et al., 2004:299).

3.3.3. Attitudes about interaction between participants and TB patients

3.3.3.1. Positive attitudes towards interacting with TB patients

According to the participants in this study, concerted efforts must be made to encourage TB patients and also to support them by accompanying them to hospital or clinic to collect treatment. The home visits and TB clubs need to be implemented.

3.3.3.2. *Negative attitudes towards interacting with TB patients*

According to the participants in this study, TB was highly stigmatised. TB patients were isolated from their family members because of fear of infecting them. TB patients also isolated themselves from friends and family members.

3.3.4. Participants' opinion on method of TB treatment

3.3.4.1. Belief in hospital medicine

Most participants preferred Western medicine. It was clearly stated by the participants that modern health services cured TB. TB was perceived as a 'sensitive' disease: hospital was seen as the best place for diagnosis and specialised, expert care. This is supported by the study conducted in South Africa by Westway (1989:205) that found that TB can be cured, especially when a sick person goes to hospital and receives treatment for six to nine months. There is a need for the whole family to be taken to the clinic, hospital and doctor for screening to detect TB at an early stage. The majority of participants disagreed with the statement that TB could cure itself without treatment from medical doctors.

Promtussananon and Peltzer (2005:74) support this finding by indicating that medical intervention was the preferred method of treatment. In the case of women in Cape Town, Metcalf et al. (2002:4955) also found that women were likely to seek medical treatment. Health workers need to be encouraged to give health education about Western medication.

3.3.4.2. Belief in traditional medicine

Participants in this study revealed that they had few misconceptions about hospitalisation and the isolation of TB sufferers, and the threatening nature of the disease. Confusion between HIV/AIDS was commonplace, not only in terms of their transmission but also concerning symptoms and treatment. This misconception was exacerbated by the fact that many AIDS patients developed and eventually died of TB, while neighbours, friends and the wider community knew only that the patient suffered from TB.

In conclusion, all participants knew that TB is transmitted and that it is not hereditary or caused by structural factors. Several participants in the research appeared to understand the link between poor living circumstances and the increased likelihood of contracting TB. The fact that TB can be treated and cured was surprisingly well known. Trust in health-care providers was generally high and patients were grateful for care received. TB seems to be stigmatising disease. TB is also understood by many to be a poor person's disease or 'Felt' stigma, leading to self-isolation and withdrawal from society. People who live in the context of their family or who are well-embedded within their community are less likely to experience serious stigma.

SUMMARY OF THE STUDY, CONCLUSION, LIMITATIONS AND RECOMMENDATIONS

4.1 INTRODUCTION

The presentation and discussion of the findings is described in Chapter 3 of this study. The purpose of this chapter is to provide the summary of the study, recommendations, limitations and conclusion.

The purpose of the study was to increase understanding on the knowledge, perceptions and health beliefs related to TB among people in the rural communities of Vhembe District in Limpopo Province.

The objectives of this study were to address the following:

- Assess knowledge of TB among people in the rural communities of Vhembe District.
- Determine the people's perceptions, and health beliefs related to TB among people in the rural communities of Vhembe District.

4.1.1. Research design and methods

The research design for this study was based on a qualitative, descriptive, and explorative approach that followed an inductive approach. Focus group interviews were conducted with three groups of participants, namely elderly people, parents and youths. During the focus group interviews participants were expected to answer questions designed for the study. Fie ld notes were taken during the focus group interviews. Tesch's method (1990) of data analysis was used to analyse the data from all the groups of participants. Findings were supported by the use of verbatim quotations and literature control (see Chapter 3).

Purposive sampling was used to select community members in the rural villages of Xigalo and Kurhuleni in Vhembe district of Limpopo Province.

The following questions were used in this study during collection of data:

- In your opinion, what is tuberculosis?
- How do you think people can get TB?
- What is your view about tuberculosis?
- How do you view TB patients?
- How do you interact with TB sufferers?
- Tell me about your preferred method of treatment for tuberculosis.

4.2. SUMMARY OF THE FINDINGS

All groups of participants knew about TB. This theme was supported by the following subthemes:

- Participants' definition of TB. TB was understood to be indicated by coughing up blood-stained sputum, coughing for more than two weeks, a disease of the lungs as well as being like flu.
- Participants' perceptions of the causes of TB included living in a dusty area, smoking, eating unhealthy food, drinking alcohol, sleeping under dirty blankets and staying or sleeping with patients who had TB.
- The participants' knowledge on the signs and symptoms of TB included beliefs corresponded with the clinical manifestation of TB such as loss of weight, fast breathing, loss of appetite, fatigue, hot body, tiredness, and chest problems.

The second theme was: Participants' views and perceptions about TB. The theme had only two subthemes.

- Positive views and perceptions concerning TB patients. The descriptions in the subtheme included participants' acceptance and support for TB patients. No discrimination of TB patients was identified in the participants' presentations.
- Negative views and perceptions of TB patients. Only one negative view was identified namely that participants displayed negative perceptions towards TB patients as they feared transmission.

Theme three was: Interaction between participants and TB patients. The theme had two subthemes:

- Positive attitudes towards interacting with TB patients. The findings from this subtheme included: participants reflection that they ate with TB patients and lived with patients in the same house. TB patients were supported by relatives.
- Negative attitude towards interacting with TB patients. The findings in this subtheme included the isolation of TB patients; discrimination against TB patients; not using the same utensils as TB patients; participants believed that TB was incurable.

Theme four was: participants' opinion of methods of TB treatment. The theme had two subthemes.

- Belief in hospital medicine. Only one finding was identified namely, that participants believed that TB treatment improved the health of those infected with HIV/AIDS and prolong their lives.
- Belief in traditional medicine. Only one finding was identified: participants presented opinions on different traditional treatments such as Christian beliefs and traditional methods used by TB patients.

4.3. CONCLUSION DRAWN FROM THE FINDINGS

The findings of the study reveal that participants had knowledge about TB. It also emerged from the findings that they thought that TB was caused by germs and was transmitted from infected people. The perception of causes of tuberculosis was significantly higher in women than men, which may be explained by the risk factors, often mentioned by men, of their increased exposure to both work (exposure to dust or dirty air) and life style (smoking or drinking alcohol).

Not all participants knew that TB can be transmitted and or caused by structural factors. TB was also associated with poverty due to living circumstances, relative lack of access to good quality food, poor hygienic circumstances and the lack of medical care. In this study, misconceptions about the causes of tuberculosis included reducing it to smoking, exposure to cold and dirty air, eating unclean food and water, and using dirty dishes. The study also revealed that cold weather, smoking, and poor eating habits were seen as causes of TB. The study found that participants thought that smoking sometimes reduced appetite and that could cause people to become thin. The belief that cold might be the cause of tuberculosis originated from the fact that respiratory infections are more common in winter. In the study participants also perceived heredity as a cause of tuberculosis. Participants also believed that they could contract tuberculosis by using the utensils of someone afflicted with tuberculosis.

The study recommend that the best method to prevent tuberculosis was to avoid getting too close to others with tuberculosis, followed by eating, keeping clean and avoiding unclean air and pollution.

Several participants appeared to understand the link between poor living circumstances and the increased likelihood of contracting TB. The fact that TB can be treated and cured was surprisingly well-known. Most participants believed that hospital is the best place in which TB can be treated and they also believed that the drugs and medical people are highly qualified to manage the disease. Trust in health-care

providers was generally high and patients were grateful for care received in health-care facilities.

TB is also a stigmatised disease because it tends to strike people in poor living conditions more often than people who live in better hygienic circumstances and as a result many participants thought that TB is a poor person's disease. The 'Felt' stigma, leading to self-isolation and withdrawal from society, was frequently found amongst TB patients, their family members.

4.4. RECOMMENDATIONS

The following are recommendations that were developed based on the findings of the study and therefore will facilitate assessing knowledge, perceptions and health beliefs related to TB.

- The fact is that TB is curable, information about where to seek treatment and to prevent transmission is urgently needed. Explaining the TB/HIV link may not be helpful to the general population, and could lead to greater stigmatisation of TB patients, as the two diseases become more closely linked in the minds of the community.
- A media campaign/strategy dealing with TB and HIV/AIDS must be developed by the National TB program and the National Centre for HIV/AIDS.
- Strategies to diminish discrimination and stigmatisation of TB patients must be explored. Patient education can be enhanced by addressing and demystifying some of the myths surrounding TB.
- The relationship between government and organisations working in TB care must be strengthened, so that the organisation can work together to dismiss some of the misconceptions and uncertainties around TB so that more TB patients can be identified and appropriate care and support provided.
- Traditional healers and pharmacists should be involved in TB care and treatment as they are the first line of action in TB care.

Recommendations regarding research

- Further research on this topic is necessary in order to obtain broader and more intensive information concerning the perceptions and beliefs related to TB of people of the other cultures in Limpopo.

Recommendations regarding nursing education

- The curriculum for basic training of nurses should include current issues in TB and its management. Student nurses should go out to the communities and provide basic care during their training.
- In-service training and workshops should be organised to empower nurse educators about issues of TB.

Recommendations regarding how assistance from the family and the community can enhance patient care, and enable health-care providers and home-based care givers to provide quality care to patients/clients.

- Caring for TB patients at home should be a collaborative effort between community and family members.
- Family members should be actively involved in the home-based care of patients with TB so that caring should not rest on the health-care providers alone.
- Family members should be given information by health-care providers on how to care for TB patients at home. This knowledge will enable them to provide care for patients at home. Therefore caring for TB patients can no longer be seen as a burden for health-care providers and home-based caregivers alone.
- Clinics should organise family days where TB patients can learn and benefit from each other.
- Community awareness about TB should be conducted to de-stigmatise TB, by inviting health-care providers to give advice on TB.

- Referral systems should be sufficient and effective. Each clinic should have a social worker to assist TB patients/clients
- Food parcels for patients should be kept at clinics so that they can be accessible to TB patients.

Training needs of home-based caregivers

Training needs should include:

- The causative organism of TB, mode of transmission and prevention of spread.
- Precautionary measures that should be considered during the provision of care of patients with TB to prevent contamination.
- Available referral system. Knowledge of currently available referral systems will be used when the need for referral arises.

Transport and funding for home-based care

- Transport for taking home-based caregivers from one household to another in the village should be provided. The Department of Health can budget for this purpose, as it would be less costly than having all patients in hospital
- Home-based caregivers should be given support in the form of incentives so that they will be able to cope with daily work.
- The government should donate money for the establishment of self-help projects, for example gardens for TB patients.

Recommendations regarding nursing administration

The TB management sections from local to national areas should follow up on people's knowledge with regards to TB as a disease. This can be easily carried out by communicating with people during the National TB day which is celebrated around the country. This will also help them to identify the gaps in the information offered by health-care professionals about different categories of the disease.

4.5. LIMITATION OF THE STUDY

- The type of setting in which the study was conducted constituted a limitation because it was difficult to make successful appointments with participants because some worked during the day. The researcher had to meet them after work or late in the afternoon. Long distances were also a problem because the researcher had to travel to reach the participants. Some of the participants could not keep appointments as they had other things to attend to.
- The participants were purposively selected for the research study for logistic purposes. Therefore only participants who were available in the communities comprised the sample of the study. The findings of the study could not be generalised to the entire Vhembe district.

4.6. CONCLUSION

The knowledge, perceptions and beliefs related to TB were explored. Participants showed knowledge, perceptions and beliefs related to TB. The findings of the study highlighted the needs of TB patients/clients as well as home-based caregivers that are not often attended to. It was discovered that home-based caregivers also have needs that should be met. To fight the disease TB in South Africa should also be a national developmental priority. Based on the above findings, it is recommended that TB patients/clients need support in the form of counselling and community support.

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ANNEXURE A

AGREEMENT

I, _____ on this_____

day

of_____2008

Being interviewed by SHILUVANE NG on the topic ASSESSMENT OF KNOWLEDGE, PERCEPTIONS, BELIEFS RELATED TO TUBERCULOSIS IN THE RURAL COMMUNITIES OF VHEMBE DISTRICT IN LIMPOPO PROVINCE.

Follow-up interviews, if necessary

The interviews being audio-taped

The use of data derived from this interview by the interviewer to the research report as she deems appropriate.

I also understand that:

I am free to terminate my involvement or to recall my consent to participate in this research at any time.

Information given to the point of my termination of participation could, however, still be used by the researcher.

Anonymity will be maintained by the researcher and that will under no circumstances be reported in such a way to reveal my identity.

More than one interview may be necessary.

The researcher will make no reimbursement for information given or participation in this project.

I may refrain from answering questions should I feel these are an invasion of my privacy.

By signing this agreement I undertake to give honest answers to reasonable questions and not to mislead the researcher. I will give the original copy of this agreement on signing it

DATE

INFORMANT RESEARCHER

ANNEXURE B

TITLE: ASSESSMENT OF KNOWLEDGE, ATTITUDES, AND BELIEFS RELATED TO TUBERCULOSIS AMONG PEOPLE IN RURAL COMMUNITIES OF LIMPOPO PROVINCE

SEMI- STRUCTURED INTERVIEW GUIDE

1. In your opinion, what is tuberculosis?
2. How do you think people can get TB?
3. What is your view about tuberculosis?
4. How do you perceive TB patients?
5. How do you interact with TB sufferers?
6. Tell me about your preferred method of treatment for tuberculosis.