

CHAPTER 1

INTRODUCTION AND STUDY OVERVIEW

1.1 BACKGROUND AND RATIONALE OF THE STUDY

Tuberculosis (TB) remains a leading cause of mortality and morbidity in the world despite the fact that most cases are curable. The World Health Assembly declared TB a global emergency in 1995 (Department of Health, 1996a:ii). Somewhere between one-third and one-half of the world's population is infected with mycobacterium TB. There are some 30 million cases of active TB worldwide, with 8-10 million new cases and 8 million deaths occurring annually (Department of Health, 1996a:ii; Nitcher, 1997:267). This makes the disease the largest cause of death, probably more than any other single disease.

TB is a chronic, communicable bacterial disease resulting from infection with mycobacterium TB (Glathaar, 1991:1). TB can affect many parts of the body, including the bones, lymph nodes, kidneys, the central nervous system and the lungs. The majority of cases are pulmonary TB, or TB of the lung. The symptoms of TB of the lungs are cough that lasts for more than three weeks, weight loss, sweat at night, tiredness, shortness of breath, pain in the chest, coughing up blood, poor appetite with indigestion and severe fatigue (Department of Health, 1996a:6; Kobe, 1996:28). There are drugs that can prevent infection and cure TB. If the disease is not treated, the person will die.

TB of the lung is contagious and can spread through the air. The virus is primarily airborne and when a person who is sick with pulmonary TB coughs, sneezes or talks, the TB bacilli (germ) is passed on into the air. If another non-infected person inhales these bacilli, he/she can get infected with TB. However, if people are healthy, well fed and not emotionally strained, their bodies can fight the bacilli and they do not get the disease in its active form. Coovadia (1991:92) argues that the combination of early primary infection due to overcrowding, poverty and the immune deficiencies caused by

malnutrition and repeated infection increases exposure and decreases both protective host responses to TB and hypersensitivity reactions. If somebody gets ill from another illness, does not eat proper food or experience great emotional and physical stress, then the immune system weakens and the chances of getting ill are greater.

1.1.1 A historical background of tuberculosis in South Africa

The problem of TB in South Africa is a historical one. The disease can be traced as to how it arrived and spread in South Africa, and whom it affects. In doing this it is discovered that there is a close connection between economic and political factors, and the development of TB as a major health problem in South Africa. The history of TB links up with the social history of South Africa.

▪ European colonisation

A historical look at the South African situation until during the 1600's indicates that the African population did not know TB. There is evidence that TB came to South Africa with the European colonisers. European colonisation began in the South Western Cape in the mid-seventeenth century with the purpose of providing provisions for ships following the trade route between Europe and Asia. The first report of TB in South Africa appeared around the end of the eighteenth century (Metcalf, 1991:20). There were outbreaks of TB wherever military, trading and missionary outposts existed. It was in such places that the South African population came into close contact with settlers and began to contract TB. This degree of European contact with the different people native to South Africa was the initial source of TB in South Africa. Metcalf (1991:21) argues that TB was a problem among the people who lived in the South Western part of South Africa which was the first part to be colonised early, while those black people who remained geographically separate were apparently not exposed to TB.

- **The mining industry**

The spread of TB in South Africa was in the aftermath of the mining industry. The history of TB in South Africa changed dramatically after the discovery of gold and diamonds on the Witwatersrand towards the end of the eighteenth century (Packard 1989:46; Metcalf, 1991:21). As the mining industry developed, there was a great demand for a cheap and unskilled labour force, which led to the development of an extensive migrant labour system in the mining community. This workforce was drawn from different parts of Southern Africa.

The spread of TB infection amongst miners was favoured by the working conditions such as physical labour and extremely warm temperatures (Department of Health, 1997a: 11). However, it was not only the working conditions that made mineworkers prone to TB, but the living conditions as well. Most mineworkers lived and slept in overcrowded mine compounds, which increases the opportunity of transmission and re-infection with TB.

- **Urbanisation and economic recession**

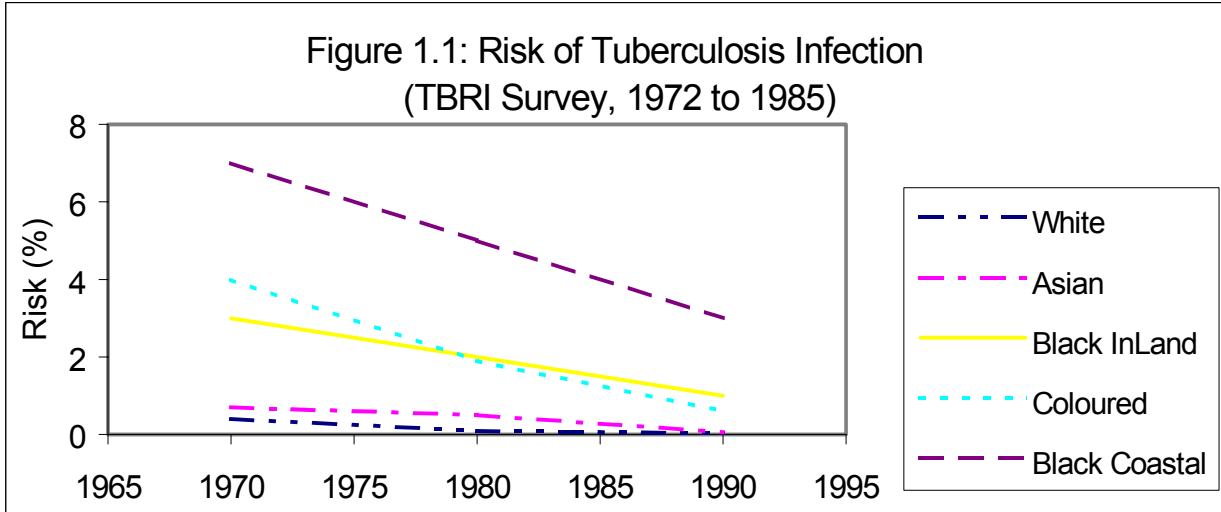
The establishment of the mining industry led to rapid industrial development and stimulated urban growth in the late nineteenth and early twentieth centuries (Metcalf, 1991:26). People were migrating in large numbers into areas wherever the mining industry and trade market existed. Cities grew as a result of new settlers from rural areas and the increase in migratory workers. The rate at which people were becoming city dwellers had a crucial bearing on the economic, social and political density of South Africa. The inability of the rural areas to absorb their natural population and to satisfy people's material needs as well as their non-material aspirations forced people to leave rural areas for wage labour in urban areas. The processes of industrial development and economic development led to a high rate of urbanisation, which in turn led to a cultural and racial contact and the spread of TB infection in South Africa. In many cases, people were coming from areas where TB incidence was extremely high, such as the Western

Cape (Department of Health, 1997a: 11). As a result of inter-racial contact (in mines and factories) and overcrowding in some residential areas, the spread of TB increased.

▪ **Apartheid**

The previous government did not deal with TB as it should have. The government failed to recognise TB as one of the major health problems facing South Africa. The way the health care system was structured created an ideal environment for the spread of the infection and the development of TB. The historical records indicate that South Africa's system of apartheid negatively impacted the health care system. Inequalities in the availability of medical resources played an important role in the creation of the wide gulf that existed between the health status of white and black people (Packard, 1991:42). The provision of health services was racially imbalanced and geographically maldistributed. This was demonstrated among others by the high infant mortality rate amongst blacks which was substantially higher than amongst whites (Kelly, 1991:7). This is one of the indicators that indicates a low health status and a shortage or lack of health services. For many blacks, it was not easy to attain health services and the state funding services were not enough to meet all the health care needs of black people. It must, however, be said that the government did not have the financial capacity to meet the needs of all black patients then or now. Given the limits on its resources, the government did not increase its total spending on primary health care, which could have prevented the spread of a number of diseases, including TB (Kelly, 1991:21).

According to Kelly (1991:20), "Primary health care refers to both the provision of basic preventive and first contact curative health facilities and to the development of basic infrastructure such as sanitation or water facilities, which are necessary to reduce both the incidence and the spread of disease". The socio-economically disadvantaged communities in South Africa, mostly blacks, need primary health care services. This first level of contact with the health system brings health care within reach of the people. The government's failure to allocate sufficient funds to primary health care has contributed to the spread of TB among blacks.



Source: Department of Health (1991a:5)

1.2 THE RECENT TRENDS OF TB IN SOUTH AFRICA

A comprehensive draft of a national health care policy emerged in April 1997 after the new government took over in 1994, which is committed to the ideals of democracy, non-racialism and equity, took power. The newly elected democratic government had to formulate and implement a new health policy with the necessary ability to provide health care at local, provincial and national level. The new South African health policy was introduced with the challenges of redressing social and economic injustices, increasing the efficiency of health provision and gaining control of health provision. The new policy is devoted to making health care more accessible to all citizens of South Africa. The government realised that the lack of an effective network to reach people is an obstacle in the provision of an essential health service. Everyone should have the right to participate in the formation of the government that makes decisions about how they shall be governed, including how the health care system functions (Department of Health, 1997c: 14). The guiding principle of this policy is that every South African is entitled to efficient and equal quality health care. The policy emphasises the integration of primary

health care into the National Health System in line with international norms, ethics and standards (Department of Health, 1997c: 17).

During the previous government of South Africa seventeen different health departments operated throughout the country simultaneously, causing unnecessary and expensive duplication of services, numerous and uncoordinated approaches to TB control (Department of Health, 1997a: 2). Progress in implementing primary health care under the new health policy has created favourable conditions for the development of an integrated Tuberculosis Control Programme (TBCP). The integration of the TBCP into primary health care is necessary to enhance TB control in South Africa. This helps to maintain a chain of specialised TB workers from national to local level, thereby ensuring proper co-ordination and expertise, combined with the development of the World Health Organisation (WHO) and International Union Against Tuberculosis (IUAT) proposed integration of case-finding, treatment and other measures into the role of peripheral health workers (Lee & Buch, 1991:298). The Directly Observed Treatment Short-course strategy (DOTS) was also implemented as a health care management strategy, which can be integrated effectively into comprehensive primary health care services to treat TB. According to the Department of Health (1997b: 14) DOTS is a patient-centred approach, which provides support to TB patients by observing them as they swallow their TB drugs and ensuring that they complete their treatment. DOTS also identifies infectious patients through the use of microscopes, provides effective, standardised drug treatment, and monitors the patient's progress towards cure.

Despite the efforts that have been made to ensure TB control in South Africa, TB still remains a major health problem. It is estimated that about 40% of households in South Africa have one or more TB sufferers (Department of Health, 1997a: 1). A more accurate reflection of the TB problem is that nearly two-thirds of the population in South Africa were infected with the TB bacilli and 1000 people die every month from TB in South Africa (Department of Health, 1997a: 1, 14). The seriousness of the epidemic was confirmed when the WHO reported that South Africa is experiencing one of the worst TB epidemics in the world (Department of Health, 1996a: 1). This is true as far as the

number of new cases (incidence) and annual prevalence is concerned. It is estimated that 160 000 people in South Africa get sick with TB every year and the annual number of new TB cases in South Africa averages 377 per 100 000 of the population (Department of Health, 1997a: 1 & 14). In 1994 the case notification rate for TB in South Africa was 223 per 100 000 of the population and the estimated rate for smear positive cases (large number of bacilli in the lung and that the patient can easily spread TB) was 140 per 100 000 (Department of Health, 1996b: 3) (see Table 1.1). It is further indicated that the overall incidence of TB in 1994 was 311 per 100 000. Table 1.1 summarises the results of a report compiled by the Department of Health in 1996. The statistics account for the differences between the nine provinces in South Africa in reported TB cases in 1996.

Table 1.1: Reported tuberculosis case rates (all forms) and estimated smear positive pulmonary tuberculosis incidence

Province	Reported forms	all	Estimated Smear Microscopy TB	Proportion of total population
Western Cape	737		221	0.09
Eastern Cape	241		193	0.16
Northern Cape	442		133	0.02
Free State	513		103	0.07
Kwa-Zulu-Natal	120		129	0.21
North West	112		102	0.08
Gauteng	164		142	0.17
Mpumalanga	84		101	0.07
Northern Province	44		102	0.13
South Africa Total	223		140	1.00

Source: Department of Health (1996b: 3)

According to the Department of Health (1996b: 1) “The incidence of TB in South Africa was estimated at 228 cases per 100 000 population and 90 000 new cases were notified in 1995”. In addition, “...the number of people that were ill with pulmonary TB in South Africa was 86 221 in 1996” (Department of Health, 1997b:1). This confirms that TB is one of South Africa’s top health priorities. The accurate extent and trend of TB in South Africa is not known, mainly because of a lack of standardised case definitions. The

under-utilisation of bacteriological services and over-reliance on radiography – for diagnosis has resulted in considerable under and over-reporting of tuberculosis cases (Department of Health, 1996b: 2).

The increase in the prevalence of TB in South Africa is attributable to infection with HIV and multi-drug resistant tuberculosis (MDR TB). These factors have severely contributed to the continued spread of TB and presented major challenges. There has been a dramatic increase in TB cases since the advent of the human immunodeficiency virus (HIV). TB is the most opportunistic disease in HIV positive patients, since a person with HIV experiences immune deficiency. The advent of HIV has brought problems in eradicating the disease, as people infected with HIV are more susceptible to TB. About 42 000 or 25% of HIV cases with TB was attributable to HIV or 32,8% of the total number of TB cases were HIV positive by the end of 1998 (Department of Health, 1997b: 6).

One of the most powerful factors that increases the TB epidemic is the rapid spread of MDR TB, especially because little can be done to save the lives of those who are infected with drug-resistance strains of mycobacterium TB (Department of Health, 1996a: 1). MDR TB refers to resistance to at least one or another of the five first-line drugs used to treat TB, namely: isoniazid (INH), rifampicin (RIF), SM, EMB and PZA (Braden, Onorato & Kent, 1996:92). It means that the drugs have less or no effect against the TB bacilli found in a patient's sputum. MDR TB can develop when patients do not take treatment correctly. Later they become sick and need treatment again. At this stage, some of the TB bacteria may have developed resistance to the TB drugs they had taken before (Department of Health, 1997b: 9; Braden et al., 1996:93). The effort to control TB is threatened with the recent increase in the number of drug-resistant strains of tuberculosis. People with drug resistant TB who might not receive effective drugs, can remain infectious for prolonged periods of time, thereby infecting more people. People with TB are also overwhelming the health care system, which cannot apply the DOTS effectively, thereby increasing the development of drug-resistance. The two phenomena increase case numbers and increase drug-resistance. In South Africa 1% of new patients and 4% of re-treatment patients are suffering from MDR (Department of Health, 1996b:

1). In 1995, over 2000 patients in South Africa were infected with MDR TB (Department of Health, 1996a: 1). In addition, MDR TB has a high mortality rate (Braden et al., 1996:92). The death rates amongst MDR TB patients being extremely high, it is clear that TB is taking its toll. The emergence of an incurable strain TB and the vulnerability of HIV patients to TB have added scary new dimensions to the problem.

1.3 PROBLEM STATEMENT

Matamala (1998:11) defines *quality care* as care, which leads to the maximum possible well-being of the person seeking care. This implies that the well-being of patients with TB seeking care depends on (i) the health care system, ensuring that the resources and infrastructure needed for patient care are available, (ii) the application of professional knowledge and skills to improve the health conditions of patients (iii) the compliance to medical regimens by the patients. Any modification in the roles of each of these can impact on the quality of care provided to patients with TB.

TB as one of the major health problems in South Africa gives rise to the need to identify and describe the areas of health provision and under-achievement that require more inputs. Although the principles of management of TB were established and the efficacy of treatment short-course has been known, TB is still not diagnosed and treated properly. In many health care systems, TB is poorly diagnosed, inappropriate use of radiology, inadequate use of sputum microscopy and for poor treatment e.g. provision of regimens that are neither standard nor generally accepted, use of incorrect doses of anti-TB drugs and treating for inadequate period, failure to monitor patient during treatment, failure to inform patients about TB, failure to trace household contacts of smear positive pulmonary TB, as well as non-adherence with anti-TB treatment by the patient (CDC, 2002a:2). Once these areas are described, they should be emphasised in the process of policy formulation and implementation. It is for this reason that the domains of special needs of TB patients in relation to the health care system, the failure of present TB programmes to combat the existing problems in health care provision, as well as the ways in which nursing care can alleviate these problems will receive particular attention.

The present study holds that the quality of care provided to TB patient cannot be dealt with in isolation to the health care worker factor, which for the purpose of this study will be the nurse factor. Since TB calls for care of the individual by the nurse, the role of a nurse in TB patient care is paramount. Elementary to the activities of a nurse is his/her attitude towards TB, the TB services and its administration, and his/her working conditions. In the course of his/her work in TB, a patient care nurse may experience areas or aspects of the work, which, either through his/her training or his/her attitudes are less satisfying and make him/her uncomfortable or reluctant to handle. He/she may experience a heavy workload and there may be tasks that he/she dislikes doing, which inhibit proper communication with patients. This could be seen as one of the reasons contributing to the failure of TB control programmes to combat TB in South Africa. This could also be due to the fact that TB control staffs have not been fully integrated into TB control programmes. There are insufficient training programmes for TB health care workers to cover the needs of TB patient care through new TB programmes (WHO, 2002a: 66).

To optimise the impact of TB patient care it is important to understand that the TB patient's well-being is determined on the one hand by his/her adherence with medical regimens and on the other hand by the health system capacity to deliver TB patient care. The latter play a critical role, and thus have a large influence on TB control, and the provision of health benefits to TB patients. The present study argues that to provide any aspect of TB patient services, the overall health system needs to function better and the quality of existing services needs to be improved.

The main aim of this study is to address the latter aspect, which is often overlooked. This latter aspect plays a critical role with regard to the provision of health benefits to TB patients.

1.4 JUSTIFICATION OF THE STUDY

Quite a number of studies have been conducted on the knowledge and attitudes about TB. The majority of these studies focused on TB patients rather than both TB patients and nurses who are providing TB patient care. The important role of nurses in TB control is largely neglected in the available literature, and clinical services focus almost exclusively on patients. The present study therefore questions the capacity of a patient-centred approach in the field of TB, and calls for alternative approach that is nurse-centred. To be nurse-centred, TB services need to be of high quality and provided in a respectful and caring way. Focusing on both prevention and cure, their content would be based on how nurses' knowledge, perception and attitudes in this regard affect the health system capacity. They would consist of a certain number of universally needed services such as complete diagnostic evaluation, adequate regimen of TB medications, as well as appropriate measures to promote adherence and completion therapy (CDC, 2002b: 1).

There is also a need to generate data and information on the knowledge, perceptions and attitudes of nurses regarding their provision of TB patient care in South Africa. Most studies have tended to ignore the nurse factor, which the researcher believes is important to determine their influence on the success of TB control.

It is hoped this study will contribute to the increasing interest in the important role that the nurse-factor plays in the success or failure of TB programmes and TB control.

1.5 STUDY OBJECTIVES

The main objectives of the study are as follows:

- To describe and generate information on the provision of TB patient care from the perspective of primary health care nurses at government health clinics in Qwa-Qwa.
- To determine the experience and implications of TB care from the perspective of primary health care nurses at government health clinics in Qwa-Qwa.
- To ascertain the caseload of TB patients to each primary health care nurse.

- To examine issues and problems pertaining to the provision of TB care at government health clinics in Qwa-Qwa from the nurses' perspective.

1.6 ASSUMPTIONS OF THE STUDY

The study makes the following assumptions on the provision of TB care, namely that

- system management ensures that TB drugs are available, staff feel part of the system and are trained and authorised to exercise initiatives;
- sufficient supply of infrastructure and resources ensures that nurses provide treatment in places convenient to patients;
- small patient loads and low patient to staff ratio ease the pressure on nurses and decrease patient waiting time and the number of people waiting at any one time.
- cordial relations with patients ensure patient-centred care.

1.7 DEFINITION OF CONCEPTS

1.7.1 Primary health care

The Alma-Ata declaration formulated in 1978 states that *primary health care* is “ an essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and the country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination” (Department of Health, 1991:2; Ndhambi, 1997:3).

1.7.2 Tuberculosis

Tuberculosis is a chronic bacterial disease resulting from infection with mycobacterium tuberculosis, and is characterised by the formation of lesions in any tissue or organ of the body (Glathaar, 1991:1; Kobe, 1996:22).

1.7.3 Multi-drug resistant tuberculosis

Multi-drug resistant tuberculosis refers to the resistance to at least two of the antibiotics crucial in fighting the disease, INH and RIF, which are both the drugs of choice approved by WHO in treating pulmonary TB (Department of Health, 1996a: 5; WHO, 2001: 2). It means that if patients do not receive the full treatment or do not finish their course these drugs will have less or no effect against many of the TB bacilli found in a patient's sputum.

1.7.4 Attitude

According to Radley (1994:55) **attitude** is a judgement that individuals make about things that they hold in mind, as objects of thought. It is operationalized as a person's evaluation of the target behaviour (Terry, Gallois & McCamish, 1993:22). Attitudes form an important part of both our everyday lives and our socialisation process.

1.7.5 Perception

Perception is the term that refers to the human ability to process, interpret and attribute meaning to the information received *via* the sensory system i.e. seeing, hearing, smelling, tasting and touching (Jordan & Jordan, 1989:332). The said authors maintain that the term *perception* is used to refer to a person's perceptual experiences at a higher level of information processing. In other words, one processes, interprets or gives meaning to and reacts to the information she or he received *via* sensory stimulation.

1.7.6 Support system

Support system refers to those aspects of the health service that help workers do their job well (Buch, Evian, Maswanganyi, Makuleke & Waugh, 1984:7). The said authors maintain that a support system includes supportive supervision, functioning communication, transport and a referral system, drugs and supplies, record system, and continuing education. For primary health care nurses, a support system starts with a

commitment from the health service to development and support of this category of health worker.

1.7.7 Preventive care

Preventive care refers to measures taken either by individuals or other agencies to avoid disease (Ndegwa, 1997:43). This may include traditional behaviour, and modern practices such as immunisation and maintenance of hygiene.

1.7.8 Traditional healing

Traditional healing is a holistic approach, dealing with all aspects of the patient's life, including his/her relationship with other people, with the environment and with supernatural forces as well as any physical or emotional symptoms (Gilbert, Selikow & Walker, 1996:50).

1.7.9 Self-care

Self-care includes a variety of methods used by individuals to promote their health. It also refers to the responsibility of the individuals to avoid harmful practices that can lead to illnesses or diseases (Van Rensburg, 1992:343; Dennil & Swanepoel, 1999:75).

1.7.10 Tuberculin test

According to Clayton (1997: 2010) *tuberculin test* is a test that is used to determine the presence of a tuberculosis infection based on a positive reaction of the subject to tuberculin (a soluble substance prepared from the tubercle bacillus, which is used to determine the presence of a tuberculosis infection).

1.7.11 CD4 lymphocytes

CD4 lymphocytes refer to a protein on the surface of cells that normally helps the body's immune system combat disease. HIV attaches itself to the protein to attack white blood cells, causing a failure of host defence (Clayton, 1997:336).

1.8 ORGANISATION OF THE REPORT

In chapter one, the problems that lead to the study were stated. The aims and objectives and assumptions were also formulated. Chapter two discusses the theoretical framework from which the study is conceptualised. The literature related to the study is also reviewed. Chapter three discusses the research methodology followed for the investigation. Chapter four presents data analysis – encompassing a descriptive explanation. Chapter five presents the findings and conclusion.

The questionnaire used to collect data for the study is presented in Appendix 1 of the research report.

CHAPTER 2

THEORETICAL FRAMEWORK AND LITERATURE REVIEW

2.1 INTRODUCTION

In this chapter, an orientation is given regarding the theory and the construction of a theoretical framework for the investigation.

The literature undertaken covers various aspects of TB, namely the epidemiology, population at risk, the relationship between TB and HIV within the South African context, factors contributing to the spreading of TB, the socio-economic constraints of TB control as well as the social impact of TB. Further, this chapter investigates the primary health care and the role of nurses in TB patient management as well as the role of alternative and traditional health care in controlling and treating TB.

2.2 THEORETICAL FRAMEWORK OF THE STUDY

An understanding of the theoretical basis which a researcher uses to conduct a study, is vital as the theoretical basis influences the findings of that study (Heyne, 1996:3). In other words, the theoretical framework underlying any study must be clear in order to enable one to fully understand the findings of that study.

The psycho-socio-environmental model within the context of medical sociology forms the backbone of this study. The psycho-socio-environmental framework focuses on the promotion and maintenance of health through socio-environmental and behavioural changes (Gilbert, et al., 1996:5). It emphasises the role of people's behaviour, what they do and how and where they live their lives, in determining their health status. It asserts that because being sick and being treated are both part of the dynamics of society, it is as important to consider the views of lay people as it is to study the behaviour of health professionals (Radley, 1994:13). Medical sociology studies, *inter alia*, the provision and

utilisation of health care services, as well as the behaviour of individuals in health care settings, within the context of medical systems in societies (Ferreira, 1988:102). This means that the actions of health professionals - how they classify disease, how they treat patients, how they introduce individuals to the sick role also become subjects of the field of study for medical sociologists.

In general terms, the psycho-socio-environmental model implies that behaviour, what people do, is maximally determined by environmental events. This means that the study of behaviour from this point of view entails the demonstration of a functional relationship between specific sorts of environmental events and behavioural events. Proponents of this model vary widely in the categories of events they see as important and in the sorts of behaviour they choose to study (Nettleton, 1995:4). Social and environmental mechanisms postulated to influence behaviour differ in the amount of empirical support offered by their advocates. This empirical support contributes to the theorisation of social action through demonstrating the problematic relationship between knowledge, attitudes and behaviour (Nettleton, 1995:41). It should be emphasised that the psycho-socio-environmental model contributes to one of the central aims of sociological enterprise, in which the perceptions of individuals concerned are given greater weight (Radley, 1994:13). In this study, the psycho-socio-environmental model will contribute in describing the perceptions and attitudes of primary health care nurses in relation to the provision of TB patient care at the government clinics in Qwa-Qwa.

2.3 THEORETICAL CONSTRUCT: SOCIOLOGICAL PERSPECTIVE RELEVANT FOR THE STUDY

All conscious thinking humans use some form of theory because theory is about understanding (Athians & Kelly, 1995:ix). Theory guides the way we understand, interpret and examine the world. This means that experience, sensation, and the perceptions of external reality are brought together into a coherent whole and understood by using theory. This section, therefore, is intended to provide an understanding of a

sociological perspective from which this study is conceptualised and hence assist in the interpretation of the research findings.

2.3.1 Functionalism

This perspective focuses on the functional requisites or “needs” of a social system that must be met if the system is to survive and the corresponding structures that meet these “needs” (Ritzer, 1992:21). According to Heyne (1996:8), a system can be seen as a network of interconnected and interdependent parts whose dynamic relationships between one another actually create that system which is greater than the sum of those individual parts. In explaining the concept of function, Parson’s view of the social system focuses on a network of systems and sub-systems functioning together in order to meet each other’s needs (Bond & Bond, 1994:20). A sub-system can be seen as a component of a larger system or a system in itself consisting in turn of other systems (Heyne, 1996:8). In this study, an example of a system as defined above, would be the patient-nurse system including most importantly the relationship between the patient and nurse. It is therefore important to describe the processes arising from the structure and the resulting general organisational principles of the relationship between the patient and the nurse. Using the example of the patient-nurse system, one can see the patient and nurse as a sub-system, which in turn can be seen as consisting of another sub-system, that is the perceptual sub-system. The perceptual sub-system is fundamental to science for it is by perceptions that information about the world is received (Jordan & Jordan, 1989:337). It is the way one comes to know one’s world. For Radley (1994: 16) this implies a capacity of interpretations such that members in the very process in which it is perceived and experienced already describe the world. In this study, the perceptual sub-system will help us understand the world of primary health care nurses in the provision of TB patient care.

2.3.2 Parsons: model of the doctor-patient relationship

Parson’s description of the doctor-patient relationship is presented as an “ideal type”. An ideal type is a model that abstracts and presents what are regarded as the features of a

particular social organisation or social role and constitutes an important method of analysis and describing very complex social phenomena (Morgan, 1991:48). The Parsonian view stresses that falling ill involves the individual in taking up what is called the “sick role”. This follows from the person’s inability to carry out satisfactorily his or her normal role or roles. Parsons thus views the sick role as a temporary social role which has been instituted by society with the aim of returning sick people to a state of health and restoring them to fully functioning members of society as quickly as possible (Morgan 1991:49). Morgan (1991:49) argues that the sick role is regarded as a universal role, in that its obligations and expectations apply to all sick people whatever their status in other spheres. The point here is that Parsons brings medical practices into consideration alongside the activities of patient care. For instance, Parsons maintains that those who are sick should be aided with professional help in order to help them return to their normal functioning. Parsons views the role of doctors as that of applying their knowledge and skills in order to carry out the tasks of diagnosis and treatment for the benefit of the patients (Morgan, 1991:49).

Parsons’ work is important in identifying the general social expectations, which guide the behaviour of health care providers and health care receivers. However, the major criticism levelled against Parson’s theory is that it overlooks the conflict and tensions that may be experienced by health care providers and health care receivers, as well as the different forms this relationship may take (Morgan, 1991:49). The relationship between nurses and patients plays a vital role in diagnosis and treatment decisions, and contributes to the patient’s feeling of well-being and satisfaction with the service. This study holds that a poor management system, insufficient supply of infrastructure and resources to the health clinics and high workloads contribute towards tension that may be experienced by primary health care nurses when providing TB patient care. Certain attitudes of primary health care nurses are also seen as negatively affecting nurse-patient relationships.

2.4 LITERATURE REVIEW

Research on TB was extensively done but as far as can be established, no study on the knowledge, attitudes and perceptions of nurses has been undertaken, thus this study can be seen as exploratory. However, the researcher on TB undertook selected readings in general as well as the role of nurses in treating and controlling TB. The aim was to gain a broader perspective on the topic under study as well as understanding the extent of TB in the community. The areas covered can be classified as follows:

- The epidemiology of tuberculosis;
- The relationship between tuberculosis and Human Immunodeficiency Virus within the South African context;
- Population at risk;
- Factors contributing to the spread of tuberculosis;
- The socio-economic constraints of tuberculosis control;
- The social impact of tuberculosis;
- The prevention of tuberculosis;
- Primary health care and the role of nurses in tuberculosis patient management and;
- Self-care and alternative and traditional health care.

2.4.1 The epidemiology of tuberculosis

2.4.1.1 Age

According to Strebel and Seager (1991:70) the risk of the disease, mainly TB, is highest in the early years of life, decreasing sharply to a minimum of 10 years of age, and then increasing again to a peak in early adult life (around 20 years of age), decreasing once more to lower levels during middle age. According to Braden et al. (1991:90) young children serve as a sentinel group for the occurrence of transmission of TB for several reasons namely: First, TB develops within the first year of infection in up to 60 percent of untreated children under the age of four. Second, the age of these children indicates their

infection is recent. It is added that an increased rate of TB in children coincides with an increased rate in adults with TB bacillus (Department of Health, 1996a:16).

2.4.1.2 Gender

According to Van Rensburg et al. (1991:142), there are important differentials in the incidence of TB as far as gender and age are concerned. It is argued that there is no significant difference between males and females before the age of 20-25. From this age on there is a clear differentiation in the incidence of TB, with the higher TB notification rate in males. Strebel and Seager (1991:70) as well as Fugiwara and Frieden (1996:102) indicated that the majority of cases of TB occur in men. According to Strebel and Seager (1991:70) the higher rates of TB in males compared to females across all ethnic groups in South Africa appears to be best explained by the higher risk of infection in males. Clearly, working environments that are male dominated, such as mines, are contributing factors to the high risk of infection in males. Overcrowding, poor nutrition and heavy physical labour endured by mineworkers lower their immune system and resistance to TB.

2.4.1.3 Ethnic group

South African data indicate large ethnic differences in the prevalence of TB infection, indicating that the latter incidence rate is due mainly to differences in the risk of infection. TB plays a considerable part in the death-loads of blacks and coloureds (Gilbert et al., 1996:142). The Department of Health (1997a:8) maintains that the regions at risks are important in understanding the incident rate of TB in four population groups in South Africa. The coloured population in the Western Cape suffers the highest TB incidence in the country for a variety of reasons including urbanisation, population dynamics, and unplanned programmes which failed to ensure TB cure. The black population in the Eastern Cape suffers the second highest burden of TB as a result of non-compliance of patients to recommendations and lack of clinics where patients could obtain TB drugs. The terrible blend of HIV infection, poverty, poor nutrition, alcohol abuse and

overcrowding are some of the factors that contribute to making more coloureds and blacks prone to TB in Kwa-Zulu-Natal (Department of Health, 1997a:8-10).

2.4.1.4 Socio-economic status

Socio-economic status refers to a person's social position in a society, as measured in the form of a person's education, occupation, income and type of housing (i.e. overcrowded). TB is associated with socio-economic status. The disease is common in economically deprived communities or lower socio-economic strata, where people do not have proper education, lack an occupation and a proper income and a house. People in lower socio-economic strata are also more likely to smoke and abuse alcohol, so they have more lung disease and a weaker immune system. A study conducted in Shanghai found that TB incidence was higher among smokers than among non-smokers after adjustment for age, sex, type of work, history of contact and area of housing (Strebel and Seager, 1991:72). According to Strebel and Seager (1991: 72) a similar link was also observed in the United States, where alcoholics have been identified as forming a high risk group requiring screening for TB infection and the active disease. People in lower socio-economic strata are not well fed and suffer nutritional deficiencies. This makes them more vulnerable to pathogens because they do not get enough nutrients to strengthen their immune system.

2.4.2 The relationship between tuberculosis and human immunodeficiency virus

There has been a dramatic increase in the number of TB cases due to HIV, the reason being that individuals infected with HIV have a high probability of developing active TB. According to the WHO (1997:45) as HIV infection progresses, CD4 Lymphocytes decline in number and function. HIV positive patients tend to lose the ability to prevent TB infection from developing into TB disease because HIV slowly destroys the person's immune system, leaving the body weak and vulnerable. TB increases the possibility of HIV-infected people to develop full-blown acquired immune-deficiency syndrome (AIDS). According to the Department of Health (1997a:5), the interaction between TB and HIV is strong resulting in a vicious interaction with each disease worsening the other.

It has been indicated that this dual infection (TB and HIV) is a common part of the clinical manifestation of AIDS (Strebel & Seager, 1991:84-85).

Since TB is widespread, it often happens that HIV infected people have also been infected with TB for some time. Once HIV takes hold, these dually infected people are likely to become ill with TB. The relationship between TB and HIV is highly significant, as each person infected with HIV and TB could infect others (World Development Report, 1993:116). In South Africa, HIV has played havoc with the effort to control TB (see Table 2.2).

Table 2.2: Tuberculosis and Human Immunodeficiency Virus in South Africa

Provinces	TB incidence per 100 000 people	Estimated TB cases	Proportion of HIV positive TB cases (%)
Eastern Cape	556	38 783	25,2%
Free State	315	9 429	36,9%
Gauteng	416	30 176	30,0%
Kwa-Zulu-Natal	433	39 650	49,8%
Mpumalanga	323	10 052	44,3%
Northern Cape	374	2 987	18,4%
Northern Province	286	15 667	21,5%
Northern West	300	10 821	30,7%
Western Cape	614	22 942	16,8%
South Africa	419	180 507	32,8%

Source: Department of Health (1997b:7)

2.4.3 Population at risk of tuberculosis

2.4.3.1 Patients and health care workers

TB is one of many infectious diseases that pose an occupational hazard for health care workers. According to Sepkowitz & Schluger (1996:941) TB has resulted in rates of infection that are two to ten times higher for people in the health care system, than rates

amongst the general population. The Centres for Disease Control (Sepkowitz & Schluger, 1996:935) confirmed that, during 1993, at least seven workers died of MDR TB, and many others have been treated for MDR TB in the United State of America. Sepkowitz and Schluger (1996:941) argue that nurses have a higher risk, namely two to three times higher than that of physicians. This view indicates that TB really confers a health risk on health workers. The Department of Health (1996a:21) indicted that the risk of transmission of TB to health care workers working in health facilities is highest where there is:

- delay in the diagnosis of TB;
- unrecognised drug resistance; and
- HIV-positive health care workers, because their immune system is low and they cannot resist TB infection.

2.4.3.2 Population at risk of MDR TB

People with TB are incapable of protecting themselves from the development of TB if treatment is not taken regularly. Relapses of TB treatment contribute to the increase of a resistance to drugs taken by the patient. Re-treatment of relapse or inadequately treated cases takes much longer and is more difficult because bacilli have often become resistant to the visual drugs. Because of the risk and seriousness of a relapse, people who have had active TB are difficult to cure.

2.4.3.3 Homeless people

Controlling TB among homeless persons is difficult because these people can be hard to locate. Also, malnutrition and under-nutrition, concurrent illnesses, substance abuse and non-adherence to treatment are more common among homeless persons. In the United State of America, the congregation of homeless persons in shelters is an opportunity for transmission and outbreaks, and transmission may go undetected if symptoms of TB develop after newly infected persons have left the shelter (Jereb, Cauthen, Kelly & Gerter, 1994).

2.4.3.4 Farm workers

Other people struggling under a large TB burden are farm workers. Alcoholism, poor diet, heavy physical labour, and overcrowded housing are the matches, which commonly light the TB fire among farm workers (Department of Health, 1997a:12). Farm workers live far away from health care facilities. Transport is rarely available to carry infected people to the nearest TB facility. These conditions make TB patients default their treatment. People living in the rural areas are ill informed about the nature of the disease and how it can be prevented.

2.4.3.5 Inmates of correctional facilities

Inmates of correctional facilities are also vulnerable to TB infection. Jereb et al. (1994:8) are of the opinion that the closed prison environment, ventilation that is possibly inadequate, and prolonged contact between inmates promotes TB outbreaks.

2.4.3.6 Elderly in nursing homes

The elderly in nursing homes is another group at high risk of TB infection. In addition to elevated incidence rate attributable to common latent TB infection, the elderly in nursing homes have a high risk of exposure and new infection. According to Jereb et al. (1994:8), exposure to risk among the elderly in nursing homes is increased by the delayed diagnosis of contagious TB.

2.4.4 Factors contributing to the spreading of tuberculosis

The following factors are responsible for the spread of TB, namely:

- **Malnutrition and under-nutrition.**

Poor nutrition is usually associated with poverty, illiteracy and low income or unemployment, and makes one susceptible to TB. Malnutrition accompanies famine and the unavailability of food, poverty and the lack of means to purchase food, substance abuse and the neglect of food, and the presence of debilitating diseases that affect calorie intake, absorption of foodstuffs or energy expenditure (Enarson & Murray 1996:68). TB is common in all of these circumstances. Protein-calorie malnutrition is a significant factor for the occurrence of TB (Coovadia, 1991:72; Enarson & Murray, 1996:68).

- **Emotional and physical stress.**

According to Cockerham (1998:72), stress is an emotional and psycho-physiological state of an organism that occurs in a situation, involving stimuli that serve to elicit fear or anxiety response. The person's inability to control and manage these situations is likely to evoke stress-related illness. Stress weakens people's immune systems, leaving them vulnerable to TB infection and sickness.

- **Contacts.**

Contacts are people who live in the same room with patients that can easily spread TB.

- **Immigration.**

Many immigrants are poor and hence are obliged to settle in low-income areas, particularly in densely crowded housing (Enarson & Murray, 1996:69). Reactivation of TB in these circumstances results in heavy exposure to household members. The pressure of illegal immigrants, who move from high prevalence countries to a low-prevalence country, taking TB with them worsens this problem.

- **Inadequate TB control programmes.**

Programmes that are designed to prevent TB are not equally distributed in the country. These programmes are not available in economically deprived communities such as squatter camps and rural areas where there is a likelihood of TB infection. Unless these programmes are improved, the number of annual TB cases will double over the next ten years (Department of Health, 1997a:2).

- **HIV and MDR TB bacilli.**

HIV and MDR TB are equally important in contributing to the spread of TB. HIV weakens people's immune systems, leaving them vulnerable to TB infection. Another problem is that HIV positive patients are vulnerable to MDR TB (Department of Health, 1997b:10). The threat of people who develop MDR TB is that they can spread it to others as regular TB. These two factors are challenges to health care workers.

2.4.5 The socio-economic constraints of tuberculosis control

Despite the effort made for an effective TB treatment programme, practical obstacles impeding TB cure do exist. It is crucial that what cannot be controlled is taken into account to ensure a total control of the disease.

2.4.5.1 Poverty

People struggling under the heaviest burden of TB are the poor. Poverty makes it difficult for people to resist TB. Poverty-related problems such as unemployment, lack of disability grants and lack of food are reported as having compromised TB cases (Lee & Buch, 1991:292). TB is prevalent in poor areas where many people live in overcrowded spaces. As infection is associated with closeness of contact, the overcrowding areas due to the severe housing shortage are thought to be associated with a higher rate of tuberculosis. The effect of the above socio-economic factors, combined with the effects of poor sanitation and malnutrition in poor communities contributes to the high tuberculosis burden. Immune response to TB bacillus is weak as a result of malnutrition. The inability of their immune response to restrict the TB infection can also lead to active TB and facilitate the spread of the disease.

2.4.5.2 Employment

Contracting TB has a serious effect on the economic life of the patient. Many patients suffering from TB are likely to experience problems such as job loss through illness, lack of employment benefits and lack of job security. The risk of being fired is the most

serious problem for the worker-patient who contracts TB. The firing of the worker-patient who has TB is counterproductive, as such policy results in a loss of trained employees, and requires hiring and training of a new labour force.

TB is also categorised as an occupational disease. Lalloo & Mets (1991:182) defines *occupational tuberculosis* as tuberculosis contracted in the course of a specific employment and which results from contact with the tubercle bacillus, which presents as an inherent factor in such employment. According to these authors the medical laboratory workers, the dentists, the doctors and the nurses in contact with contagious material and patients are at risk of developing TB and passing the infection on to patients. It is noted that veterinarians and people involved with infected and contagious cattle are at risk for occupational tuberculosis (Lalloo & Mets, 1991:182).

2.4.5.3 Community services

Community services eliciting social support for those people suffering from TB are not equally distributed (Ginwala & Collins, 1991:284). The greater portion of resources are concentrated and distributed in urban areas and are monopolised by those who may have fewer needs and their less demanding rural counterparts. This is one of the main reasons for failure of TB control, due to a lack of awareness of the dilemma, as well as the means to deal with it effectively (WHO, 1997:13).

2.4.5.4 Referral system

Referral system refers to a referral continuation of care, which occurs frequently as a result of migrant labour (Lee & Buch, 1991:293) According to these authors, this becomes difficult as clinics, particularly in rural areas, are at a strong disadvantage in providing effective preventive service to patients that do come. In emergency cases or when advice is required, the health facilities are unable to contact one another. Furthermore, the referral of suspected TB cases for further investigation is made difficult

by distance and cost. The contributing factor is the restricted distance that may be travelled by staff. This also makes it difficult to trace contacts and defaulters.

2.4.6 The social impact of tuberculosis

2.4.6.1 Stigmatisation

Goffman's sociological definition of stigma draws on a distinction between what he refers to as (i) virtual social identity (the stereotype imputation that we make in routine social interaction) (ii) normative expectations (what the individual ought to be), and (iii) actual social identity (what a person actually is) (Ritzer, 1992:361). As far as Goffman's definition of stigma is concerned, it stands that the stigmatised people are those who have a discrepancy between virtual and actual social identity. Those who depart from normative expectations are deemed stigmatised.

The social implications of TB are stigmatised (Nitcher, 1997:279; Lalloo & Mets, 1991:187). There is a social stigma, which varies according to the patient's community and culture and the knowledge or attitudes of family, relatives, friends and other contacts. Nitcher (1997:279) noted that TB is attributable to "bad mark to family", "shameful", "pity" and "avoidance". There is also a belief that the causes of TB are sorcery, poisoning of food, infidelity and inheritance (Lalloo and Mets, 1991:187). These beliefs and attitudes are detrimental to TB patients' social life, and can create a feeling of shame and guilt.

2.4.6.2 The impact of tuberculosis on health care workers

Studies have demonstrated that health care workers attending to TB patients have the highest risk of contracting TB (Department of Health, 1996a; Sepkowitz & Schluger 1991; Lalloo & Mets, 1991). TB must be perceived as a threat where there are no precautions to ensure that health care workers are free from TB infection.

2.4.6.3 The impact of tuberculosis on the family

TB causes economic constraints on the family, particularly when other family members are dependent on a person who is sick with TB. Clearly, the family will suffer when a breadwinner dies as a result of TB. TB can, therefore, be perceived as having a disastrous effect on the family in terms of financial support and social support.

2.4.7 Prevention of tuberculosis

TB commences with the primary infection, and results in a diseased state at a later stage. Early diagnosis, vaccinations, and the discovery of unsuspected infections are imperative. The following initiatives are, *inter alia*, important for the prevention of TB:

2.4.7.1 Case finding

Case finding implies methods of routine examination to uncover infectious cases of the disease. A sputum specimen (not saliva) is stained and examined under a microscope to look for TB bacilli (sometimes referred to as acid-fast bacilli and the way they are stained) (Starke, 1994:102; Department of Health, 1996a:3).

2.4.7.2 Sputum disposal

Every patient should be taught about the safe disposal of sputum. People who are coughing should be provided with a disposal mask, or tissue, be moved away from other patients and attended to promptly. People should cover the mouth and nose when coughing. Any receptacle or handkerchief used for sputum must be disinfected immediately. Tissues and rags can be disposed of in a flush toilet or pit latrine or burnt (Department of Health, 1996a:3).

2.4.7.3 Occupation

The DOTS strategy can be implemented in places where TB patients are employed. With this system, patients can be helped to take their medication while they earn money.

2.4.7.4 Follow-ups

Follow-ups involve enrolling a representative sample of newly diagnosed tuberculosis patients and following them up at regular intervals until after the treatment has ended, in order to determine their outcome (Strebel and Seager, 1991:80). This is the way to measure patient compliance with TB treatment. This should include:

- visit to a chest clinic; and
- a home visit to ensure that social factors there have not deteriorated, for if that happens a relapse is more likely.

2.4.7.5 Chemoprophylaxis

According to Clayton (1997:363), chemoprophylaxis is the use of a drug or chemical to prevent a disease. Primary chemoprophylaxis is the use of drugs to prevent infection in those particularly at risk. Secondary chemoprophylaxis, with regard to TB, is the use of drugs in persons who show the signs of TB but do not have clinical evidence of TB, to prevent the development of clinical disease.

2.4.7.6 Bacilli Calmette-Guerin vaccinations

Bacilli Calmette-Guerin (BCG) vaccination is the widely used vaccine to prevent clinical infection. BCG vaccination is a measure of preventing natural infection with a degree of protection up to 80% (Packard, 1991:54). Packard further states that the objective of BCG vaccination is to reduce the incidence of TB among children, and in particular of severe forms such as TB meningitis. Starke (1994:176) added that BCG has some protective effect against the development of TB in new-borns and appears to decrease the

incidence of life-threatening forms of the disease. BCG vaccination has been regarded as of special importance in less developed countries where the identification and treatment of cases of TB has posed problems, because of poorly financed medical services (Smith, 1994:297). In such situations, it offered obvious attraction as a means of TB control, especially among children where its value is likely to lie mostly in the protection of vaccinated individuals rather than in reducing the overall level of infection in the community or country.

2.4.7.7 Screening

A sputum specimen (not saliva) is examined under a microscope to identify TB bacilli. A positive smear means that there are a large number of bacilli in the lungs and that the patient can easily spread TB (Department of Health, 1996a:3).

2.4.7.8 Health education

Health education contributes to TB prevention and treatment services by disseminating information about the disease among the public. According to Lee & Buch (1991:293) “Health education shall form an integral, essential component of the total endeavour. It will be directed at the community with the aim of inculcating an awareness of the disease so that the community becomes involved in a practical sense, assisting especially in case-finding and treatment control”. Through health education, educational material, e.g. brochures, can be designed and distributed to patients and their families.

2.4.7.9 Housing

Overcrowded housing and sleeping accommodation produce conditions that encourage the spread of TB. A TB patient should have his/her own room. In cases where the patient is married, the couple can share the same room but should use twin beds. The TB patient should not sleep in the same room as a child. Adequate housing should be provided to

impoverished people, as far as possible, to make TB treatment and control available under conditions of poverty.

2.4.7 Primary health care and the role of nurses in tuberculosis patient management

2.4.7.1 Primary health care

Primary health care is a multi-faceted approach that is based on the socio-economic needs identified by the communities to ensure that people receive health care that is most acceptable to their lives. According to Dennil and Swanepoel (1999:6-7) the successful implementation of primary health care could be based on the following principles:

- **Equity:**
All people should have equal access to basic and social services.
- **Accessibility:**
Services must be extended to be within the reach of all people in the country. Special attention must also be given to disadvantaged regions of the country, especially small isolated rural areas.
- **Affordability:**
The level of health care offered should be aligned to what the community and the country can afford. No person should be denied health care because of an inability to pay.
- **Availability:**
There should be sufficient and appropriate services to meet the particular health needs of each community.
- **Effectiveness:**
The services provided must do what they were intended to do for the specific community. The effectiveness of the services must also be justified in terms of total cost.
- **Efficiency:**

The results attained should be proportionate to the input, in terms of effort expended, money spent, resources used and time utilised.

Primary health care decentralises services with the emphasis being placed on community care. According to Dennil and Swanepoel (1999:7) the overall objective of adopting this community-based health care approach is to render health services efficiently and effectively through an infrastructure that covers the needs of communities at district level, with the necessary support and referral services at provincial and national level. The health care services provided within the context of primary health care is holistic. This involves a multidisciplinary team led by primary health care services, which are at the base of an integrated health system. This team includes ordinary people in the community, the patient and his/her family, or any other person concerned about the status of health in his/her community.

The advantage of primary health care is that it extends TB control to the whole population (WHO, 1997:5). Primary health care makes information available to the population about TB and the methods of preventing and controlling the disease. As indicated, this information is not provided by the health professionals alone, but other non-governmental agencies with multi-disciplinary teams, such as SANTA, are involved.

2.4.7.2 The role of nurses in TB patient management

The inequality of the public health infrastructure and a lack of discharge planning of TB patients in the community health care system, which contribute to the high rate of TB and the outbreaks of MDR TB, uphold nursing as an integral part of primary health care (American Nurses Association, 1997:1). The most important matter is that nurses are considered responsible for the diagnosis, treatment and monitoring of TB patients, even after discharge. This strategy ensures that patients receive complete therapy, thus limiting the transmission of disease and ensuring the protection of health care workers and the health of the general public (American Nurses Association, 1997:2). Accordingly, this strategy is more effective when used in conjunction with community outreach workers.

The fact is that nurses take an active part in the educational and infection control measures that promote prevention in the community as well as among health care workers.

The WHO (2001: 4) recognises the importance of nurses for diagnosing and treating TB patents. Accordingly, nurses must:

- ensure that correct treatment is started and the treatment card is filled out;
- ensure that a regular supply of drugs is sent to the treatment supporter for the duration of the treatment;
- report and refer drug side effects;
- report completion of treatment and outcome.

The WHO (2001: 4) and American Nurses Association (1997:1) maintain that nurses need to work in partnership with laboratory staff, doctors, National TB programme managers and non-licensed personnel working without clinical supervision in order to:

- provide information and education on the DOTS strategy (that every single capsule or tablet is seen to be swallowed. If it is more convenient and appropriate for the patient a treatment supporter should be found, motivated and monitored);
- build community support (through community leaders, schools and the media) for a strong National TB programme;
- register all TB cases;
- train and supervise the primary health workers to find, educate and treat the patients.

According to the Department of Health (1997:16) most important to successful TB treatment is the patient-centred care. The nurses need to build and strengthen the patients' trust by being courteous and communicating well. "The nurses should be friendly and helpful towards their patients; listen to their problems, and attend to them; apply their nursing experience and knowledge to patient care as well as become involved in research and post-basic continuing education to increase their knowledge and update their skills, which will be applied in patient care" (Lawrence, 1995:11). The said author maintains that this enables the nurse to be a resourceful practitioner, equipped with the skills that

are essential for effective patient care. This nurse-patient relationship is necessary to realize TB cure.

2.4.8 Self-care and alternative and traditional health care

2.4.8.1 Self care

Beliefs about health and illness are grounded in people's wider understanding of the world in which they live and their place within it. Arising from this, there are a number of different medical systems or ways of diagnosing and treating illness and diseases. These systems are rooted in cultural differences and are linked to the dominant value system of a particular culture in a society. This feature of the cultural complexity of modern societies is the development of what is called "medical pluralism". Medical pluralism is the co-existence and availability of different ways of perceiving, explaining and treating illness (Gilbert, et al., 1996:49). This suggests that the way in which people respond to illness or disease differs as far as their cultural differences are concerned. The Health Belief Model of Irwin Rosenstock is one the most influential approaches designed to account for the ways in which healthy people seek to avoid illness, or disease. The Health Belief Model (HBM) suggests that preventative action taken by an individual to avoid disease is due to that particular individual's perception that he or she is personally susceptible and that the occurrence of the disease would have at least some severe personal implications (Cockerham, 1998:62).

Locker (1991:42) noted that only a small minority of all symptoms are presented to a doctor. Blacker (Radley, 1994:67) argues that the fact that people report frequent symptom occurrence makes little difference to the overall likelihood of their being a frequent visitor to the doctor's clinic. This suggests that self-care, and especially self-medication, may be of considerable importance. Self-care encompasses a multitude of self-determining and self-initiated actions performed by individuals to preserve, promote or restore their health (Van Rensburg, 1992:343). According to Van Rensburg (1992:343), specific socio-cultural and structural influences provide the framework or

context within which individuals and families compile their life-style from the available alternatives also in respect of health and disease. Self-care is the oldest and most prevalent form of health care in South Africa. The study conducted by Van Zyl-Schalekamp (Van Rensburg, 1992:347) in three communities, black, white, and coloured, shows that specific similarities were observed in the self-care activities of the three groups, but there were marked differences in respect of the extent and patterns of self-care. Despite these differences, the researcher found that there was a high incidence of self-care in all the modalities investigated, *viz.* preventive care/health-maintaining behaviour, non-treatment of symptoms, self-medication, and consultation behaviour. The present study indicates that self-care may be of considerable importance in treating TB.

2.4.8.2 Alternative and traditional health care

Therapeutic and economic limitations to allopathic or modern medicine's power have led people to question whether they should rely only upon modern medicine to prevent and to cure disease. As a response, some people have reverted to alternative and complementary medicine to take control of their own health. They consult a chiropractor or an osteopath for advice about specific complaints, and others only when the treatment they have received from modern medicines has not helped (Radley, 1994:97).

Traditional healing is relevant within the South African social context and is reflected in the health plan. The Department of Health (1997c) states that traditional healing will become an integral and recognised part of health care in South Africa. The approach of a traditional healer is usually a holistic one, dealing with all aspects of the patient's life, including his or her relationship with other people, with the natural environment and with supernatural forces as well as any physical or emotional symptoms (Gilbert et al., 1996:50). The focus of attention of traditional healers is not just on the patient. According to Gilbert et al. (1996:50) traditional healers provide explanations and treatment to resolve interpersonal problems and prescribe physical treatment at the same time. Traditional healers function within the framework of the psycho-socio-environment

model. It seems that where people hold different views, or where their faith in modern medicine is undermined, they might seek help from traditional healers for further treatment and cure of TB.

2.5 SUMMARY

The theoretical framework from which the study is conceptualised has been discussed. The literature review with regard to the study was undertaken. The literature undertaken focussed on the following aspects with regard to TB, namely *Epidemiology of TB, the Relationship between TB and HIV within the South African Context and the Population at risk of TB. Factors Contributing to the Spreading of TB, the Socio-economic Constraints of TB, the Social Impact of TB*, as well as *the Prevention of TB* were also presented in depth. Also discussed were *Primary Health Care and the Role of Nurses in TB Patient Management and the Role of Alternative and Traditional Health Care in Controlling and Treating TB*.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

In this chapter, the researcher discusses the research methodology of the study. This is structured according to the method of data collection, type of research, research design, delimitation of the study and population, the sample used, permission to undertake the study and the analysis of data.

3.2 METHOD OF DATA COLLECTION

The methods of data collection used were mainly quantitative. This is in view of the fact that information obtained from interviews with the respondents was quantitative since a questionnaire was used as the measuring tool.

Quantitative work, by definition, implies that application of a numerical approach be applied to the nature of the issues under scrutiny, as well as to the gathering and analysing of data. One of its purposes is to discover how many and what kind of people in the general population have the particular characteristics, which have been found to exist in the sample population (Branner, 1992:7).

3.2.1 Research instrument

3.2.1.1 Questionnaire

A questionnaire was used as the research instrument.

The questionnaire is commonly used to get information that is necessary to prove or disprove the stated hypothesis. Respondents were selected in a systematic sample. The

questionnaire was divided into eight sections. Each section dealt with specific aspects of the topic being researched. The sections were structured as follows:

- Section One – Biographical information (Biographical data) of nurses.
- Section Two – General information of nurses regarding TB service.
- Section Three – Background information of TB patients.
- Section Four – The perceptions of nurses regarding their knowledge and training in TB treatment.
- Section Five – The perceptions and attitudes of nurses regarding their interventions with TB patients.
- Section Six – The attitudes of nurses regarding their service.
- Section Seven – The perceptions of nurses regarding factors that can improve the prevention of TB.
- Section Eight – Additional comments from nurses.

The questions consisted of open-ended responses for which respondents had to formulate their responses themselves. Fixed response items were also used, for which respondents had to choose the most appropriate answers.

3.2.2 Validity of the instrument

A valid instrument can be used to measure the variable which has to be measured, and explains the subjects. Two types of validity were followed to ensure that the instrument (questionnaire) measured what it was supposed to measure, namely: content validity and face validity.

3.2.2.1 Content validity

Content validity refers to the degree to which a measure covers the range of meanings included within the concept (Babbie, 1992: G2). To ensure content validity, the context of the instrument (questionnaire) was presented at the Department of Sociology during May 1999 and to the SASA conference during July 1999. The content of the instrument

was checked if it was related to that which was to be measured. After discussion, certain items in the questionnaire were restructured in relation to the aims of the study.

3.2.2.2 Face validity

Face validity implies the quality of an indicator that makes it seem a reasonable measure of some variables (Babbie, 1992:G2). Face validity was ensured, as each question was set against the literature of the questionnaire.

3.2.3 Reliability of the questionnaire

Reliability refers to the accuracy of the measuring instrument. Reliability implies the quality of measurement method that suggests that consistency is obtained of the data collection instrument each time in repeated observations of the same phenomenon (Babbie, 1992: G7). A pilot study was undertaken to test the reliability of the questionnaire.

3.2.3.1 Pilot study

The aim of the pilot study was to prove validity and reliability of the instrument.

Pre-testing of the instrument and a trial run of the methodology was carried out at the government clinics in Qwa-Qwa in May 1999. Nurses were assigned by the TB coordinators of the government clinics in Qwa-Qwa. The researcher selected a sample of 35 nurses by following a convenience sampling method. Bailey (1987: 227) maintains that a convenience sampling is used where the researcher is interested in getting an inexpensive approximation of the truth. As the name implies, the sample is selected because they are convenient. This method is often used during preliminary research efforts to get a gross estimate of the results, without incurring the cost or time required to select a random sample. The contribution of these 35 nurses helped in restructuring some of the questions. A time limit was set to see how much time, on average, would be spent in completing the

questionnaires. The time limit set for the completion of the questionnaires was five working days. On average, nurses took eight working days to complete the questionnaires as a result of their workload.

3.3 TYPE OF RESEARCH

The researcher embarked on applied research. *Applied research*, according to Bailey (1987: 459), is a type of research where findings can be applied to solve social problems of immediate concern. Applied research is fundamentally focussed on a need for specific facts and findings with policy implications. It contributes to abstract knowledge and offers guidance to practical matters of daily social life. For the purpose of this study, applied research will help identify potentials and possible shortcomings with the view of improving the provision of TB patient care at the government clinics in Qwa-Qwa.

3.4 RESEARCH DESIGN

3.4.1 Descriptive research

This study was conducted in July 1999. A descriptive research design using a structured questionnaire was seen as the most appropriate design to reach the proposed objectives. This is in view of the fact that the data to be collected would be mainly descriptive of the perceptions as well as the attitudes of nurses working with TB patients at the government clinics in Qwa-Qwa.

The research design followed can be seen as cross-sectional. This is in view of the fact that the researcher wanted to describe the perceptions and attitudes of the nurses at a particular time, since a person's perception or attitudes change over time. Babbie (1992: 63) maintains that a design that is cross-sectional is based on observation representing a single point in time.

3.5 DELIMITATIONS OF THE STUDY

The study included all the nurses providing TB patient care at the government clinics in Qwa-Qwa. The population from which the sample was drawn included all registered and enrolled nurses working at the government clinics in Qwa-Qwa.

3.6 THE SAMPLE USED

A systematic sampling of known nurses that were only providing TB patient care at the government clinics in Qwa-Qwa was used. The method used involved visiting nurses that were only providing TB patient care at clinics in the area. The researcher systematically selected an appropriate number of nurses that were only providing TB patient care in each of these clinics. In total there were 134 nurses who provided TB patient care at the government clinics in Qwa-Qwa, according to TB co-ordinators. Every second nurse was selected in the process. As one of the nurses refused to participate, the process resulted in 71 nurses being selected. Seventy-one questionnaires were directly distributed to the nurses that were selected. The respondents were given ten days to fill-in the questionnaires. Of the 71 questionnaires that were distributed, 55 questionnaires were returned and 16 were not, resulting in a 77,5% response rate. Babbie (1992:267) states that a response rate of at least 50% is adequate for analysis and reporting.

Table 3.1 (page 44) shows the distribution of the primary health care nurses and sub-sample at the clinics.

TABLE 3.1: Distribution of primary health care nurses who were only providing TB patient care, and sample per clinic in Qwa-Qwa

Clinic	Total number of nurses	Sample size	Unreturned Questionnaires
Tsirela	5	3	0
Makeneng	4	2	0
Namahadi	13	7	7
Marakong	7	4	0
Tsheseng	6	3	0
Thibella	4	2	0
Matsieng	6	3	0
River-side	10	5	0
Bolata	5	3	1
Boiketlo	9	5	4
Qholaqhwe	6	3	0
Tebang	5	3	1
Thaba-Bosiu	7	4	0
Rietpan	3	2	0
Makwane	5	3	0
Moeding	4	2	0
Phuthaditjhaba	1	1	0
Botjhabela	2	1	0
Paballong	10	5	3
Monontsha	2	1	0
Sehlajaneng	5	3	0
Itlotliseng	3	2	0
Masaleng	4	2	0
Mphatlalatsane	4	1 (1 refused)	0
Makgaloaneng	4	4	0
TOTAL	134	71	16

3.7 PERMISSION TO UNDERTAKE THE STUDY

Permission was obtained from the two TB co-ordinators of the government clinics in Qwa-Qwa to undertake the study. They were informed of the purpose of the study as well as how information collected will be used. They were very positive about the study to be conducted in the region.

3.8 ANALYSIS OF DATA

The capturing and analysis of data was done by means of the Statistical Package for Social Science (SPSS). All variables were coded. The researcher followed a wild method to ensure that the data is correctly coded. A wild method involves double-checking all data entries on the computer. For example, the researcher coded the variable *gender* as 1=male and 2=female. Therefore, 11 will be identified as a coding error in the gender variable.

Since the study is both exploratory and descriptive, descriptive statistics was used to summarize or describe data. Descriptive statistics is fundamental in summarising or describing data. This is a precise method of reporting the characteristics of the respondents. Research interpretations will be presented in the form of charts, graphs and tables.

CHAPTER 4

DATA ANALYSIS

4.1 INTRODUCTION

This chapter provides an analysis of the findings of the study. Analysis of the following aspects regarding the respondents is provided, namely, biographical information, general information, demographical information of patients with TB, perception of respondents regarding their knowledge and skills of TB treatment, perceptions and attitudes of respondents regarding their intervention with TB patients, attitudes of respondents regarding their human service, and their perceptions regarding factors that can improve TB prevention.

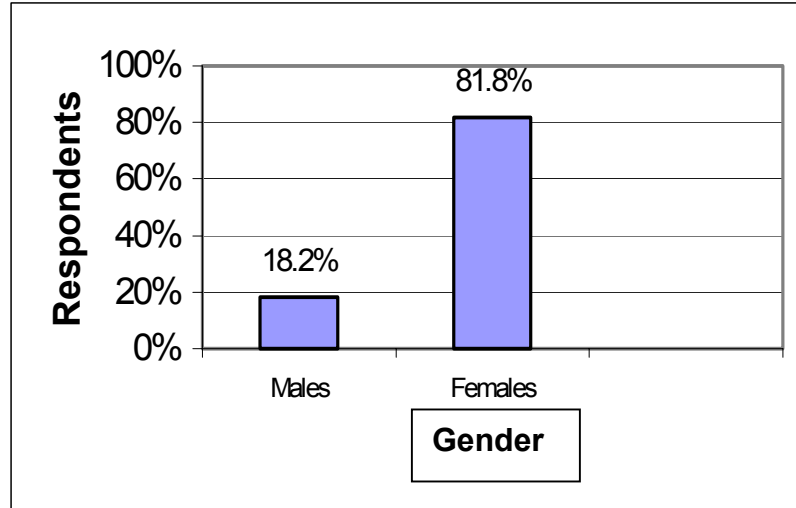
4.2 BIOGRAPHICAL INFORMATION

In this section, the researcher focuses primarily on the presentation of descriptive statistics so as to understand the biographical information of the respondents. The biographical information provides the reader with a picture on the characteristics of those people who participated in the study. The factors that are analysed include sex and age.

4.2.1. Gender of respondents

The aim of this part was to assess the gender of the primary health care nurses providing TB patient care. Gender differences in health care provision are highly significant. The gender of the patient needing care and those arranging this care is important to understand the dynamics of the relationship between them. Health care workers of similar gender to their patients are more likely to share their communication style and communicate effectively with them (Cockerham, 1998: 163).

FIGURE 4.1: Gender of respondents



The gender of the respondents, as shown in Figure 4.1, was unevenly distributed. Only 18,2% of the respondents was male, whereas the majority was female (81,8%). These results indicate that there are more female nurses than male nurses providing TB patient care at the government clinics in Qwa-Qwa. These results, however, cannot indicate the effects of gender on the dynamics of the relationship between the TB patients and the nurses because TB patients were not part of this study.

4.2.2 Ages of respondents

The aim was to determine the ages of the respondents. The ages of the patients needing care and those arranging this care greatly affects the dynamics of the relationship between them. Cockerham (1998:97) argues that age is a determining factor in both providing and receiving medical information.

TABLE 4.1: Age of respondents

Age	N	%
16-30	13	23,4
31-45	34	61,8
46+	8	14,5
TOTAL	55	100

The interpretation of Table 4.1 is that 13(23,4%) of the respondents were in the age group 16–30 years. The majority of the respondents, 34(61,8%) were between 31–45 years, and only 8(14,5%) were older than 45. According to these results, more nurses were between the ages of thirty-one and forty-five. These results, however, cannot indicate the effect of age on the dynamics of the relationship between the TB patients and the nurses because TB patients were not part of this study.

4.3 GENERAL INFORMATION

4.3.1 Educational level of respondents

The educational level of the sampled respondents was assessed.

TABLE 4.2: Educational level of respondents

Educational level	N	%
Std 8 (Grade 10)	1	1,8
Std 9 (Grade 11)	1	1,8
Std 10 (Grade 12)	19	34,5
Post-school	16	29,2
TOTAL	37	67,3

- Adds up to 37(67,3%) because not all the respondents answered the question.

Table 4.2 shows that the educational level of the respondents ranged from Std 8(Grade 10) to post-matric. Of the respondents 1 (1,8%) obtained Std 8 (Grade 10), 1 (1,8%) obtained Std 9(Grade 11), 19 (34,5%) Std 10(Grade12) and 16 (29,2%) had a tertiary qualification. Eighteen (32,7%) of the respondents did not answer the question. The results indicate that many respondents who answered the question did not have post-school qualifications.

4.3.2 Position of respondents at clinic

The researcher’s aim was to determine the position of the respondents at clinics. Position differences help to understand the power structure of nurses in TB patient care, especially within these institutions. For example, the prevailing bureaucratic conditions that exist in the medical setting operate to place those nurses occupying lower positions at a disadvantage in acting their judgements regarding medical treatment (Cockerham, 1998: 199). This implies that nurses occupying higher positions are more influential generally than nurses occupying lower positions.

TABLE 4.3: Position at clinic

Position	N	%
Chief Professional nurse	6	10,9
Senior Professional nurse	15	27,3
Professional nurse	18	32,7
Enrolled nurse	10	18,2
TOTAL	49	89,1

- Adds up to 49 (89,1%) because not all the respondents answered the question.

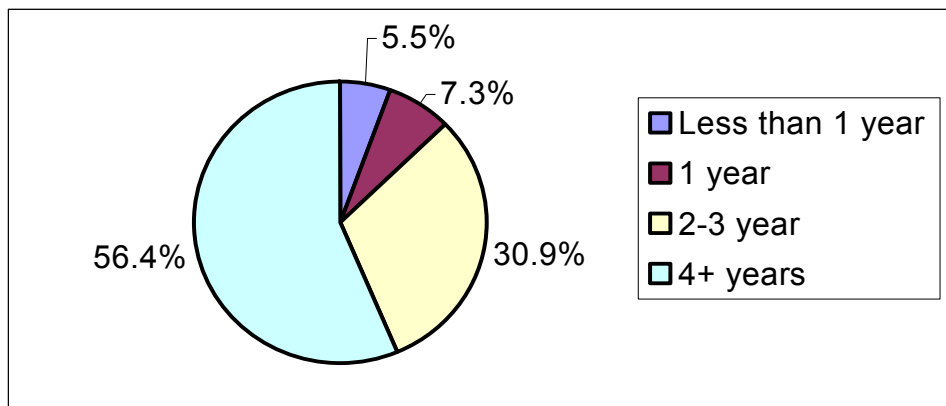
More than half of the respondents were professional nurses or in higher positions. From the total sample, 6 (10,9%) were chief professional nurses, 15 (27,3%) were senior professional nurses, and 18 (32,7%) were professional nurses. From the respondents 10 (18,2%) were enrolled nurses, and 6 (10,9%) of the respondents did not answer the

question. These results indicate that chief professional nurses are more influential than senior professional nurses, professional nurses and enrolled nurses in TB patient care.

4.3.2 The length of service

A further aim was to ascertain the length of service of the respondents specifically involved with TB treatment.

FIGURE 4.2: Length of service



The results in Figure 4.2 indicate that the majority of respondents (87,3%) have a long service of treating TB patients. According to Figure 4.2, only 5,5% of the respondents had spent less than one-year treating patients with TB, 7,5% had spent one year whereas 30,9% had spent 2–3 years. The majority, 56,4%, reported that they had spent more than 3 years treating TB patients. It is clear from these results that the respondents were experienced in the treatment of TB.

4.4 BACKGROUND INFORMATION OF TUBERCULOSIS PATIENTS

The caseload of sick patients to each health worker is not known. In order to cure more people and redirect resources, much attention should be focused on the caseload of staff.

In this section the researcher aims to find out the number of TB patients that the respondents have seen in their routine care.

4.4.1 The number of tuberculosis patients that were seen per month per nurse

The aim was to determine the number of TB patients that the respondents have seen per month. However, these are only estimates and not definite numbers.

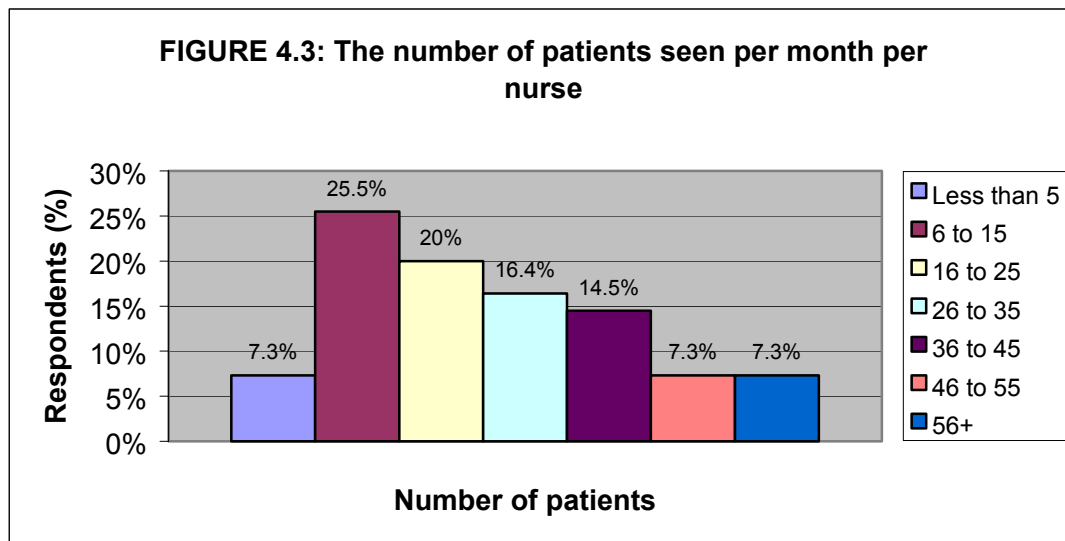


Figure 4.3 illustrates the number of TB patients that were seen per month. According to these results, 7,3% of the respondents had seen less than five TB patients, whereas 25,5% reported to have seen 6-15 patients, 20% had seen 16-25 patients, 16,4% had seen 26-35 patients and 14,5% had seen 36-45 patients. 7,3% had seen 46-55 patients and 7,3% had seen more than 56 patients per month.

4.4.2 The caseload of TB patients per nurse

The researcher's aim was to determine the respondents' caseload of TB patients.

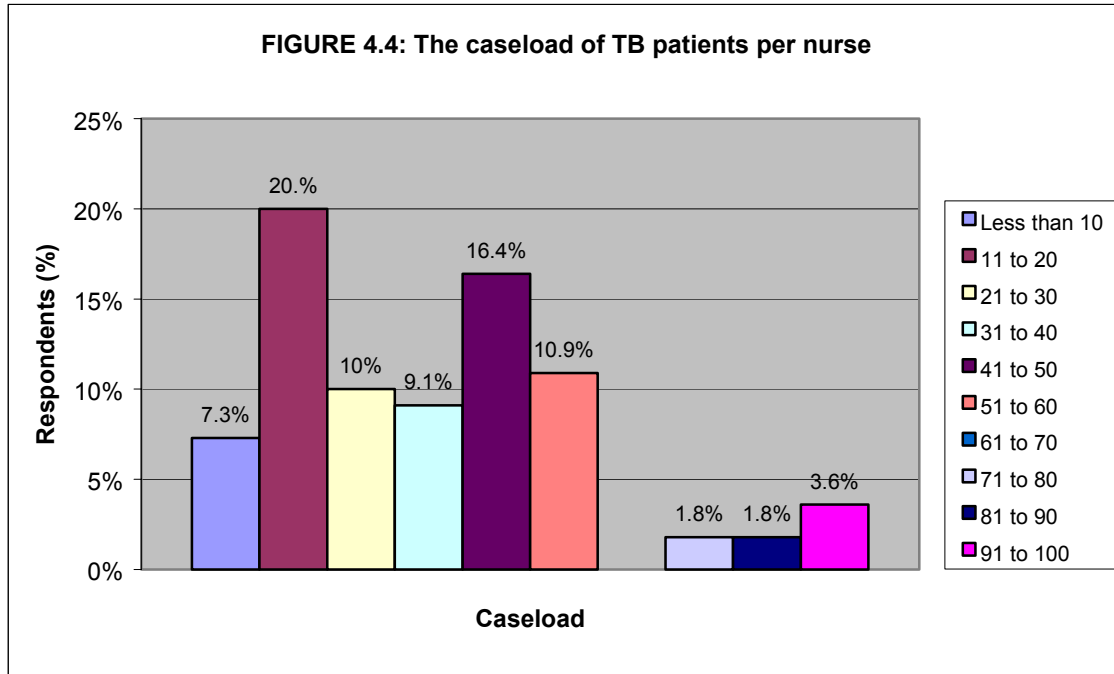


Figure 4.4 indicates the number of patients with TB per nurse at a time. This figure shows that 7,3% of the respondents reported that they had a caseload of less than 10% which comprised TB patients, 20% of the respondents had a caseload of 11-20%, whereas 10.9% of the respondents had a caseload of 21-30%, 9,1% of the respondents had 31-40% of caseload and 16,4% had a 41-50% caseload of TB patients. Of the respondents, none had a caseload of 61-70%. 1,8% of the respondents had a caseload of 71-80% of TB patients, whereas 1,8% was had a caseload of 81-90% and 3,2% of the respondents had a caseload of 91-100% of TB patients.

4.4.3 The distribution of tuberculosis patients cured per nurse

The number of TB patients who were cured at the end of their treatment was subsequently ascertained.

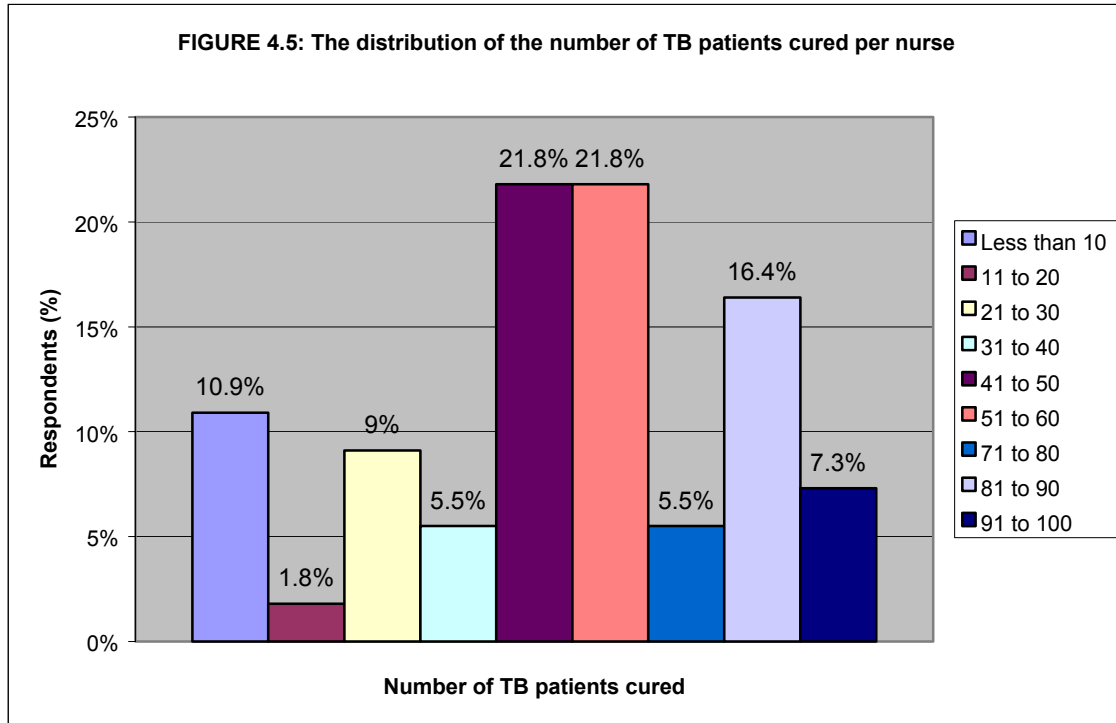


Figure 4.5 indicates that 10,9% of the respondents had reported that less than 10% of their patients were able to be cured at the end of treatment, only 1,8% had reported that 11-20% of their patients were able to be cured at the end of treatment, whereas 9,1% of the respondents had reported 21-30%, and 5,5% of the respondents had reported 31-40% of their patients able to be cured at the end of treatment. Most respondents, 21,8%, had indicated that 41-50% of their patients were able to be cured at the end of treatment and the other 21,8% of the respondents reported that 51-60% of their patients that were able to be cured at the end of the treatment. 5,5% reported that 71-80% of their patients were cured at the end of treatment, 16,4% of the respondents reported that 81-90% were cured, and 7,3% of the respondents reported a 91-100% cure rate among their patients.

4.5 THE PERCEPTIONS OF THE RESPONDENTS REGARDING THEIR KNOWLEDGE AND SKILLS OF TB TREATMENT

The existence of facilities and trained staff are essential in the provision of good health services. Due to the detrimental effect of TB in our community, it is expected that nurses should have knowledge and skills in this regard.

In this section, the researcher’s aim was to establish what knowledge and skill the respondents had of TB treatment.

4.5.1 The perceptions of the respondents regarding their knowledge of TB treatment

The researcher’s aim was to assess the knowledge of the respondents of TB treatment

Table 4.4: The distribution of the respondents by position at the clinic and their perceived knowledge of TB treatment

Position	Knowledge				TOTAL
	None	Limited	Adequate	Extensive	
Chief Professional nurse	0 (0)	2 (3,6%)	3 (5,5%)	1 (1,8%)	6 (10,9%)
Senior Professional nurse	0 (0)	0 (0)	13 (23,6%)	2 (3,6%)	15 (27,2%)
Professional nurse	0 (0)	3 (5,5%)	15 (27,3%)	0 (0)	18 (32,8%)
Enrolled nurse	0 (0)	1 (1,8%)	7 (12,7%)	2 (3,6%)	10 (18,1%)
TOTAL	0 (0)	6 (10,9%)	38 (69,1%)	5 (9%)	49 (89%)

Adds up to 49 (89%) because not all the respondents answered the question.

Table 4.4 indicates that of the total of respondents, who answered the question, 38 (69,1%) acknowledged that they had adequate knowledge of TB treatment, 6 (10,9%) of the respondents had a limited knowledge, whereas only 5 (9%) of the respondents had extensive knowledge of TB treatment.

Further breakdown of table per category indicates that 3 (50%) chief professional nurses had adequate knowledge as opposed to 13 (87%) of senior professional nurses, 15 (83%) of professional nurses and 7 (70%) of enrolled nurses. Possible explanation might be that chief professional nurses are not involved with day-to-day care of TB patients.

The respondents were asked to indicate whether they are satisfied with their skills in the treatment of TB. The results obtained from this question are presented in Table 4.5.

4.5.2 The perceptions of the respondents regarding their skills of tuberculosis treatment

The aim was to assess the skills of the respondents in TB treatment.

Table 4.5: The distribution of the respondents by position at clinic and their perceived skills in the treatment of TB

Position	Satisfaction		TOTAL
	Yes	No	
Chief Professional Nurse	4 (7,2%)	2 (3,6%)	6 (10,8%)
Senior Professional nurse	15 (27,3%)	0 (0)	15 (27,3%)
Professional nurse	15 (27,3%)	3 (5,5%)	18 (32,8%)
Enrolled nurse	9 (16,4%)	1 (1,8%)	10 (18,2%)
TOTAL	43 (78,2%)	6 (10,8%)	49 (88,7%)

- Adds up to 88.7% because not all respondents answered the question.

Table 4.5 indicates that the majority of respondents 43 (78,2%) were satisfied with their skills in TB treatment, whereas 6 (10,5%) were not satisfied with their skills in TB treatment. The reasons why they were not satisfied are “Not adequately trained”, “Only TB co-ordinators are exposed to adequate training.”

Further breakdown of table per category indicates that 4 (67%) chief professional nurses had adequate knowledge as opposed to 15 (100%) senior professional nurses, 15 (83%) professional nurses and 9 (90%) enrolled nurses. Possible explanation might be that chief professional nurses are not involved with day-to-day care of TB patients.

The respondents' request for more information and the way in which such information should be presented were also determined. These results are displayed in Table 4.6 and Figure 4.6.

4.5.3 The need for more information on tuberculosis treatment and preferred ways of obtaining such information by the respondents

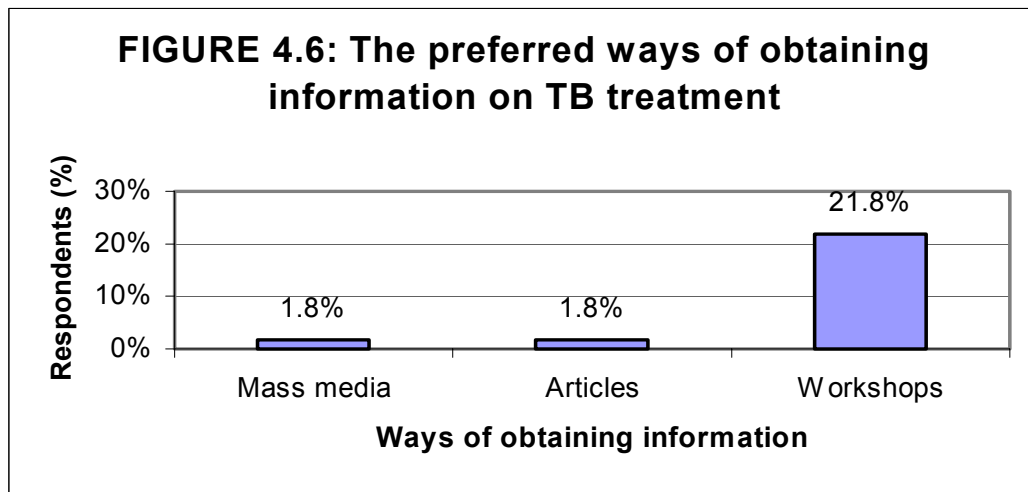
The next aim was to determine whether the respondents would like to have more information on TB treatment or not.

TABLE 4.6: The need for more information on TB treatment by the respondents

	N	%
1. Need information	31	56,4
2. Adequately trained	23	41,8
TOTAL	54	98,2

- Adds up to 54 (98,2%) because not all the respondents answered the question.

FIGURE 4.6: The preferred ways of obtaining information on TB treatment



- Only 74,6% of the respondents in Figure 4.6 answered the question.

The results in Table 4.6 indicate that 41,8% of the respondents felt they were adequately trained, whereas most of the respondents (56,4%) were in need of information. It is indicated (Figure 4.6) that 21,8% of the respondents requested information by means of workshops, 1,8% requested information by mass media and 1,8% requested articles.

Even though the majority of respondents reported to have knowledge and skills in TB treatment, the majority of respondents requested more information in this regard. This shows the respondents' need for more knowledge and skills and their interest in knowing more.

4.5.4 Recommendations for future training of student nurses in tuberculosis treatment

The researcher subsequently wanted to assess the respondents' views regarding the future training of student nurses in TB treatment.

TABLE 4.7: Recommendations for future training of student nurses in TB treatment

Recommendations	N	%
Students should be intensively trained about TB	32	58
TB should be introduced into a nursing curriculum	7	12,7
A TB awareness campaign is needed to inform students about changes in TB treatment	4	7,3
Students should volunteer and not be forced to treat TB patients	1	1,8
Students should have a positive attitude towards TB patients	1	1,8
TOTAL	45	81,8

- These do not add up to 100% because not all the respondents answered the question.

According to Table 4.7 the respondents showed their different views regarding the future training of student nurses in TB treatment. Of the respondents, 32 (58%) emphasised the need for intensive training of students in this topic, 7 (12,7%) suggested the inclusion of TB treatment in students' curriculum and 4 (7,3%) recommended that a TB awareness campaign is needed to inform students about changes in this topic. Of the respondents, 1 (1,8%) argued that students should volunteer to treat TB patients and 1 (1,8%) indicated that students should be encouraged to develop positive attitude towards TB patients.

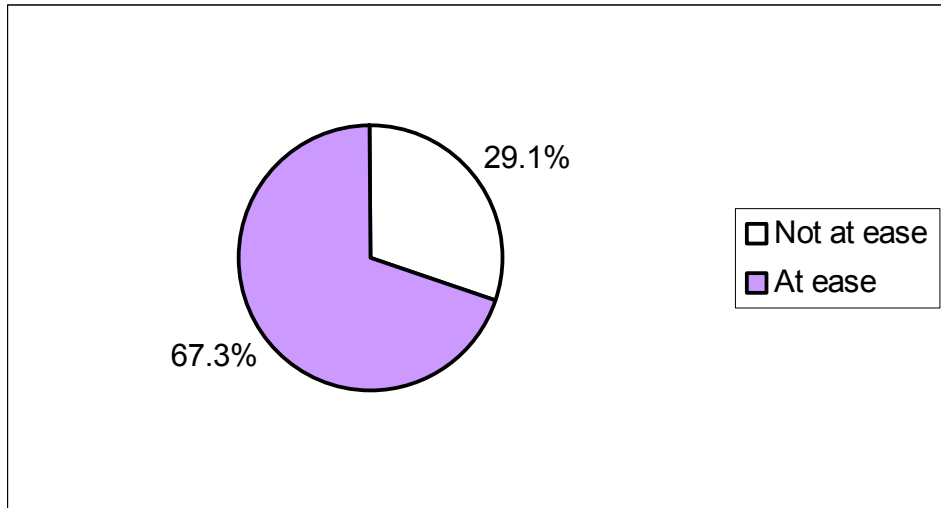
4.6 THE PERCEPTIONS OF THE RESPONDENTS REGARDING THEIR INTERVENTION WITH TUBERCULOSIS PATIENTS

In this section the aim was to assess the perceptions and attitudes of the respondents regarding their intervention with TB patients.

4.6.1 The attitudes of the respondents towards treating tuberculosis patients

The aim was to assess the attitudes of the respondents towards treating TB patients.

FIGURE 4.7: The attitudes of the respondents about treating TB patients



According to the findings shown in Figure 4.7, the majority of respondents, (67,3%) felt at ease about treating TB patients, whereas 29,1% felt uneasy. The reasons why the respondents felt uneasy include “Most of TB clients are defaulters”; “There are high rate of TB, MDR and HIV”; “TB treatment is not available”.

The results show that the reasons why the respondents felt uneasy are beyond their control. It is therefore important to create a working environment that is conducive to TB patient care.

The respondents were subsequently asked to indicate their perceptions about TB patient care. The results of this question are shown in Table 4.8 (page 60).

4.6.2 The perceptions of the respondents regarding tuberculosis patient care

The researcher subsequently assessed the perceptions of the respondents regarding TB patient care.

Key:

1 = Strongly agree

2 = Agree

3 = Uncertain

4 = Disagree

5 = Strongly disagree

TABLE 4.8: The perceptions of the respondents regarding TB patient care

Statements	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	TOTAL (%)
Patients with TB are entitled to the same care as any other patients	78,2	5,5	1,8	7,3	5,5	98,3
Great effort is needed to improve the quality of care for TB patients	85,5	10,9	1,8	1,8	0	100
TB treatment should provide TB patients with the optimal level of comfort	60	21,8	9,1	0	7,3	98,2
Current infection control measures are sufficient to protect a health worker from TB	10,9	21,8	9,1	27,3	30,9	100
Public funding should be provided to care for TB patients who can no longer support themselves	38,2	21,8	1,5	16,4	7,3	85,2

- Some do not add up to 100% because not all the respondents answered the question.

Table 4.8 indicates that most of the respondents reacted positively to the statements. It is indicated that of the respondents, the majority (83,7%) responded positively that “Patients with TB are entitled to the same care as any other patients”, 1,8% was uncertain, whereas 12,8% responded negatively. It is shown that the overwhelming majority of the

respondents (91,4%) were concerned that great effort is needed to improve the quality of care for TB patients, and responded positively to the statement, 1,8% of the respondents was uncertain, whereas another 1,8% gave a negative response. The data was analysed further and it was found that 81,8% of the respondents were positive that “The treatment should provide TB patients with the optimal level of comfort through symptoms and pain relief”, 9,1% were uncertain and 7,3% responded negatively. As seen in this table, 32,7% of the respondents perceived that current infection control measures are sufficient to protect a health care worker from TB, 9,1% of the respondents were uncertain, whereas the majority (58,2%) were concerned that current infection control measures are not sufficient to protect a health care worker from TB, hence they gave a negative response.

Furthermore, 60% of the respondents indicated that public funding should be provided to take care of TB patients who can no longer support themselves, 1,5% of the respondents was uncertain, whereas 23,7% perceived that public funding should not be provided to take care of TB patients who can no longer support themselves, hence they gave a negative response.

4.6.3 The knowledge of the respondents regarding printed educational material for the prevention and treatment of TB in their clinic

The researcher’s aim was to determine whether the respondents knew anything about the availability of printed educational material on TB in their clinic.

TABLE 4.9: Knowledge of the respondents regarding printed materials (as described in the table)

Printed Material	Yes (%)	No (%)	TOTAL(%)
Protection procedures for nurses who treat TB patients	54,5	45,5	100
Authority to treat TB patients	89,1	9,1	98,2
Confidentiality of TB patients	67,3	27,3	94,6

- Some do not add up to 100% because not all the respondents answered the question.

Table 4.9 indicates that 54,5% of respondents knew of printed material that described protection procedures for nurses who treat TB patients, 89,1% had knowledge of printed materials that described the authority to treat TB patients and 67,3% knew of printed material that described the confidentiality with regard to TB patients.

According to these results, it behoves the TB authorities to provide additional information on TB control procedures in all primary health care facilities and ensure that TB staffs are exposed to it.

4.6.4 Problems encountered by the respondents in their routine care of TB patients at clinics

The problems that the respondents encountered in their routine care of TB patients at clinics were assessed next.

FIGURE 4.10: Problems encountered by the respondents in their routine care of TB patients at clinics

Problems at clinics	%
Limited resources of health care facilities	50,4
Shortage of TB medication	78,2
Fear of the consequences of contracting TB	32,7
Poor management of TB	20,0
Non-compliance of patients with medical regimens	5,5
Shortage of food supply to patients	3,6
Shortage of transport	9,9

According to Figure 4.10, limited resources of health care facilities were indicated by 28 (50,4%) of the respondents, shortage of TB medication by 43 (78,2%) and fear of the consequences of contracting TB by 18 (32,7%). A further 11 (20%) of the respondents, who indicated poor management of TB as a problem, 3 (5,5%) indicated non-compliance

of patients with medical regimens, 2 (3,6%) indicated shortage of food supply and 5 (9,1%) indicated lack of transport.

According to these results, it appears that the majority of respondents were concerned about the shortage of TB medication. This reflects a significant problem in the area of supply. Unfortunately, TB control will remain inadequate until the problem of health care service limitations, such as limited facilities, shortage of transport and drugs, is addressed.

4.6.5 The perceptions of the respondents regarding specific issues/problems associated with TB that should be considered by nurses at clinics.

The aim was to determine the issues associated with TB that should be considered at clinics.

TABLE 4.11: Issues/Problems associated with TB that should be considered at clinics

Issues/Problems	N	%
Shortage of TB medications	13	23,6
Alienation of patients by nurses	9	16,4
Protection procedures	9	16,4
Shortage of transport	6	10,9
Defaulters	6	10,9
Spread of TB and HIV	2	3,6
Unsuccessful treatment	2	3,6
TOTAL	47	85,6

- Adds up to 85,6%(47) because not all the respondents answered the question.

Table 4.11 indicates that the shortage of TB medication is the most important issue at 13 clinics (23,6%), followed by alienation of patients and protection procedures at 9

(16,4%), shortage of transport and defaulters at 6 clinics (10,9%), whereas the spread of TB and HIV and non-improvements of patients who take their TB treatment regularly were at 2 (3,6%).

In view of the issues raised in Table 4.11, it is evident that the efforts of concerned respondents with regard to these issues need to be strongly supported and addressed. Achieving improved TB services must be a priority for all areas under-served in terms of primary health care.

4.7 THE ATTITUDES OF THE RESPONDENTS REGARDING THEIR SERVICE

Primary health care nurses have the ability to provide improved medical care and can help to build a good health system (Buch et al., 1984: 9). Their good relationship with the patients is the key element in the services of treatment.

In the following section, the researcher's aim was to determine the attitudes of the sampled respondents regarding their work and their patients.

4.7.1 The attitudes of the respondents regarding their work

Table 4.12 presents the negative attitudes of the respondents regarding their work, whereas Table 4.13 (page 67) presents the positive attitudes of the respondents regarding their work.

Key:

1 = Never

2 = Once in a while

3 = Sometimes

4 = Most of the time

5= All of the time

TABLE 4.12: The negative attitudes of the respondents regarding their work

Statements	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	TOTAL
I feel emotionally drained by my work	38,2	16,4	30,9	0	9,1	94,6
I feel fatigued when I wake up and have to face another day of the work	38,2	34,5	18,2	3,6	0	94,5
I feel terrible if I have to work hard in my job	56,4	18,2	21,2	3,6	0	99,4
I become angry at people over minor things since I took this job	65,5	16,4	12,7	0	1,8	96,4
I feel frustrated by my work	54,5	25,5	18,2	0	1,8	100
I am working harder than I am supposed in my work	16,4	7,3	36,4	18,2	21,8	100
I feel as if my attitude is negative in my work	70,9	14,5	7,3	1,8	5,5	100

- These don't always add up to 100%, as not all the respondents answered the question.

The data presented in Table 4.12 indicates that the respondents had diverse attitudes regarding their work. On the question whether the respondents feel emotionally drained by their work Table 4.12 represents that the majority of respondents, namely 54,6%, did not support the statement, 30,9% were neutral and 9,1% supported the statement. The majority of respondents, namely 62,7% showed a positive attitude when asked whether they feel fatigued when they wake up and have to face another day of their work, 18,2% of the respondents were neutral, whereas 3,6% supported the statement. On the question whether the respondents feel terrible if they have to do hard work in their job, overwhelming majority (74,6%) did not support the statement, 21,2% were neutral, whereas 3,6% supported the statement. Further analysis indicates a majority of positive attitudes (71,9%) on the question of whether the respondents become angry with people

over minor things since they took this job, 12,7% were neutral, whereas 1,8% had a negative attitude. Furthermore, the majority of respondents (54,5%) indicated that they were not frustrated when asked whether they feel frustrated by their work, 25,5% indicated that they feel frustrated by their work only once in a while, 18,2% were neutral, whereas 1,8% supported the statement. Interestingly, 40% of the respondents supported the statement that they are working harder than they are supposed to in their work, 36,4% were neutral, whereas 23,7% disagreed. The majority of respondents (85,4%) indicated a positive attitude when asked whether they feel as if their attitude is negative in their work, 7,3% were neutral, whereas another 7,3% indicated a negative attitude.

Key:

1= Never

2= Once in a while

3= Sometimes

4= Most of the time

5= All of the time

TABLE 4. 13: The positive attitudes of the respondents regarding their work

Statements	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	TOTAL
I feel I am satisfied with my working conditions	14,5	1,8	30,9	29,1	21,8	98,1
I get the encouragement I need in my work	5,4	10,9	14,	36,4	30,9	98,1
I feel that the support system in my work is satisfactory	5,4	25,5	18,2	0	1,8	50,9
I have accomplished worthwhile things in my work	3,6	5,5	23,6	52,7	10,9	96,3
In my work, I deal with emotional problems very calmly	0	5,5	9,1	45,5	38,2	98,3
I feel I am positively influencing other people's lives through my job	3,6	5,5	7,3	47,3	34,5	98,2

- These do not add up to 100% because not all the respondents answered the question.

The trend of response in Table 4.13 is towards more “Most of the time” and “All of the time”. The analysis undertaken reveals that 50,9% of the respondents showed a positive response when asked whether they feel satisfied with their working conditions, 30,9% of the respondents were neutral, whereas 15,2% gave a negative response. On the question of whether the respondents get the encouragement they need in their work, the results shows that 67,3% were positive, 14,5% gave a neutral response, whereas 16,3% gave a negative response. It was found that 1,8% of the respondents indicated that they feel satisfied with the support system in their work, were positive in this regards, 18,2% were neutral, whereas 30,9% were negative. The respondents were also asked whether they have accomplished worthwhile things in their work. The findings regarding this question indicate that 63,3% of the respondents were positive, 23,6% were neutral, whereas 9,1%

were negative. The majority of respondents, namely 83,7%, gave a positive response when asked whether they deal with emotional problems very calmly in their work, 9,1% were neutral and 5,5% were negative. It was further found that 81,8% of the respondents gave a positive response when asked whether they feel they are positively influencing other people's lives through their job, 7,3% were neutral, whereas 9,1% were negative.

4.7.2 The attitudes of respondents regarding their interaction with patients

Subsequently the researcher aimed to ascertain the attitudes of the respondents regarding their interaction with patients. Table 4.14 presents the respondents' negative attitudes regarding their interaction with patients they work with. Table 4.15 (page 60) presents the respondents' positive attitudes regarding their interaction with patients they treat.

Key:

1 = Never

2 = Once in a while

3 = Sometimes

4 = Most of the time

5= All of the time

TABLE 4.14: The negative attitudes of the respondents regarding their interaction with patients

Statements	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	TOTAL
I feel exhausted after working with my patients	18,2	14,0	3,9	12,7	10,9	60,2
I feel I treat some patients as if they are impersonal objects	85,5	7,3	5,5	1,8	0	100,1
Working with people all day is really a strenuous job for me	43,6	29,1	23,6	3,6	0	99,9
I really do not care what happens to some patients	87,3	3,6	0	3,6	1,8	96,3
Working with people directly puts stress on me	38,2	16,4	36,4	9,1	0	100,1
I feel patients blame me for some of their problems	70,9	9,1	18,2	1,8	0	100

- These do not add up to 100% because not all the respondents answered the question.

The attitudes of the nurses as shown in Table 4.14, are positive, hence the trend of response is towards more positive. As seen, 32,2% of the respondents presented a positive attitude when asked whether they feel exhausted after working with patients, 3,9% were neutral, whereas 23,6% supported the statement. The overwhelming majority of the respondents, namely 92,8%, indicated a positive attitude when asked whether they treat some patients as if they are impersonal objects, 5,5% were neutral, and 1.8% supported the negative statement. When asked whether working with people all day is a strenuous job for them, 72,7% of the respondents gave a positive response, 23,6% gave a neutral response, whereas 3,6% gave a negative response. On the question of whether the respondents do not care what happens to some patients, 90,9% indicated that they really care about what happens to some patients, none of the respondents was neutral, whereas 5,4% supported the statement. Further analysis was made on whether the respondents feel that working with people directly put stress on them. It was found that 52,6% of the respondents indicated that working with people directly do not put stress on them, were

positive in this regard, 36,4% were neutral, whereas 9,1% supported the statement. On the question whether the respondents feel patients blame them for some of their problems, 80% of the respondents indicated that patients do not blame them for some of their problems, 18,2% were neutral, whereas 1,8% supported the statement.

Key:

- 1= Never
- 2= Once in a while
- 3= Sometimes
- 4= Most of the time
- 5= All of the time

TABLE 4.15: The positive attitudes of the respondents regarding their interaction with patients

Statements	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	TOTAL
I feel that my patients have complete trust in me	10,9	1,8	3,6	32,7	45,5	94,5
I deal very effectively with the problems of my patients	9,1	3,6	3,6	43,6	38,2	98,1
I can easily create a relaxed atmosphere with my patients	5,5	1,8	10,9	41,8	38,2	98,2

- These do not add up to 100% because not all the respondents answered the question.

Table 4.15 shows that 78,2% of the respondents were positive when asked whether they feel that their patients have a complete trust in them, 3,6% of the respondents were neutral, whereas 12,7% were negative. It was also found that the majority of the respondents (81,8%) were positive when asked whether they deal very effectively with the problems of their patients, 3,6% were neutral, whereas 12,4% were negative. On the question of whether the respondents can easily create a relationship with their patients, 80% were positive, 10,9% were neutral, whereas 7,2% were negative.

4.8 THE PERCEPTIONS OF THE RESPONDENTS REGARDING FACTORS THAT CAN IMPROVE TB PREVENTION

In this section, factors that can improve TB prevention are set forth from the perspective of the respondents.

According to Table 4.16 all factors were indicated to be important for TB prevention. There is a great demand to emphasise these factors, so that their contribution for TB prevention can be seen.

TABLE 4.16: Factors that can improve spread of TB prevention

Factors	N	%
Training of voluntary villagers to provide simple health care	52	94,5
Tracing defaulters from the services	51	92,7
Encouragement of nutrition education	50	90,9
Development of a health commitment and training programme	45	81,8
Improving the working conditions for health care team	43	78,2
The use of local radio station to broadcast health education information	43	78,2
Encouragement of home visitation	42	76,4
Health workers should give extensive information to patients about TB	41	74,5
Encouragement of food production	39	70,9
Doing community search to find new patients	32	67,3
Increase in income	35	63,6
Essential service for family planning	34	61,8
Encouragement of safe drinking water	28	50,9
Encouragement of the use of helpful customs and beliefs	26	47,3

4.9 SUMMARY

The results presented in this chapter indicate that only a few nurses at the government clinics in Qwa-Qwa had a lack of adequate knowledge, training and skills regarding TB treatment. These few nurses were, however, keen to acquire more information on TB treatment in the form of mass media, articles and workshops. Also indicated in this chapter were the feelings of unease nurses with regard to patients who are defaulting treatment, the increasing rate of TB and the unavailability of TB medicine. Furthermore, only a few nurses did know about printed materials, in their clinics, that describe (i) protection procedures for nurses who treat patients with TB (ii) authority to treat patients with TB, and (iii) confidentiality of patient with TB. The results have highlighted significant problems encountered by the nurses in their routine care of TB patients at the clinics. These problems include: limited resources of health care facilities, shortage of TB medicine, fear of the consequences of contracting TB, poor management of TB, non-compliance of patients with medical regimens and shortage of transport. Only 9,6% of the respondents seemed to have a negative attitude towards their work (See page 65), whereas only 7,6% of the respondents seemed to have a negative attitude towards their interaction with patients (See page 69). Finally, the results of the study have identified factors that can improve TB prevention (See page 71).

CHAPTER 5

FINDINGS AND CONCLUSION

5.1 Discussion of results

TB is one of the major diseases in South Africa. With the gradual increase of TB, primary health care nurses are the most important category of health care workers in TB prevention. They have the ability to create awareness about TB, teach appropriate life-style changes and provide improved medical care for those diagnosed with TB.

Many aspects of TB diagnoses and treatment require technical skills for which a primary health care nurse must be specially trained. In particular, all primary health care nurses involved with TB control should be trained to perform a number of aspects associated with TB. They have to learn more about TB, diagnosis, and treatment and monitoring of the conditions of TB, in order to ensure that all TB patients reaching the services are correctly diagnosed and receive proper treatment. The findings of this study indicated that, for instance, issues of access to TB information would have a positive impact on the service improvement for TB. The practical application from this study is that access to TB information is fundamental to achieve gains in the fight against TB. Clearly, skills and access to TB information are important for TB patient care as they affect knowledge of disease and its causes. More importantly, skilled and informed nurses are able to equip patients with the ability to take action that not only necessitates appropriate medical care, but also seeks to prevent the occurrence of life threatening conditions. Jooste (1993:4,6) maintains that "...nurses who are skilled and informed are more dedicated to work with TB patients than those who are not, thereby providing improved medical care". In addition "...there is a need for training and supportive supervision for nurses, particularly for those in lower positions as they feel isolated and require more motivation".

Other constraints include, *inter alia*, lack of key health resources in TB patient care, fear by the nurses of contracting TB, and poor management systems towards nurses with

regard to TB are exacerbating TB patient care. As the results of the study showed, lack of health infrastructure and resources featured prominently among the concerns voiced by the nurses interviewed. This indicates the need for more basic infrastructure and resources to improve the quality of care with regard to TB patients at the government clinics in Qwa-Qwa. The primary health care system should address the problem of TB information provided on diagnosis and treatment procedures. This should be accompanied by the genuine improvement of the attitudes of nurses towards their work and patients. Nurses who show bad or unsuitable attitudes regarding their work and patients are interpreted as undermining their sense of self and are threats to patient care. Nurses need to be sensitive to the issues of personal worth, and to understand how their work contributes to patient care. Intervention strategies must, in the long run, develop a culture of encouraging nurses in their work, *inter alia*, training in interpersonal skills and the inclusion of the quality of the nurse-patient relationship as an indicator in assessing staff performance.

Based on the findings of the study, the following recommendations have emerged:

- Limited resources of health care facilities, shortage of TB medication, fear of the consequences of contracting TB by nurses, a poor management system of nurses with regard to TB patient care were quoted by nurses as problems which they are encountering at the clinics. Further, only (9,9%) of the nurses quoted non-compliance of TB patients with medical regimens and two (3,5%) quoted shortage of transport (See page 62). It is suggested that these problems should be addressed to allow nurses to improve service rendering at the clinics.
- Current views hold that behaviour at work is a product of both technological factors and human factors (Robertson & Smith in Jooste, 1993:435). It is recommended that nurses be motivated in their workplace. More attention should be given to their needs and the improvement of their workplace. It is hoped that these will help them understand how their work contributes to TB patient care.

- Nurses should be educated to develop a positive attitude to TB patient care. Positive attitudes of nurses regarding their interaction with patients could be maintained by improving their interpersonal skills. This will guide their attitudes in the direction most favourable for TB patient care. James (1992:4) noted that nurses who are better trained are able to use their skills in the management of emotions at work.
- Efforts should go towards further research to improve the quality of TB patient care by using similar or the same type of study, with regard to other health workers involved with TB control in order to establish their perceptions in the provision of TB patient care.
- Generalisation of the findings of this study is impossible, since the study was limited to 71 respondents in a specific area. It is recommended that further research be conducted to replicate the present study with samples of primary health care nurses drawn from other clinics around the country, in order to be able to generalise the findings.
- Further research on similar topics could also include the perceptions of patients to generate guidelines for TB care.

Limitations pertaining to the study include the following:

- The respondents had to fill-out the questionnaires independently without the assistance of the researcher. Some respondents might have experienced problems in interpreting some questions; hence some questions were left incomplete.
- Person-to-person interviews and/or focus group discussion as part of a qualitative study could have been used to supplement the information gained from the questionnaires. This would have had the advantage of exploiting the attitudes and perceptions of respondents, and added value to the study.

- The study was costly, due to remoteness of the area. The researcher had to extensively make use of public transport to meet the respondents. The alternative was to mail the questionnaires. However, the researcher decided not to mail the questionnaires because the response rate could have been much lower.
- The study dealt with the perceptions and attitudes of the health care providers alone. The inclusion of the patient's perceptions would have added value and a better understanding with regard to the topic.
- For practical reasons, the researcher was unable to send follow-up questionnaires. It is possible that the respondents would have opened up to a greater extent if follow-ups could have been undertaken.
- Question 2.9 in the questionnaire was not relevant for the study, because the sample already consisted of nurses treating TB patients (See Appendix 1: Questionnaire used in the survey).
- It was realised during the operationalization of the study that certain questions, which were included in the questionnaire, were not relevant for the study. When analysing and interpreting data, these questions were ignored (See Appendix 1: Questionnaire used in the survey).

TB is one of the fastest growing epidemics in South Africa, and it is important that every individual, health care worker, and community should be vigilant. Much has been learnt from this study into the provision of TB patient care. There is a need for more information into the provision of TB patient care amongst the nurses. If particular attention is paid to ensuring that the basic facilities are available at the appropriate level of care and nurses follow the guidelines of management of patients with TB, more deaths as a result of TB would be prevented.

5.2 Conclusion

In this final section, the researcher concludes by making the following remarks:

- In the South African context of high prevalence of TB, there is an urgent need for expanding and improving TB services,
- Sociological studies can contribute to a better understanding of TB services, the predicament that nurses face, and their perceptions of their own needs and of the services they are providing,
- The findings of the study point to the need for rethinking services and information strategies to take into account both the nurse and the patient perspective,
- TB patient users of health services could be trained in the use of simple indicators to undertake quality of care evaluations in local settings in order to negotiate improvement of the health service,
- An informed service decision is easier to make when research evidence is available to identify appropriate interventions,
- Empowerment of nurses with the necessary information and skills is an important strategy to treat TB, and
- Relationship between the patient and the nurse and the latter's compassion and understanding of patient's life style is important to improve TB treatment.

6. BIBLIOGRAPHY

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