CHAPTER 1

Orientation to the study

1.1 INTRODUCTION

Defaulting among clients on long-term tuberculosis (TB) treatment has long been an area of great concern in public health. Completion of TB treatment is the foremost priority of TB control programmes. When clients default treatment, they may remain infectious resulting in their infecting an unknown number of people. Failure to complete the treatment regimen also results in the emergence of drug-resistant strains of Mycobacterium TB, a condition known as multi-drug-resistant tuberculosis (MDR TB). When MDR TB occurs, the consequences are very serious indeed. Cure may prove impossible for the individual client, and in the case of Human Immune-deficiency Virus (HIV) co-infected clients, mortality is high. The cost of managing MDR TB is far higher and the complexity of care far greater than for drug-sensitive TB. More alarming is the fact that clients with MDR TB transmit MDR TB. If compliance is achieved, clients are cured while the emergence of drug resistance and relapses can be prevented (Connolly, Davies & Wilkinson 1999:1081).

For TB programmes to be successful, it is essential that clients be given good quality TB care that includes health education to improve the population's understanding that TB can be cured. According to Jaramillo (1999:400), when clients are given information, they are able to make informed choices about their condition, understand their condition and follow medical advice and this leads to successful TB treatment.

This chapter explains the research problem and gives an overview of the study, including the objectives, research methodology and ethical considerations.

1.2 BACKGROUND TO THE RESEARCH PROBLEM

In the literature review the researcher found that the World Health Organization's (WHO) statistics on TB in Africa covered 1996 to 1998.

TB kills 8 000 people a day, that is two to three million deaths globally each year and eight million people per year develop the disease (WHO 1998:14). The WHO estimated that this figure would rise to more than four million deaths by 2004. Ninety-five percent of TB cases and ninety-eight percent of deaths are in developing countries. Seventy-five percent of TB cases in developing countries are also in the economically productive age group of 15 to 50 years (WHO 1996:20). TB is the biggest killer of young people and adults in the world today (Baxi 2003**:**3). In 1993 the WHO declared TB a global emergency, the first and only disease to be recognised as such because in many parts of the world TB is out of control. It is actually one of the top ten causes of morbidity and mortality globally (WHO 1996:33).

It has been estimated that approximately one third of the world's population is infected with TB and that each year; 8 million people develop TB disease (WHO 2002:217). Southern Africa, Zimbabwe included has the highest rate of people suffering from TB in Africa. The figures are exacerbated by HIV/AIDS (Motsi 2003:8). TB accounts for one third of AIDS deaths worldwide and is the biggest killer of people who are HIV-positive (Baxi 2003:1).

In Zimbabwe, despite the availability of effective treatment since the 1940's, TB has been identified as a major health problem that has devastated the health of families and the income of breadwinners. TB sends many self-sustaining families into poverty. If the breadwinner is not properly diagnosed or treated, he or she will lose on average, a full year of work, in terms of sick leave (Baxi 2000:4). According to the Zimbabwe, Ministry of Health & Child Welfare (1997:78), the 1990s in Zimbabwe saw an upward trend in new TB cases. In 1997, a total of 4 376 new cases were recorded. In 1998, the total number of new cases rose by 3 315 to 7 691. Motsi (2003:8) reported 52 000 and 55 000 TB cases in Zimbabwe for 2000 and 2002, respectively.

In recent years, effective and relatively safe drugs have been made available for TB treatment worldwide. Al-Hajjaj and Al-Khatim (2000:345) state that TB is nevertheless still widespread, especially in Saudi Arabia and developing countries. All efforts to lower the incidence of this disease have only been partially successful. One of the major contributing factors to the increasing number of TB cases is interruption of treatment by clients on TB treatment. TB is unique in that even after clinical recovery, a long period of treatment has to be given to prevent relapse, as it is difficult to kill the semi-dormant TB bacilli. Al-Hajjai and Al-Khatim (2000:345) also warn that because of

this, many clients may stop taking treatment when they feel better due to lack of knowledge, fear of side effects or other reasons. Defaulting treatment leads to relapse, drug resistance and the occurrence of chronic cases, which are very difficult to treat and require prolonged hospitalisation in specialised centres. This is why it is important for clients not to default treatment, as it is not cost-effective for them and the health institutions.

The district of Kwekwe in the Midlands Province, Zimbabwe has a population of 286 039 (Zimbabwe, Ministry of Home Affairs 2002:101). Kwekwe General Hospital is a 300-bed hospital that serves as a referral centre for both urban and rural clinics as well as for farm labourers from the surrounding farms. An average of 54 TB clients are admitted per month and of these, about 9 default treatment. Defaulting among clients on TB treatment is a major problem in the Kwekwe district. In the year 2000, a total of 1 367 TB cases were recorded. Of these, 222 cases (16,2%) defaulted treatment. In 2001, 1 076 cases were recorded, 142 cases (13,2%) defaulted treatment (Zimbabwe, Ministry of Health & Child Welfare 2002: 6). These clients come back later very ill and occupied beds, which could be utilised for acute cases.

The National Tuberculosis Programme (NTP) (Zimbabwe, Ministry of Health & Child Welfare 1999a: 6-7) has put in place measures to reduce the incidence and prevalence of TB through emphasising effective treatment and standardisation of the management of TB. TB treatment is free in Zimbabwe. In addition, health education is given to all clients diagnosed with TB by health workers. A strategy called Directly Observed Therapy Short Course (DOTS) was adopted in Zimbabwe in 1995 to improve compliance with treatment (WHO 1996:35). Despite all these measures, clients on TB treatment continue to default treatment.

Against this background the researcher considered it necessary to carry out a study to investigate the knowledge levels of clients on long-term TB treatment.

1.3 RATIONALE FOR THE RESEARCH

The following is the rationale for carrying out the study:

- as indicated by the statistics, the mortality and morbidity figures of clients suffering from TB are too high, given the fact that TB is a global public health concern and is preventable.
- the phenomenon of MDR TB should be prevented.
- in an individual infected with HIV, defaulting TB treatment may result in a more rapid progression of the infection and Acquired Immune Deficiency Syndrome (AIDS).
- it is therefore necessary to investigate the knowledge levels of clients on TB treatment.

1.4 PROBLEM STATEMENT AND RESEARCH QUESTIONS

Despite the NTP's concentrated efforts to eradicate TB by maintaining a cure rate of 70,0% of new cases through systematic client education, decentralising of clinic organisation, free treatment and defaulter retrieving, the number of clients with TB remain a problem at Kwekwe General Hospital.

1.4.1 Research questions

The study wishes to examine and answer the following questions:

- do clients on TB treatment have adequate knowledge regarding their medical condition and their treatment regimen?
- how do health workers contribute to the knowledge levels of clients on TB treatment?

1.5 PURPOSE OF THE STUDY

The purpose of the study is to investigate the knowledge levels of clients on long-term TB treatment at Kwekwe General Hospital.

1.6 OBJECTIVES OF THE STUDY

The specific objectives of this study are to:

- assess the knowledge levels of clients on TB treatment regarding the medical condition and treatment regimen.
- determine how registered nurses contribute to the knowledge levels of clients on TB treatment.

1.7 SIGNIFICANCE OF THE STUDY

No research findings were found of studies done at Kwekwe General Hospital on the knowledge levels of clients on long-term TB treatment. It is therefore envisaged that assessing the knowledge level of clients on TB treatment may help identify groups of clients at risk of defaulting treatment and hence lead to improved client education. Freeing individuals, households and communities from TB indirectly influences the number of hospitalised clients and, in general, improves the quality of lives and productivity of clients as well as alleviating the detrimental effects of MDR TB on the community and health services.

1.8 DEFINITION OF KEY TERMS

The following key terms are used in the study as defined below:

- **Tuberculosis**

The WHO (1996:19) defines TB as “a communicable disease of the lungs that can also affect any part of the body. It is caused by the Mycobacterium TB and transmission occurs by the airborne spread of infectious droplets.”

- **Multi-drug-resistant TB (MDR TB)**

The NTP (Zimbabwe, Ministry of Health & Child Welfare1999a: 47) describes MDR TB as “a case of TB (usually pulmonary) excreting bacilli, resistant to at least both Isoniazid and Rifampicin with or without resistance to other anti-TB drugs”

- **Defaulting**

The WHO (1996:92) defines defaulting as “a client whose treatment has been interrupted for more than two consecutive months before the end of course of treatment”. In this study, defaulting refers to interruption of more than two weeks of TB treatment resulting in relapse and prolongation of treatment.

- **TB treatment**

In Zimbabwe, two main categories are used to treat TB, each with its own regimen. The regimens consist of a combination of five first line drugs, namely Isoniazid (H), Rifampicin (R), Ethambutol (E), Pyrazinamide (Z) and Streptomycin (S).

Category 1 includes all new cases of TB regardless of site or severity. The intensive phase in this category lasts two months with a combination of HRZE drugs, and the continuation phase, six months of HE (or four months HR, if on DOTS), making a total of six to eight months.

Category 2 consists of all re-treatment of any form of TB and treatment failure sputum positive cases. The intensive phase is two months of SHRZE and one month of HRZE. The continuation phase is five months of HRE, making a total of eight months (Zimbabwe, Ministry of Health & Child Welfare 2000b: 108-109).

- **Knowledge**

Collins English Dictionary (1991:861) defines knowledge as “the facts, feelings or experiences known by a person or group of people; the state of knowing; awareness, consciousness, or familiarity gained by experience or learning; specific information about a subject”. In this study, knowledge will refer to the facts clients have regarding the condition of TB and its treatment, and their understanding of the facts.

1.9 RESEARCH APPROACH AND METHODOLOGY

The researcher adopted a quantitative approach. In quantitative research, numerical information is collected and analysed statistically (Polit & Hungler 1999:15).

1.9.1 Research design

The researcher used a descriptive survey design in order to give a detailed description of the knowledge levels of clients on long-term TB treatment. According to Brink and Wood (1998:289), a descriptive survey design may be utilised “to study characteristics in a population for the purpose of investigating probable solutions for a research problem”.

1.9.2 Population and sample

The study was conducted at Kwekwe General Hospital Outpatients TB Clinic. The facility was chosen because it is a referral centre for review of all TB clients. Two sets of respondents were identified, namely clients and registered nurses.

- **Clients**

The target population were male and female clients attending outpatients TB clinic and clients admitted with TB in the medical wards at Kwekwe General Hospital. The sample was drawn from the target population. A non-probability sampling design, using a convenient sampling method, was used to select the sample. The sample consisted of sixty clients.

To be included in the study, clients had to be in the continuation phase of their treatment and able to speak Shona, Ndebele or English, the languages the investigator is well conversant with.

Clients in the intensive phase were excluded.

- **Registered nurses**

The target population was registered nurses. A simple random sampling of the probability sampling design was used.

To qualify for inclusion in the study, registered nurses had to have at least six months’ experience of nursing TB patients in the out-patients department or wards.

Registered nurses with less than six months' working experience with TB patients were excluded.

The population and sample are discussed in chapter 3, section 3.5.

1.9.3 Data collection

Data collection is "a systematic way of gathering information, which is relevant to the research purpose or questions" (Burns & Grove 1997:60).

The researcher collected data from clients and health workers during personal interviews with respondents using two different structured questionnaires. A structured questionnaire enables the investigator "to be consistent in asking questions and data yielded is easy to analyse" (Polit & Hungler 1995:275-276) (see chapter 3, section 3.7).

1.9.4 Data analysis

A computer program was used to analyse the data and descriptive statistics presented by means, frequencies and percentages were used to present the data. This was done with the help of a professional statistician.

1.10 ETHICAL CONSIDERATIONS

Pera and Van Tonder (1996:4) define ethics as "a code of behaviour considered correct". The following principles were considered in this study: permission to conduct the study, respect for persons as autonomous individuals, confidentiality and anonymity, avoiding harm, justice, and informed consent (see chapter 3, section 3.9).

1.11 RELIABILITY AND VALIDITY OF THE RESEARCH

According to Polit and Hungler (1995:353), validity refers to "the degree to which the instrument measures what it is supposed to be the measuring". The researcher focused on content validity, which is the degree to which the items in an instrument adequately represent the universe of the content. The questionnaire was given to

clinical staff experienced in the treatment of TB and staff with research experience to determine whether the items in the questionnaire measured the knowledge levels that contribute to defaulting TB treatment.

A pilot study, which is a smaller version of the study, was carried out to obtain information to improve the questionnaire and to assess the feasibility of the study. The respondents in the pilot study were similar to those in the study and it was done under similar settings, but they were not included in the final study. Conducting a pilot study assisted the investigator to identify problems with the questionnaire. It also gave an estimate of the time to interview each individual, which was important in obtaining consent to participate (Polit & Hungler 1995:34-35).

1.12 OUTLINE OF THE STUDY

This chapter introduced the study, described the purpose, objectives, research methodology, ethical considerations, reliability and validity of the study, and defined key terms.

Chapter 2 discusses the literature review undertaken for the study.

Chapter 3 describes the research design and methodology.

Chapter 4 presents the data analysis and interpretation of findings.

Chapter 5 concludes the study, presents conclusions and makes recommendations to empower clients on long-term TB treatment and for future research.

Finally, a list of sources used and annexures are provided.

1.13 CONCLUSION

This chapter explained the background to the problem, presented the problem statement, the purpose of the study, research objectives and significance of the study, defined key terms, and briefly discussed the methodology and ethical considerations. Chapter 2 discusses the literature review conducted on long-term TB treatment for the study.