

CHAPTER I

INTRODUCTION

1.1 Background and Rationale

Tuberculosis (TB) is one of the major communicable diseases, causing public health problems not only in Thailand but worldwide. The great concern about TB is tending to increase globally due to drug resistance and the increased prevalence of HIV in all regions of the world. In 2003, the World Health Organization (WHO) declared tuberculosis a global emergency. In April 1993, a WHO report revealed that one third of the world's population was infected with TB, and the number of TB cases had tended to increase by about 1 percent of the world's population every subsequent year. In 1995, there were about 9 million TB cases worldwide and about 3 million died, (WHO, 2003), of whom more than a quarter could be cured (WHO, 2003). The WHO speculated that, in developing countries, if there were no active preventive measures and controls for TB, about 1 billion people would become infected, 200 million would become sick, and 70 million would die (WHO, 2003).

In Thailand, TB has been a matter of great public health concern for more than 50 years. Every year, there are about 100,000 new TB cases. Among these, 50,000 people are active cases, but only about half access treatment services (Ministry of Public Health, 1998). Among the leading causes of death of Thai people from communicable diseases, tuberculosis is the second most important (Chanpen Chuprapawan et al., 2000). In 1990, the Ministry of Public Health revealed that 3,700

cases died from TB each year and the annual mortality rate was 65/100,000 population (Payanan, 1993). In 2001, the TB Working Team of the Ministry of Public Health and WHO concluded that there were 31,257 TB cases in Thailand in 2001, and the incidence was 49/100,000. Most of these were diagnosed as smear-positive pulmonary TB. About 20,000 TB cases were also co-infected with HIV. Moreover, more than half of these were among people of working age (Ministry of Public Health, 2003). According to the Office of Communicable Disease Control, Region 11, Nakhon Si Thammarat Province, the TB situation in the southern part of Thailand was getting worse. In 2001, there were 4,500 TB cases registered, and 2,123 were smear-positive cases, with an incidence rate of 48.34/100,000 (Annual Epidemiological Surveillance Report, 2002). Among these, the cure and complete treatment rates were 67.5 and 66.0 percent, respectively, while the failure rate, default, transferred out, and death were 4.4, 7.2, 5.0, and 14.3 percent, respectively.

In Thung Song District, in 2001, the number of TB cases registered for treatment was 171 or 120/100,000, with a cure rate of 33.3 percent, default treatment rate of 27.5 percent, and other, 39.2 percent. In 2002, the number of registered TB cases was 204, or 136/100,000 (District Tuberculosis Register, 2001).

There are two main objectives in TB control: (1) to reduce the mortality rate, the incidence rate and prevalence of TB; and (2) to prevent anti-tuberculosis drug resistance. The targets of global TB control ratified by the World Health Assembly are: (1) to treat successfully 85 percent of detected smear-positive TB cases; and (2) to detect 70 percent of all such cases and decrease default cases to < 5 percent.

Therefore, TB control in Thung Song District is still an urgent public health problem. The treatment success rate was low, while on the contrary, the default rate was still higher than the WHO's target. Since TB is a chronic disease, high default rates will likely lead to increased transmission of drug-resistant TB cases, resulting in high treatment costs for drug-resistant cases, and resistant organisms in the community that are difficult to control. Finally, the patients themselves will also be affected by the loss of their jobs from illness, longer treatment period, and stigmatization.

This study, therefore, was conducted to determine the outcomes of TB treatment and related factors among new TB cases in Thung Song District, Nakhon Si Thammarat Province. The result of the study will provide information to optimize effective TB control and preventive programs, to decrease the morbidity and mortality from TB in Thung Song District. Nakhon Si Thammarat Province, Thailand.

1.2 Research Questions

1.2.1 Primary questions

1.2.1.1 What were the treatment outcomes for new TB cases in Thung Song District, Nakhon Si Thammarat Province, from 1st February to 30th September, 2003?

- What was the cure rate for new TB cases in Thung Song District, Nakhon Si Thammarat Province?
- What was the complete treatment rate for new TB cases in Thung Song District, Nakhon Si Thammarat Province?

- What was the default rate for new TB cases in Thung Song District, Nakhon Si Thammarat Province?
- What was the failure rate for new TB cases in Thung Song District, Nakhon Si Thammarat Province?
- What was the mortality rate for new TB cases in Thung Song District, Nakhon Si Thammarat Province?
- What was the transfer-out rate for new TB cases in Thung Song District, Nakhon Si Thammarat Province?

1.2.1.2 What factors were associated with the outcomes of treatment for the new TB cases in Thung Song District, Nakhon Si Thammarat Province?

1.2.2 Secondary questions

- 1.2.2.1 What are the socio demographic and economic characteristics of new TB patients, in Thung Song District, Nakhon Si Thammarat Province?
- 1.2.2.2 What are the knowledge, attitudes and practices of the new TB cases in Thung Song District, Nakhon Si Thammarat Province?
- 1.2.2.3 What are the characteristics of health care services of the TB clinics in Thung Song District, Nakhon Si Thammarat Province?
- 1.2.2.4 What are the treatment systems used at the TB clinics in Thung Song District, Nakhon Si Thammarat Province?
- 1.2.2.5 What are the interrelationships between the new TB cases and health care providers?

1.3 Objectives

1.3.1 General Objectives

To determine the outcomes of TB treatment and related factors among new TB cases in Thung Song District, Nakhon Si Thammarat Province.

1.3.2 Specific Objectives

1.3.2.1 To determine the outcomes of TB treatment of the new TB cases in Thung Song District, Nakhon Si Thammarat Province, as follows:

- The cure rate for new TB cases in Thung Song District, Nakhon Si Thammarat Province
- The treatment complete rate for new TB cases in Thung Song District, Nakhon Si Thammarat Province
- The default rate for new TB cases in Thung Song District, Nakhon Si Thammarat Province
- The treatment failure rate for new TB cases in Thung Song district, Nakhon Si Thammarat Province
- The mortality rate for new TB cases in Thung Song District, Nakhon Si Thammarat Province
- The transfer-out rate for new TB cases in Thung Song District, Nakhon Si Thammarat Province

1.3.2.2 To determine the factors related to the outcomes of TB treatment among new TB cases in Thung Song District, Nakhon Si Thammarat Province

- 1.3.2.3 To determine the socio-demographic and economic characteristics of new TB patients in Thung Song District, Nakhon Si Thammarat Province
- 1.3.2.4 To determine the knowledge, attitudes and practices of new TB cases in Thung Song District, Nakhon Si Thammarat Province
- 1.3.2.5 To determine the characteristics of health care services of the clinics in Thung Song District, Nakhon Si Thammarat Province
- 1.3.2.6 To determine the treatment systems used at the TB clinics in Thung Song District, Nakhon Si Thammarat Province
- 1.3.2.7 To determine the interrelationships between new TB cases and health care providers at the TB clinics in Thung Song District, Nakhon Si Thammarat Province

1.4 Conceptual Framework

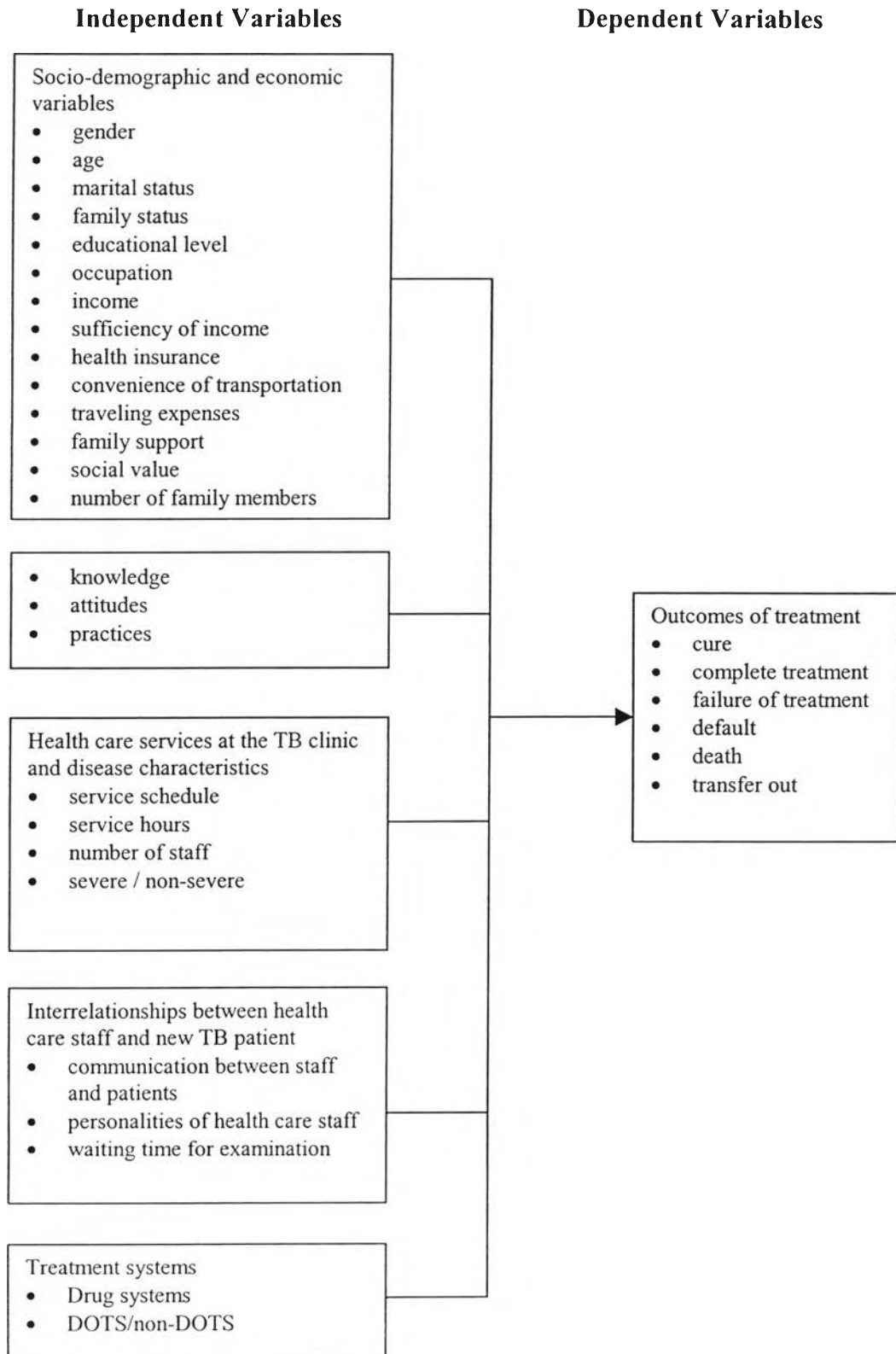


Figure 1.1: Conceptual framework

1.5 Assumptions

The data were collected from new TB cases living in Thung Song District, Nakhon Si Thammarat Province. The data collected by the interviewer were considered true and reliable.

1.6 Key Words

TB, Outcomes, New cases

1.7 Operational Definitions

New cases refers to patients who have never had treatment for TB.

Outcomes were as follows:

Cure cases refers to initially smear-positive patients who had at least 2 negative sputum smear examinations in the last month of treatment. The cure rate should be > 85 percent.

Complete treatment cases refers to patients who initially had positive sputum smears which became negative after completing the full course of treatment in the intensive phase, but no positive smear sputum results were found when the treatment was completed, or the patients had negative sputum smears at both initial and final periods of treatment.

Failure cases refers to

patients who remained smear-positive, or became smear-positive again at least 5 months after the start of treatment

patients who were initially smear-negative but became smear-positive after 2 months of treatment

default cases; patients who did not collect anti-tuberculosis drugs for 2 months

died; patients who died during the treatment, irrespective of cause

transfer out; patients transferred to another health care unit, and the results were unknown

Knowledge in this study is knowledge about TB disease and TB treatment for new TB cases; it had 10 items

Attitudes in this study is the overall feelings of an individual about TB disease and TB treatment of new TB cases; it had 10 items

Practices in this study was used to collect information on TB treatment behaviors of new TB cases; it had 10 items

Health care service in this study concerned service schedule service hours and number of staff; it had 6 items

Interrelationships in this study, is concerned with patient-staff communication, the personalities of the health care staff, and waiting time for an examination; it had 10 items

Symptoms and Severity

1. **Non-severe** refers to coughing continuously for more than 3 weeks, hemoptysis, or greenish yellow sputum.

2. **Severe** refers to the symptoms in (1) plus one of the following symptoms: anorexia, weight loss, tiredness, flu-like symptoms, pains in the breast and difficulty breathing.

1.8 Research Limitations

Some patients could not be followed-up due to emigration.

1.9 Ethical Considerations

Ethical considerations were taken into account. This was done by explaining the true details and benefits of the study to the patients and by asking them to sign the informed consent. The information was kept strictly confidential.

1.10 Expected Benefits and Applications

1. The results of this study could be used as fundamental information for improving health care services at tuberculosis clinics in Thung Song District, Nakhon Si Thammarat Province.
2. The results of the study could be applied for tuberculosis treatment, to ensure complete treatment according to the doctor's advice.
3. The results of the study could be applied in the home health care project.

1.11 Obstacles and Strategies to Solve the Problems

In the cases where TB patients missed appointments, the study team coordinated with the local coordinators to trace the patients and those lost to follow-up, to reduce their numbers to the minimum.