CHAPTER III

RESEARCH METHODOLOGY

Research Design

This research was a cross-sectional descriptive study which aimed at investigating the performance of caretakers in preventing Dengue Fever (DF) while providing care for the patients at home in Trang Province in the south of Thailand. In this study, the caretakers' prevention of DF was assessed in relation to socio-demographic characteristics, predisposing factors, reinforcing factors, and enabling factors.

Population

The population of the study consisted of caretakers in Trang Province who had provided care to DF patients at home in 2005. The total number of caretakers who were recruited in the present study was 384.

Sample Size and Sampling Method

A statistical formula (Lemenshow, 1990) was used to calculate the sample size of an estimated population of the caretakers as follows:

$$n = \frac{Z^2 PQ}{d^2}$$

When Z = confidence 95 = $\pm$1.96

P = prevalence of incorrected practice = 0.5

Q = prevalence of corrected practice = 0.5

d = the level of precision or relative error of estimation = 0.05

Therefore, according to the formula, the sample size was as follows:

$$n = \frac{(1.96)(1.96)(0.5)(0.5)}{(0.05)(0.05)}$$

= 384 cases

The sample of this study was composed of caretakers of the in-patients and out-patients who had been diagnosed with clinical and laboratory DF in Trang Province between July 25 to August 30, 2005. The total number of subjects was 384 cases.

Data Collection

Data collection instrument

The instrument used to collect data was a questionnaire and an interview protocol.

The entire instrument was developed by the researcher. It was prepared by compiling the related literature and reviews pertinent with the subjects of the study. The final data gathering instruments consisted of the questionnaire and interview protocol which was divided into four parts as follows:

Part 1: Personal information of the caretakers and the factors related to the prevention of Dengue Fever including gender, age, religion, education, occupation, monthly income, marital status, number of caretakers, relationship between the patient and the caretaker, history of illness during the previous five years, all of which were gathered using the questionnaire (see the Appendix).

Part 2: Factors related to the prevention of Dengue Fever

Interviews were conducted to elicit data regarding the subjects' knowledge about prevention of the DF prevention. During the interviews, the subjects were required to choose between two responses yes or no. The scoring of the subjects' responses to the questions was as follows:

- The question with the answer "yes," if the subjects gave the correct answer, they would get 1 point.
- The question with the answer "yes," if the subjects gave the incorrect answer, they would get 0 point.

The interpretation of the scores was as follows:

0 – 5 points	=	Low level of knowledge
6 – 7 points	=	Medium level of knowledge
8 – 10 points	=	High level of knowledge

The questionnaire was used to elicit data about the subjects' perception of susceptibility factors and severity of Dengue Fever. The total number of items in this part of the questionnaire was 17, and the responses to the questionnaire items were arranged in a five-point Likert scale of "strongly agree," "agree," "uncertain"

"disagree," and "strongly disagree." The scoring of the responses to the questionnaire items was as follows:

Strongly agree	=	5 points
Agree	=	4 points
Uncertain	=	3 points
Disagree	=	2 points
Strongly disagree	=	1 point

The scoring criterion for the subjects' perception of prevention of the DF prevention was as follows:

0 – 50 points	=	Low level of perception
51 – 67 points	=	Medium level of perception
68 – 85 points	=	High level of perception

Part 3: The total number of items on the factors related to the performance related to the prevention of the prevention of Dengue Fever was 12. The responses to the items were arranged in a four-point Likert scale to indicate the frequency of the performance always, sometimes, rarely, and never.

The interpretation of the scoring for the perception of prevention of the prevention of Dengue Fever was as follows:

0 – 21 points	=	Low level of performance
22 – 28 points	=	Medium level of performance
29 – 36 points	=	High level of performance

Part 4: This part evaluated the performance to prevent the prevention of Dengue Fever.

Observation: The researcher conducted the observation of prevention of the prevention of Dengue Fever through a survey at every subject's home. The answers regarding regular preventive performance was divided into four levels to indicate the frequency of doing such performance: always, sometimes, rarely, and never.

The scoring criterion for the observation of prevention of the prevention of Dengue Fever was as follows:

Always	=	3 points
Sometimes	=	2 points
Rarely	=	1 point
Never	=	0 point

The interpretation of scoring was as follows:

0 – 8 points	=	Low
9 – 11 points	=	Medium
12 – 15 points	=	High

The interview was also conducted to elicit data regarding prevention of the prevention of Dengue Fever. There were altogether five questions which were closed-ended questions in the interview protocol.

Data Collection

In this study, data collection was carried out as described in the following procedures:

Team preparation for project execution: The team members were health officers in charge of epidemiology of health service center and health care offices in ten districts in Trang Province. The team was composed of health personnel. They attended the seminar in which the lecturer provided knowledge and understanding of Dengue Fever to enable them to implement this method in the data collection phase of the study with the caretakers. The one-day seminar was held at a meeting room located on the second floor of the provincial health office in Trang Province.

The objectives of the seminar, as well as its method and all activities for data collection were explained to the participants.

Validation of the Research Instruments

In order to validate the instruments used to collect data in the present study, the researcher followed the sequences below:

1. The questionnaire and interview protocol were examined by a panel of three experts who were highly qualified and had extensive experience working with Dengue Fever. The instruments were then revised and improved based on the experts' comments and suggestions.
2. The revised instruments were tested to ensure reliability when they were tried out with a group of 30 individuals with similar characteristics to the study sample.

Study Parameters

1. Independent parameters
    - 1.1 Gender
        - 1.1.1 Male
        - 1.1.2 Female
    - 1.2 Age
        - 1.2.1 Less than 20 years old
        - 1.2.2 20-29 years old
        - 1.2.3 30-39 years old
        - 1.2.4 40-49 years old
        - 1.2.5 50-59 years old
        - 1.2.6 Over 60 years old
    - 1.3 Educational level
        - 1.3.1 None educated
        - 1.3.2 Primary education
        - 1.3.3 Secondary education
        - 1.3.4 Diploma
        - 1.3.5 Bachelor's degree
        - 1.3.6 Higher than bachelor's degree
    - 1.4 Occupation
        - 1.4.1 Farmer, gardener, field farmer
        - 1.4.2 Merchant
        - 1.4.3 Government official/Public enterprise employee

1.4.4 Employee

1.4.5 Others

1.5 Marital status

1.5.1 Single

1.5.2 Married

1.5.3 Widowed

1.5.4 Divorced/separated

1.6 Average income per month

1.6.1 Less than 5,000 Baht

1.6.2 5,000 – 10,000 Baht

1.6.3 10,001 -- 15,000 Baht

1.6.4 Over 15,000 Baht

1.7 Predisposing factors

- Personal data
- Knowledge about DF
- Perception of susceptibility and severity of DF

1.8 Enabling Factor

- Resources for prevention and control of DF

1.9 Reinforcing Factors

- Access to information
- Social support from family

2. Dependent parameter: Performance of the DF caretakers for the prevention of the DF.

Data Management & Analysis

In this research, the researcher analyzed data using the SPSS computer program as follows:

1. The 384 questionnaires collected from the study sample were coded.
2. Data were analyzed in the following steps:
   2.1 Personal data of the caretaker, factor related to the prevention of DF were analyzed in terms of frequency distribution and percentages and then tabulated.
   2.2 Data regarding knowledge about DF, perception of susceptibility and severity of DF, the factors related to performance in the prevention of DF, the performance in the prevention of DF were calculated to determine the percentage, mean and standard deviation (SD).
   2.3 Data regarding the result from the relationship between personal data and factor related to the prevention of DF of the caretaker were calculated by Chi-square test statistic with significant at 0.05.