



## CHAPTER III

### RESEARCH METHODOLOGY

This study was a descriptive research aiming to examine factors related to utilization behaviors of non-insulin dependent diabetes mellitus patients at Ban Khaoro health center, Thung Song District, Nakhon - Si - Thammarat Province. Among the total population of 2,905 people, 1,211 people aging over 40 years old were identified as the diabetics and 1,117 received the health care services. Among these diabetics, 84 people were diagnosed as non-insulin dependent diabetics between 1 January and 31 March 2003; 7 people were the new patients and 77 were the old ones.

#### 1. Population

The 84 diabetics identified as non-insulin dependent between 1 January and 31 March 2003 can be classified into:

- 51 people receiving health care services at the health center
- 33 people refusing health care services at the health center
- 18 people receiving the health care services at hospitals
- 5 people receiving discontinuous health care services at Ban Khaoro health center
- 10 people refusing any types of treatment

## 2. Research Instrument

An interview checklist for the diabetics receiving and refusing the health service at Ban Khaoro health center. The checklist was modified from previous studies to investigate behaviors of non-insulin dependent diabetics in receiving and refusing the health care services and factors involved under the responsible area of Ban Khaoro health center. The checklist consisted of 4 parts:

**Part 1: Fundamental factors** contained 10 items on characteristics and treatment records.

**Part 2: Related factors.** This part was divided into 5 subparts:

**2.1 Knowledge about self-care of the diabetics.** This was made up of 7 multiple choice questions with the following scoring:

Correct answer = 1 marks

False answer = 0 marks

Don't know = 0 marks

The score range was modified from the work of Seri Rajarot (1994):

Good knowledge = 80-100% = 6-7 corrected items

Fair knowledge = 60-79% = 5 corrected items

Poor knowledge = 0-59% = 0-4 corrected items

**2.2 Health perceptions.** This part consisted of 15 interviewing items covering

4 areas:

- (1) 6 items on risk perception of complicating diseases (items 1-6)
- (2) 5 items on severity perception of diabetes and its complication diseases (items 7-11)
- (3) 4 items on beneficial perception of health care services (items 12-15)

The interview checklist was designed as true-false questions comprising of 15 items scoring as follows:

True	=	1 marks
False	=	0 marks
Don't know	=	0 marks

The interviewees would be asked to answer each question and the researcher would tick in the column that was chosen.

The health perception of the diabetics was divided into 3 groups based on these criteria:

Good perception	=	80-100%	=	12-15 marks
Fair perception	=	60-79%	=	7-11 marks
Poor perception	=	0-59%	=	0-8 marks

**2.3 The interview checklist on social support** for the diabetics consisted of 9 closed-questions concerning opinions or understanding of the diabetics on social support covering 4 areas:

- (1) support to encourage the diabetics to receive the health service (items 1-3)
- (2) resource support such as finance and labor to receive the health service (items 4-5)
- (3) information support (items 6-8)
- (4) support (item 9)

The interview checklist was designed as yes-no questions with the scoring criteria as follows:

Yes	=	1 mark
No	=	0 mark
Not sure	=	0 mark

The score ranges included

Good support	=	80-100% (for 8-9 yes-answers)
Fair support	=	60-79% (for 6-7 yes-answers)
Poor support	=	0-59% (for 0-5 yes-answers)

## 2.4 An interview checklist on satisfaction of services from the staff at Ban

Khaoro health center consisted of 9 items:

- 2 items on satisfaction on the health center staff and doctors at the health center (items 1-2)
- 1 item on satisfaction on health service expenses at the health center (item 3)
- 4 items on satisfaction on health care services and health information (items 4-7)
- 1 item involving satisfaction on quality of drugs for diabetes treatment (item 8)
- 1 item involving satisfaction on building condition (item 9)

The checklist was designed as 5 rating scales checklist according to Likerts:

- Most satisfaction = 5 marks
- High satisfaction = 4 marks
- Fair satisfaction = 3 marks
- Little satisfaction = 2 marks
- Least satisfaction = 1 marks

Among these 9 items, the highest total scores were 45 marks while the total lowest scores were 9 marks with

- High satisfaction = 80-100% = 36-45 marks
- Fair satisfaction = 60-79% = 27-35 marks
- Low satisfaction = 1-59% = 9-26 marks

**Part 3: Factors involving service accesses including 6 items on facilities, health security assurance and reasons for receiving or refusing the health care services (6 items)**

- Factors on facilities, distance, and time were adapted from Muntana Prateepasen (2000)
- The travelling time was divided into 2 subgroups:
  - (1) < 1-15 minutes
  - (2) < 15-30 minutes
- The distance from the house to the health center was separated into 2 subgroups:
  - (1) < 1-5 km
  - (2) > 5-10 km
- The facility factors in terms of convenience in accessing the health care services were yes-no questions and the scores for the answers were:
  - Convenient = 1 mark                      inconvenient = 0 mark
- Consequences of blood glucose control during 3 months of treatment (for the patients receiving health care services at the health center)

**Part 4: Recommendations**

This section was designed as 4 open-ended questions consisting of recommendations and improvements regarding to the services of the doctors and the health center staff, and the cleanness of the health center

### 3. Quality Test of the Research Instrument

The research instrument was tried out for its reliability based on these procedures:

1. **Content validity.** Three experts (Appendix B) were asked to check and determine the accuracy and the appropriateness of the content. Recommendations were given for the improvement of the checklists.
2. **Reliability.** The interview checklist developed according to the experts' advice was tried with the non-insulin dependent diabetics (treated with tablets) having the same characteristics as the sample groups for its reliability. These were 30 non-insulin dependent diabetics at Ban Kangpla health center, Teewang subdistrict, Thung Song district, Nakhon-Si-Thammarat province. The Conbrach's alpha coefficient was applied to the information on satisfaction on the health center services and KR-20 (Kuder Richardson) was used to determine the differences among knowledge about self-care, health perception and social support. The levels of confidence obtain were:

- knowledge on self-care = 0.78
- health perception = 0.81
- social support = 0.85
- satisfaction on services = 0.79

#### 4. Data Collection

The researcher interviewed the samples and the information was collected from 1 January to 31 March 2003. The research instrument used consisted of:

1. Interview checklists for the diabetics receiving or refusing the health care services. For the ones refusing the health services, the interviews were done at their own houses.
2. Records of blood glucose levels during 3 months for the diabetics receiving the health care services at the health center
3. Tape cassettes for recording the interviews

#### 5. Data Analysis

The data was subjected to analyze by using software packages and the significant level was set at 0.05.

1. **Descriptive statistics** were used to describe population characteristics, related factors in accessing health care services between the two sample groups. The data was expressed as percentage, means, and standard deviation.
2. **Inferential statistics** were used to determine the correlation among variances. Chi-square, Fisher Exact Test were used to calculated the correlation of variances including population characteristics, factors in receiving health services, distance, time and convenience of service access between the diabetics receiving and those refusing the health care services.

The differences between variances regarding to knowledge, health perception, social support, and satisfaction on services between the diabetics receiving and those refusing the health care services were calculated by Mann-Whitney U Test.