

# **CHAPTER IV**

## **DATA EXERCISE**

### **A Pilot Study to Improve**

#### **Research Skills for the Designed Study of the Proposal**

##### **4.1. INTRODUCTION:**

A pilot study was conducted at Pasak Noi village in Chieng Saen Pasak sub - district, Chieng Rai province from 24<sup>th</sup> to 29<sup>th</sup> of March, 2002. It is a 2,508-population village, 40 kms far from Chieng Rai City. There are 647 households, the average household income is 4,000 - 5,000 Baht (1 USD = 43 Bahts). The public transportation system is good and approachable to each household. There is one community health center with staff of six including four physicians, one bachelor pharmacist and a bachelor dentist. The community health center delivers primary care, health programs and health education. There are also two private clinics operated by physicians.

The pilot study was implemented under the allowance of the community leader and the community health center leader with the introduction of the College of Public Health, Chulalongkorn University.

## **4.2. OBJECTIVE:**

### 4.2.1. General objective:

To develop skills in designing a questionnaire and field testing.

### 4.2.2. Specific objectives:

- To practice data collection.
- To define the reliability of the instrument.
- To gain skills in data analysis.
- To arrive at recommendations to adjust the proposal.

## **4.3. METHODOLOGY:**

### 4.3.1. Study design:

A pilot cross - sectional descriptive study.

### 4.3.2. Study site:

In this exercise, I chose Pasak Noi village in Chieng Saen district, Chieng Rai province, Thailand. The study site selection was based on available assistance to deal with the language barrier.

### 4.3.3. Sample population:

The 647 registered households in Pasak Noi village were the study population.

#### 4.3.4. Sample size:

Forty households were selected for the interview.

#### 4.3.5. Sampling technique:

Purposive selection was applied using following inclusion criteria:

- The households at the middle place between the health center and the border of the village were selected.
- In order to make it easy to collect data, I selected forty households near to each other.

#### 4.3.6. Instrument:

The questionnaire developed for my research proposal was used. The question asking about price of service was deleted because primary care at the community health center is free of charge in Thailand.

Because of time limitation and language barrier, the pilot study was implemented using quantitative method only.

#### 4.3.7. Data collection:

The questionnaire was translated into Thai language. A student of the university was invited as interviewer. Before collecting data, the interviewer was introduced carefully about the questionnaire. Data collecting happened in four days.

#### 4.4. FINDINGS:

4.4.1. Data collecting process is analyzed in terms of time, manpower, response rate and correct data rate.

Table 4.1: **Interview Duration**

<b>Interview items</b>	<b>Number</b>
Number of interviewed households	40
Time for interview (day)	4
Average (households/day/interviewer)	10

The data collection was implemented with one interviewer. It took four days to collect data on 40 households. The data collection rate is ten interviews/day/interviewer.

Table 4.2: **Response Rate**

<b>Character of collected questionnaires</b>	<b>Number</b>
Planned number of households for interview	40
Actual number	40
Household refused interview	0
Response rate	100%
Correct answered questionnaire	38
Incorrect answered questionnaire	2
Correct rate of answered questionnaires	95%

During the data collection, there was no respondent that refused to be interviewed. The response rate was 100 percent. Among 40 collected

questionnaires, there were two incorrect ones. The correct rate of collected questionnaires is 95 percent.

#### 4.4.2. Reliability of the questionnaire:

Based on collected quantitative data, the reliability of questionnaire is tested with Cronbach's Alpha test. According to the collected data, only 24 respondents attended medical service at community health service. These respondents were asked with the whole questionnaire. The other 14 respondents who did not attend medical service at community health service were asked with only seven separated questions to access the accessibility. Therefore the Cronbach's Alpha reliability is applied to test with data collected from the two groups separately.

- Reliability of questions on the demographic variables for the whole respondents:

$$+ \text{Alpha} = 0.75$$

- Reliability of 28 questions (items) used to ask the respondents who used medical services at the community health center:

$$+ \text{Alpha} = 0.39$$

The Alpha is low. However, among these 28 items, there are nine items having no variance. Because the questions were designed for the real study in Vietnam, the pilot study was

implemented with some purposive criteria therefore I can not commend on the reliability of the questions.

- Reliability of 14 questions (items) used to ask the respondents who did not use medical services at the community health center.

+ Alpha = 0.62

These questions were good in terms of reliability to apply in the study site designed for the pilot study. It does not mean that the questions is reliable when apply to the study in Vietnam.

#### 4.4.3. Demographic information:

Distributions of living time of households at their current address, number of family members, number of children, number of family children under six years old, number of family members over 60 years old, number of family members having health insurance and the number of families owning a house.

**Table 4.3: Demographic Characteristics of Interviewed Households**

ID	Variable	Min	Max	Mean	SD
1	Number of family members	2	6	4.21	0.91
2	Number of children of family	1	3	1.38	0.59
3	Number of children under 6	0	1	0.21	0.41
4	Number of elderly over 60	0	2	0.34	0.58
5	Number of people having health insurance	2	6	4.03	1.05

The number of family members ranges from two to six. The average family member of studied group is 4.2.

The number of family children ranges from one to three. No family has more than one child under six years old.

The number of the elderly in family is not more than two.

**Table 4.4: Duration of Residence**

<b>Duration of residence</b>	<b>Frequency</b>	<b>Percentage</b>
Less than 3 months	0	0
From 3 to 6 months	0	0
From 6 to 12 months	0	0
More than 12 months	38	100

All studied households have lived in their own houses more than one year.

**Table 4.5: Housing Character**

<b>Housing</b>	<b>Number</b>	<b>Percentage</b>
Owned house	38	100
Rented house	0	0

All studied households have had their own houses.

4.4.4. Percentage of households that went to the community health center for medical service.

**Table 4.6: Community Health Center Medical Service Using Characteristics**

<b>Households</b>	<b>Frequency</b>	<b>Percentage</b>
Who used medical service at CHC	24	63.2
Who didn't use medical service at CHC	14	36.8

In this study, 63.2 percent of households attended medical service at the community health center when they got ill, while the other 36.8 percent did not. This revealed that there was reason which caused respondents not use medical service at the community health center.

4.4.5. Data analysis of the group of 24 households who attended medical services at the community health center.

#### **Geographical factors:**

4.4.5.1. Distance between household accommodation and community health center:

**Table 4.7: The Distance between Respondent's House and CHC**

<b>Distance from house to CHC</b>	<b>Frequency</b>	<b>Percentage</b>
Less than 2kms	20	83.3
2kms – 3kms	4	16.7
3kms – 5kms	0	0
More than 5kms	0	0
<b>Total</b>	<b>24</b>	<b>100</b>



About 83 percent of studied households live less than 2kms far from community health center. The other 17 percent of households live about 2kms - 3kms far from community health center. None live more than 3kms far from community health center. This result is depended on the selected side for study.

#### 4.4.5.2. Transportation and time spent to go to community health center:

**Table 4.8: Transportation Mean**

<b>Transportation mean</b>	<b>Frequency</b>	<b>Percentage</b>
By car	1	4.2
By motorcycle	22	91.6
By bicycle	1	4.2
Walk	0	0
Rent (taxi, motorcyclist)	0	0
<b>Total</b>	<b>24</b>	<b>100</b>

The study revealed that 91.6 percent of households used motorcycle as mean to go to community health center. 4.2 percent of households used car and the other 4.2 percent used bicycle.

**Table 4.9: Time Patients Spent to Get to CHC**

<b>Time for transportation</b>	<b>Frequency</b>	<b>Percentage</b>
About 10 minutes	9	37.4
About 20 minutes	7	29.2
About 30 minutes	4	16.7
More than 30 minutes	4	16.7

Thirty seven percent of households spent about 10 minutes to go from home to community health center. 29 percent of households spent about 20 minutes and the other 34 percent spend about 30 minutes or more. This is relative fit to the distance between house and community health center and transportation means.

#### 4.4.5.3. Difficulty as household members went to community health center.

**Table 4.10: General Perception of Respondents on the Way Getting to CHC**

<b>Perception on the way going to CHC</b>	<b>Frequency</b>	<b>Percentage</b>
Very difficult	0	0
Difficult	1	4.2
Easy	23	95.8
Very easy	0	0
<b>Total</b>	<b>24</b>	<b>100</b>

Most of respondents (95.8 percent) easily got to community health center. Only one case (4.2 percent) answered that it was difficult to go to community health center. There was one respondent (4.2 percent) who used bicycle to go to the community health center. It might explain why there was case stated the difficulty when going to the community health center.

### Functional accessibility:

#### 4.4.5.4. Perception of respondents on available time of medical service at CHC.

**Table 4.11: Respondents' Perceptions on the Doctor's Available Time**

<b>Perceptions of respondents on doctor's available time</b>	<b>Frequency</b>	<b>Percentage</b>
Doctor/physician is available at any	24	100
Doctor/physician is not available at any	0	0
<b>Total</b>	<b>24</b>	<b>100</b>

All respondents answered that doctor/physician at community health center is available at any time.

**Table 4.12: Perceptions of Respondents on the Convenience of the Doctor's Available Time**

<b>Perceptions of respondents on the convenience of doctor's available time</b>	<b>Frequency</b>	<b>Percentage</b>
Very convenient	3	12.5
Convenient	20	83.3
Inconvenient	1	4.2
Very inconvenient	0	0
<b>Total</b>	<b>24</b>	<b>100</b>

About 83.2 percent of respondents informed that doctor's available time is convenient. 13 percent of them thought it is very convenient, while only 4 percent of them said it is inconvenient.

## 4.4.5.5. Respondents' perception on the waiting time to be registered at CHC.

**Table 4.13: The Time Respondents Waited to be Registered and to Meet Doctor**

Waiting time	To be registered		To meet doctor	
	Frequency	%	Frequency	%
About 10 minutes	17	70.8	8	33.3
About 20 minutes	7	29.2	9	37.5
About 30 minutes	0	0	4	16.7
More than 30 minutes	0	0	3	12.5
<b>Total</b>	<b>24</b>	<b>100</b>	<b>24</b>	<b>100</b>

There were 71 percent of respondents waiting about 10 minutes to be registered when they arrived at the community health center. The other (29 percent) waited about 20 minutes.

Respondents had to wait more to be examined from the time they were registered. Only 33 percent of respondents waited about 10 minutes to be examined, 37.5 percent of respondents waited about 20 minutes and 17 percent of them had to wait about 30 minutes. And not a small proportion of them (12.5 percent) had to wait long to be examined (more than 30 minutes).

Table 4.14: The Satisfaction on the Waiting Time at the CHC

Satisfaction level on waiting time	Frequency	Percentage
Strongly satisfied	2	8.3
Satisfied	22	91.7
Dissatisfied	0	0
Strongly dissatisfied	0	0
<b>Total</b>	<b>24</b>	<b>100</b>

All respondents were satisfied with the waiting time at community health center. 92 percent of respondents were satisfied, the other 8 percent were strongly satisfied.

Respondents spent about 10 - 20 minutes to be registered. Waiting time to be examined from the time of registration varied from 10 minutes to more than 30 minutes. While all respondents were satisfied with waiting time. This reveals that respondents did not concern much about time.

The correlation between perceptions of respondents on the waiting time to be registered, the time to be examined and the level of satisfaction are tested with Pearson correlation test. There is no strong relation found (the results are 0.12 and 0.01). However, the pilot study was implemented with limited number of respondents therefore I can not conclude about the result.

4.4.5.6. The reception service and the level of satisfaction on reception service of respondents.

**Table 4.15: Perceptions of Respondents on Reception Service at CHC**

<b>Reception service at CHC</b>	<b>Frequency</b>	<b>Percentage</b>
Yes, there is	24	100
No, there is not	0	0
<b>Total</b>	<b>24</b>	<b>100</b>

All respondents informed there is reception service at CHC

**Table 4.16: Respondents' Satisfaction on the Reception Service at CHC**

<b>Satisfaction on reception service</b>	<b>Frequency</b>	<b>Percentage</b>
Strongly satisfied	9	37.5
Satisfied	13	54.2
Dissatisfied	2	8.3
Strongly dissatisfied	0	0
<b>Total</b>	<b>24</b>	<b>100</b>

There is reception service at community health center. 37.5 percent of respondents were strongly satisfied with reception service, 54.2 percent of respondents were satisfied and the other 8.3 percent were dissatisfied.

#### 4.4.5.7. Perception of respondents on the crowd at CHC.

**Table 4.17: Perceptions of Respondents on the Crowd at CHC**

<b>Perceptions on the crowd of CHC</b>	<b>Frequency</b>	<b>Percentage</b>
Yes crowded	20	83.3
Not crowded	4	16.7
<b>Total</b>	<b>24</b>	<b>100</b>

According to 83.3 percent of respondents, the community health center was crowded. The other 16.7 percent informed that it was not crowded.

The crowd at community health center may affect to the waiting time to meet doctor.

#### 4.4.5.8. Perception of respondents on the waiting seat at CHC:

**Table 4.18: Perceptions of Respondents on the Waiting Seat at CHC**

<b>Waiting seats at CHC</b>	<b>Frequency</b>	<b>Percentage</b>
Yes, there is	24	100
No, there is not	0	0
<b>Total</b>	<b>24</b>	<b>100</b>

All respondents stated that the community health center has waiting seat for patients.

4.4.5.9. Perception of respondents on the attitude of doctor/physician in term of the welcome, giving patient a chance to ask.

**Table 4.19: Perceptions of Respondents on the Attitude of Doctor at CHC**

Attitude of doctor	Answered yes		Answered no	
	Frequency	%	Frequency	%
Doctor is welcome	24	100	0	0
Doctor gives chance to ask	24	100	0	0

All respondents said that the doctor was welcome and gave them chance to ask.

4.4.5.10. Perception of respondents on the medicine service at CHC in term of the available of medicine to buy and the convenience to buy.

**Table 4.20: The Available of Medicine at CHC and Perceptions of Respondents on the Available Medicine at CHC**

Perceptions of respondents	Answered yes		Answered no	
	Frequency	%	Frequency	%
Availability medicine to buy at CHC	24	100	0	0
Convenience of medicine Purchase	24	100	0	0

According to all respondents, medicines are available at community health center to buy. And all of them were satisfied with it.



## 4.4.5.11. Level of satisfaction of respondents with the quality of treatment at CHC

**Table 4.21: Satisfaction of Respondents on Quality of Treatment at CHC.**

<b>Satisfaction on quality of treatment</b>	<b>Frequency</b>	<b>Percentage</b>
Strongly satisfied	2	4.2
Satisfied	21	87.5
Dissatisfied	1	8.3
Strongly dissatisfied	0	0
<b>Total</b>	<b>24</b>	<b>100</b>

About 87.5 percent of respondents were satisfied with the quality of treatment at CHC, 8.3 percent were strongly satisfied and 4.2 percent of them were dissatisfied.

### **Financial accessibility**

## 4.4.5.12. Perception of respondents on the cost of prescribed medicine.

**Table 4.22: Perceptions of Respondents on the Cost of Medicine Prescribed by Doctor at CHC**

<b>Treatment cost</b>	<b>Frequency</b>	<b>Percentage</b>
Yes expensive	4	16.7
Not expensive	20	83.3
<b>Total</b>	<b>24</b>	<b>100</b>

According to the study, 16.7 percent of respondents implied that medicine prescribed by doctor/physician at community health center is expensive. The other 83.3 percent implied no.

### **Cultural Accessibility**

4.4.5.13. Perception of respondents on the privacy of consulting room at CHC during examining.

**Table 4.23: The Privacy at Consulting Room at CHC**

<b>Perceptions on the privacy of consulting room at CHC</b>	<b>Frequency</b>	<b>Percentage</b>
Yes privacy	24	100
No privacy	0	0
<b>Total</b>	<b>24</b>	<b>100</b>

All respondents informed that they had privacy at consulting room at the community health center when they were examined.

4.4.6. Data analysis of the group of households who did not attend medical services at community health center when family member got ill.

4.5.6.1. Frequencies of respondents' perceptions on the four dimensions of accessibility to primary care: geographical, functional, financial and cultural.

Table 4.24: Perceptions of Respondents on the Accessibility to Primary Care

ID	Perceptions of respondents	Respondents' answers			
		Yes	%	No	%
5.1	CHC is far from home.	1	7.1	13	92.9
5.2	The way to get there is difficult.	1	7.1	14	92.9
5.3	The doctor consultation hours are convenient.	24	100	0	0
5.4	Doctor/physician at CHC prescribes expensive medicines.	4	28.6	10	71.4
5.5	Doctor/physician can treat patient well.	8	57.1	6	42.9
5.6	You have to wait for doctor/physician too long when you get there.	5	35.7	9	64.3
5.7	The consulting room at CHC provides privacy for patients to be examined.	13	92.9	1	7.1

- About 7.1 percent of respondents said that it was far from home to the community health center and difficult to get there. The other 92.9 percent said that it was not far and was easy to get there.
- All respondents said that doctor/physician service time was convenient to them.
- About 28.6 percent of respondents said that doctor/physician prescribed expensive medicine while the other said not. Among the group who attended medical service at community health center, 16.7 percent of respondents considered doctor/physician prescribed expensive medicine.
- Only 57.1 percent of respondents believed in the quality of medical service at the community health center. It is smaller if compared to 91.7 percent of

respondents in the group that used medical service at CHC, they were satisfied with medical service.

- About 35.7 percent of respondents said that they had to wait too long in order to meet doctor.
- About 92.9 percent of respondents answered that consulting room at CHC provided privacy for patients to be examined.
- Among these findings, there are three dominant items, which a large proportion of respondents had negative perception. They are the expensive medicine prescribed by doctor/physician, the long waiting time to meet doctor and the quality of medical service. These might be the clues of the reasons why they did not want to go to the community health center for medical service.

#### **4.5. DISCUSSION AND CONCLUSION:**

- The pilot study was implemented in Thailand. It is not familiar to me in terms of language, culture and health system construction as well. So the questionnaire did not fit well with the health system in Thailand.
- The study site was selected based on the convenience for data collection. The sample size is small. So the findings do not cover all aspects of the questionnaire. This caused limitations to practice data analysis.
- Because of limitation in knowledge on the culture and time limitation, qualitative data collection was not implemented. The in - depth understanding of accessibility to primary care could not be gained.

- The Cronbach's Alpha method was used to test the internal consistency reliability of the questionnaire via collected data from respondents.
- The rate that the interviewer spent to collect data was ten households/day/interview. This is a ratio under optimal conditions. The reason is samples were not randomly selected and all respondents are free of work at the interview time. The result of the time analysis in this pilot study will be useful to adjust planning of the real study in Vietnam.
- The pilot study was implemented with limited sample size, therefore the result can not be used to generalize to the whole population. Findings indicate a difference between the group of respondents who attended medical care at the community health center and group who did not attend. The differences are at the price of medicine prescribed by doctors, the quality of medical service and the waiting time at the community health center. This shows that the questionnaire is helpful to find the main reasons why people do not attend medical service at community health center. It is also useful for planning the qualitative study.
- The quantitative questionnaire is relative good in terms of respondents' ability to answer and clearness to describe four dimensions of accessibility to primary care.
- There are three dominant items, for which respondents had negative perceptions: (1) expensive prescribed medicine, (2) long waiting time to meet doctor and (3) quality of medical service. Only the item on the cost

of prescribed medicine was asked with the same question in the two groups (use and non - use medical service at the community health center).

- A field test is useful and necessary to be implemented before the real study. It helps to find out the weakness of study instrument and to suggest some adjustment of the study instrument, study plan as well as the budget.

#### **4.6. LESSON LEARNED:**

The pilot study with both quantitative and qualitative methods should be implemented in the urban area of Danang City in Vietnam. The results of data analysis, technique gained from the pilot study will be helpful in reviewing and adjusting the designed instrument of the proposal and its field testing.

The reliability test for the instrument should be tested carefully with collected data of the pilot study through an increased sample size.

The analysis of data of the real study in Danang City should be elaborated. Careful analysis should be done to reveal the situation of accessibility to primary care instead of describing frequencies only.

The question that is used to identify perception of respondents with four scales should be followed with the question “why” respondent has a strongly positive or negative perception as to improve in - depth understanding.

The question to ask whether respondent use CHC or not should be designed with a time period.