CHAPTER IV

DATA EXERCISE

4.1 Introduction

Directly Observe Therapy Short course (DOTS) in the Tuberculosis (TB) is the assurance of patients' consistency of treatment and the completion of the treatment (WHO,1999). To cure patient in treatment is to complete the treatment and that sputum for AFB resulted in negative at the 5^{th} month and the end of treatment (TB Division, 2001).

The development of anti TB drug resistant lead to incompleteness of TB treatment, which indicates the poor performance of the National TB program. The combination of the low cured rate by uncontrolled treatment and high insolvency in the treatment will promote the development of drug resistance (NTP, 2000).

Home visit is a active service activity, which provoke us to use the service and the noncompliance. For some problems, we can give some advice or support to patients, the family can occasionally help the patients to take medicine regularly. (Kasetjaroen, et al.,1995). Home visit is the relationship between patients or observers and health workers. Thus, the trust, and friendship from the home visit can bring the good compliance of TB treatment which led to the increase in cured rate estimated more than 85% as WHO's aimed (CDC, 1997).

In Thailand, DOTS has started its program in 1991 but has not completed successfully in 1996. In 2001, ZTC 3 has decided to run the home visit program to strengthen the DOTS and maintain its routine in active health service (ZTC 3, 1999).

4.2 Objective of Data Exercise

4.2.1 General Objective

The general objective is to gather necessary information for further writing proposal about home visit existing DOTS. This can improve the compliance which is the increase of cured and completed treatment rate in PTB sputum positive and negative, respectively.

4.2.2. Specific objectives

1. To test and improve the instrument of data exercises: questionnaires; interview guidelines.
2. To build up skills in the home visit; in depth interview To determine the patients' compliance.
3. To investigate the observer's role.

4.3 Methodology

4.3.1. Design

In this study, qualitative and quantitative method were used. During the secondary data review, it has related to the general group interview which were proceeded. The primary data has been obtained by the face-to-face discussion of feedback and the knowledge from the observation of the activity concerning TB transmission. One of the strategy is to recheck the compliance by looking at the drug packet which compared by the record in DOT's card.

4.3.2 Study populations

The total population of registered patients came out at 110 cases per 6 months. The study of population which comprised of all patients are registered during 1st-31st December, 2001, at Zonal TB center 3 Chon Buri province. With a principal diagnosis of tuberculosis, the sputum smear tests and drug regimens were identified as key factors. In the national guidelines, this were used to develop questionnaires (Please see Appendix) assessed by patients' compliance. The home visit was a pilot activity of random sampled by recording and standardized of in-patient cases.

There were do patients, registered for TB treatment with ZTC 3 Chon Buri 1st-31st December 2001(n = 20). This is classified into 2 groups;

1. Pulmonary TB, sputum AFB positive,
2. Pulmonary TB, sputum AFB negative.

The first visit was contained with primary data from interviews with the identification of patients' names, ages, gender, contact addresses, symptoms, family's information. Thus, the secondary sources of information is reviewed from the TB treatment's card which written of body weigh, register type and category of treatment.

Next, primary data from the interviews constructed the record of side effect and the conduct to cut of the transmission. Thus the secondary sources of information from the observation constructed the record which kept anti-TB drugs, daily dose of anti-TB drugs, the swallowing of medication, the appointment, coughing and sneezing with preventive method, sputum rinsing, sputum destroyed method and ventilation.

The tertiary sources of information was carried out from the interview which constructed of record about the satisfaction, constancy in home visit of both a patient and an observer, the approach of awareness and its function.

4.3.3 Data Collection's Method

4.3.3.1 Instruments for data collection

In the intervention group, individual patients and supervisors will be directed about the daily drug intake. Patients would be given their choices for choosing those health center's staffs and the community members, such as the village health volunteers or other community leaders or family members as supervisors (Kasetjaroen et.al, 1995).

In some cases when a community or family member was selected, the supervisor would receive a treatment's monitoring card which stated the daily drug intake. This had to be recorded. In addition, the health center's staffs visited the patients at their home: twice per month during the initial 2 months of treatment, and once per month during the remaining 4 months. During these home visits, compliance was monitored on the basis of treatment's recording card. With pills were counted from the supply of patients' monthly drugs and urine tests when proved as red color.

Pre-field activity

Prior to the implementation of the home visit, TB patients' household is needed. Observation of patients' drug intake at home is necessary. The director of ZTC 3 has allowed to observers and health workers to note TB patients who resisted with ZTC 3 during 1st-31st December 2001. This has been announced in relation to any healthcare workers to follow. The aim of the home visit is to support and take care of TB patients' physical and mental health repeatedly. The need is to check the compliance of the medication such to make sure that patients have right dose and right drug by pill count and drug package count when evaluated with DOT's recording card. Considering of urine color is important before taking TB medicine, the urine should be in orange color before started taking the medicine. In conclusion, the side effect of anti-TB drug such as arthalgia needed to be detected.

DOT card recording will present works from observers. This can check the constancy and exemplary of their contribution. The treatment supervisor's main duty is to make sure that TB patients take TB drugs daily as prescribed. The reassurance is to make sure when patients swallowed the drugs and then recorded in DOT card. After the drugs are taken daily by the patients, the treatment supervisor must make clear that a tick mark is filled in the DOT's card. This response must be repeatedly daily until patients completed the treatment.

Though I established this contributory, behavioral form of work and the home visit's recording form to collect all of data above. I also ascertained questionnaire completely in order to evaluate the satisfaction in results from the home visit program on the bottom of the arranged proposal.

4.3.3.2 The stage of data collecting and analyzing

- From the interview with its observation, information were filled in the behavioral form.
- From the in-depth interview, the activities is checked and the compliance are filled in the home visit's recording form.
- From the in-depth interview, I defined the content of questionnaires.

I have collected and analyzed these in-depth interviews' data on February 10th, 2002.

4.4 Finding

4.4.1 Demographic data

There are 20 pulmonary TB patients who are registered in home visit existing DOTS in ZTC 3 Chon Buri during 1st-31st December, 2001. All cases are freshly registered cases. In home visit, we met TB patients and their families included 16

families (80%) and had missed of four target families. Four missing families included of three families out which home is not discovered, and another one family could not fine the target family member.

The 16 sampled cases were pulmonary TB smear positive of 8 cases with the category 1. The treatment and smear negative of 8 cases with the category 3 treatment. There are 13 male patients (81.3%) and 3 female patients (18.8%). The average age of patients was 45.9 years old (ages ranged from 20-75 years old). All of patients lived in Muang district, Chon Buri province. The chief complaint was chronic cough covered all 16 patients (100%), hemoptysis of 3 cases (18.8%), chest pain of 10 cases (62.5 %), and fever of 10 cases (62.5%). The average body weigh was 50.6 kilograms (body weigh are ranged from 39-68 kilograms). One of 16 TB patients had been fully damaged by AIDS who is admitted with cryptococcal meningitis. During the treatment, patients had minor side effects such as nausea, vomiting, dizziness, sleepy, arthalgia and fatigue.

The 16 observers included a wife of a patient for 8 persons (50%), a mother of 3 patients (18.8%), older sisters of 2 patients (12.5%), a daughter of a patient (6.3%), and the nearby resident of two other patients (12.5%). Their ages are ranged from 9-64 years old. Each target families that we visited weekly for one month included of 64 visit per 16 target families. We oppose only 16 patients every visit (25%), met only 12 observers during all visit (18.8%), met both patients and observers 32 times per all visits (50%) and missed 4 visits (6.3%). Consequently, we meet non-advised 9 observers (56.3%) at the first visit. All the observers then were informed to remind patients about medication. Only one observer completed the treatment.

4.4.2 About the compliance of treatment, this exercises has found:

TB patients have right drug and right dose at the right time with:

Class A assent of 12 cases (75%) Class B assent of 2 cases (12.5%)

Class C assent of 1 case (6.3%) Class D assent of 1 case (6.3%)

One of class B patients had rifampicin with decreased doses. (Please see table 4.1)

Table 4. 1 : TB patients have right drug and right dose at the right time

Class	Cases	Percentage
Class A	12	75%
Class B	2	12.5%
Class C	1	6.3%
Class D	1	6.3%

The drug package and /or pill count in first - fourth visits, compared the rectification presented with DOT's recorded card. The course of treatment came out at 75%, 87.5%, 92.9%, and 100% respectively. (table 4.2)

In the morning visit, the color of urine of 11 patients from 12 were in orange color at the first visit. (=91.7%) Thus, a urine sample of class D compliance showed a yellow color. In the second to fourth visits, the urine samples appeared in orange color at 100%. In the after noon visit, all urine samples resulted in yellow color. (table 4.2)

Table 4.2 : Activities of compliance

Activities list	Home visit			
	1	2	3	4
The drug package and/or pill count is compared with the changes within DOT card's recording	75%	87.5%	92.9%	100%
Orange in urine color. (In the morning visit)	91.7%	100%	100%	100%

The only one advised observer in this data exercise completely recorded DOT's recorded card from all 15 advised observers which is equal to 6.7% (one case had two advised observer).

The appointment was followed 41 times out of 48 appointments (85.4%).

4.4.3 About the behavior to cut of the transmission (table 4.2) :

Patients sneezed or coughed and closed the nose and mouth with handkerchief in first visit resulted in 56.3% and in from the second to forth visit were 100 %.

Patients rinsed sputum into sputum closet in the first to forth visit were 62.5%, 75%, 92.9%, and 100% respectively.

Sputum was destroyed by the rinse of sputum into water closet or being fired in first to forth visit were 37.5%, 81.3%, 92.9%, and 100% respectively.

Good ventilation at the hand of door and windows opening, basked bedding, general utensil's cleaning in regular with soap or detergent in the first to forth visit were 93.8%, 100%, 100%, and 92.9% respectively.

Table 4.3 : behavior to cut of transmission

Activities list	Visiting week			
	1st	2nd	3rd	4th
Patients used handkerchiefs to close the nose and mouth when sneezed or coughed	56.3%	100%	100%	100%
Patients rinsed sputum into the closet of sputum	62.5%	75.%	92.9%	100%
Sputum was destroyed by the rinse of the sputum into water closet or fired	37.5%	81.3%	92.9%	100%
Good ventilation by doors and windows opening, basked bedding, general utensil's cleaning in regular with soap or detergent.	93.8%	100%	100%	92.9%

In conclusion, all target families had stored of anti-TB drugs out of sunlight's and child's reach.

4.4.4 About the contentment:

All patients and observers agreed to be participated though only one patient preferred our home visit though he did not want to declare his disease to the neighbor.

All patients and observers satisfied home visit program particularly of the constancy of once a week.

4.4.5 Home visit showed:

1. All patients and observers agreed with the participation though only one patient preferred not to tell his neighbor about his contacted disease.
2. No patient cannot tolerate with the side effect of anti-TB drugs. So they were able to be given of regular medication. Yet two patients admitted with pleural effusion and with crytococcal meningitis.

4.5 Discussion

1. The problems in home visiting missed of 4 cases at 20%. In first visiting patients and observers are met only at 50% and at secondarily were only 6.3%. This demonstrated the effectiveness of home visiting. This can improve with updated data in patients' addresses and social support person which patients often go with.
2. At first visiting, found non-advised 9 observers (56.3%). This showed that health workers do not concern of giving health education and advising the activities to observers. This can be improved if education and advice is provided before observers start taking care of patients. These activities will increase effectiveness.
3. Two cases do not need observers because excellent self care such as anti TB drugs. But some patients are needed of observers and more often visit. So

suggest the criteria to classify patients before entering DOTS program.

4. Some advised observers do not take care patients. We need protocol to prepare observers in DOTS.

5. This data exercising is required to test this instruments with no control group, when implementing the project. I propose the control group or comparison group as ensured in this study.

6. Instrument for data collection in patient 's behavior (behavioral form) is difficult to be collected. This should be divided into 2 forms for patients and health workers to fill out.

7. In satisfaction questionnaires, there should be added of patients' need of the frequent in visiting time question. This will inform the appropriate constancy of home visiting.

8. Home visit's recorded form should be added of its assessed factors of improvement and/or obstacle in cured rate. This assessment will help health workers to support patients of the compliance.

4.6 Limitation

1. Thai family has changed its style and role from expansive family into singled family. This caused the missing of people who would work as observers for patients.

2. The family members and neighborhood perceived TB as hideous disease and try to avoid and/or ran away from patients. This has caused the stigma in patients' mind and the effect in refusing the cure from health workers.

3. Manpower and vehicles were inadequate so that 2 visit per week were performed.

4.7 Obstacles

1. The lack of home visitor in some situation needed to be reconsidered of health workers who will react to TB patient's home visit.

2. Vehicles of ZTC were unavailable caused lateness or cancellation of home visit result decreasing in number of home visit.

3. Visitor opinion home visit were too frequent. There was no significance from the control group. For this reason, constancy of home visit was changed from every 7 days to every 10 days.

4. There should be two-ways communication between patients and visitors. Visitor should also be open to listen about patients and observers' problem. Health education should be advised through health media.

5. Many patients had non-advised observer. This can be improved by teaching the family member to observe patients at the first treatment and giving advice about the responsibility such as preparing medicine under prescription, noticing of drug swallowing, recording DOT's card, noting abnormal symptoms that may be due to side effect of anti TB drugs. This will make treatment and sputum collecting clears.

4.8 Recommendation

1. Integration of program for the control of Pulmonary TB control is required particularly to the community health system.

2. DOT should be designed for TB's outreach workers.

3. This increasing of knowledge and needs to support and complement the policies needed to be clear and uniformed with the conclusion of guideline regarding TB control, treatment and preventive therapy.

4. The management is optioned to challenges the future of TB.

Reference:

Communicable Disease Control Region 3, (2000). Annual Report, Communicable Disease Control Region 3 Chon Buri. Department of Communicable Disease Control, Ministry of Public Health, Thailand.

Department of Communicable Disease Control, (1997). National Tuberculosis Program of Thailand Manual. Department of Communicable Disease Control, Ministry of Public Health, Thailand.

National Tuberculosis Program,(2000). Current Status of National Tuberculosis Program. Department of Communicable Disease Control, Ministry of Public Health, Thailand.

Tuberculosis Division, (2001). Management of Tuberculosis. Tuberculosis Division, Department of Communicable Disease Control, Ministry of Public Health, Thailand.

World Health Organization, (1999). What is DOTS: A guideline to understanding the WHO recommended TB control strategy known as DOTS. Geneva.

Zonal Tuberculosis Center 3, (2001). Situational Analysis: Cohort Analysis (1997-2000). Zonal Tuberculosis Center 3, Communicable Disease Control Region 3 Chon Buri Province, Ministry of Public Health.