

CHAPTER III

PROPOSAL

Home Visit Existing DOTS : A Strategy to Increase Cured and Completed Treatment Rate among TB Patients in Zonal TB Center 3, Chon Buri

3.1 Introduction

TB was a global emergency which firstly declared in April 1993 in WHO's history. TB is a worldwide major public health problem which posed a serious challenge to public health. The great concern of the world-wide magnitude of the modern TB epidemic is considered (WHO, 2000). WHO's publish asserts this problem as TB burden in HIV epidemic (WHO, 1997). The TB control is only possible way to treating TB patients in the community along with the treatment of a TB patients. The treatment was to cut off the sources of infection thus to break the chain of the transmission (Morran, M.J., Reidel, J. and Draffin-Jones, A., 1999). Non-compliance treatment by reason of drug's side effect is also the cause of MDR-TB. Likewise, we must prolong this treatment yet we might have struggle economically to treat and control it (CDC, 1996). DOTS is a technical managerial package to improve TB treatment (WHO, 1999).

3.2 Rational of this study

Directly Observed Treatment Short-Course (DOTS) is a technical and management package of a TB control program, which is recommended by WHO (WHO, 1999). TB patients are detected by microscopy examination of their sputum (WHO, 1998). Treatment is provided lender the direct observation of a trained person. Along with the treatment, the patients are provided with counseling support and

follow up throughout the treatment period. So the patients will complete the treatment (WHO, 1999). Compliance of treatment is the successive key in the DOTS strategy.

The compliance or adherence to treatment is the following method which recommended as course of treatment. This method is to be done by patients for taking all the prescribed medications for the entire length of time. This is very necessary for TB treatment (WHO, 1997). This will take 6-8 months (CDC, 1999). Because the longer period of treatment, the stronger side effects of anti-TB drugs, hence some patients drop out. This non-compliance cause will not cure TB patients and eliminate bacteria in a patients' body. This will mutate patients to resist to the isoniazid and rifampicin, which is the essential drugs for TB treatment. This MDR-TB can spread to community and turn to a vicious circle. In HIV patients, TB is an opportunistic infectious disease, which cause more severity, more difficulty in controlling. the disease. Consequence TB control strategy can cut of transmission at reservoir by anti TB medication. The emphasis in TB may be transmitted to near contact person. In epidemiology, the TB control can monitor dissemination by cured rate.

WHO (1998) states that 30 % of patients received self-administered treatment in the initial phase which do not adhere to treatment. Many TB patients stop treatment before they completed the course for various reasons. WHO (1997) recommended that direct observation of the treatment is only way of ensuring adherence.

DOTS in Thailand, a trained person means the family's supervisor who observes the swallowing of anti TB drugs every day, under weekly observation by health personal (Kasetjaroen, 1995). Therefore the observation should be at patients' home, so called 'Home Visit' in real family situation and with accurate data recording. Home visit is a public health service provided by health workers, by a visiting to patient's home. Nursing care, social welfare to promote health, prevention, treatment, caring and rehabilitation are provided during the visit. Health education about environmental management for patient's disease, economics and society are given to a trained family observer in order to improve the concerning of patients and

families. These activities are set to improve their compliance and increase cured rate altogether.

Home visit may be the appropriate tactic to increase compliance of TB treatment in Thailand because Thai's nature is more kindness relationship in family. This conduct to the strengthen participation of family's member in caring for TB patients.

After ZTC 3 applying DOTS program, the cure rate of PTB smear positive was improved from 50% to 70% in 1996-2000 (CDC 3, 2001). In Chon Buri ZTC 3, HIV seropositivity rate increased from 2.1 % in 1989 to 26.6% in 1996 (TB division, 1997). As mentioned above, we can see that it is still lower than the NTP standard which expected 85% to be cured (TB division, 2001). Because the Home Visit existing DOTS is one strategy to improve compliance, ZTC 3 has applied it to increase the cure and completed treatment rate among the PTB patients sputum smear positive and negative respectively in ZTC 3, who live at Central district in Chon Buri province.

Home visit is also a public health service which facilitate patients when health workers provide, monitor, teach and provide consultant in health problems to patients at their home (Tuntitaveechok, 1996). The objective of the proposal is to evaluate the efficacy of the "Home visit" existing DOTS among the TB patients in ZTC 3 by providing treatment.

Networking and coordinating with health centers staff while visiting and contributing of specific responsibility is required. The costs of home visiting is about 500 \$BHT per case. This increased cured rate to 95% while costs of treatment ranged at 3,000 –5,000 \$BHT per case. Other general treatment outside may be cost up to 100,000-200,000 \$BHT.

3.3 General objective

To improve the effectiveness of DOTS strategy by increasing of cure rate to achieve the National Standard by home visit for TB patients groups at Zonal TB center 3 Chon Buri.

3.4 Specific objectives

1. To strengthening DOT recording card system.
2. To investigate patients' behavior in anti TB drug swallowing and practice the cutting of transmission.
3. To ensure the compliance treatment of TB patient.

3.5 Scope of study

This study is a quasi-experimental research design in order to increase the effectiveness of DOTS strategy by home visit, particularly for TB patients groups. This treatment is offered at Zonal TB Center 3 Chon Buri and patients who live in Muang district.

The process of this proposal should be enroll during 1st of June, 2002 - 30th of September, 2002 (4 months) (TB Division, 2001). The patient registered and all of time proposal, should be started during 1st January 2002 - 31st December 2003 (24 months).

3.6 Operational definition

Zonal TB Center 3 offered health service in the office regards TB disease that replicated in 7 provinces include Chon Buri, Rayong, Chanthaburi, Trat Chachoengsao, Prachin Buri and Sa Kaeo

TB Patients are patients who have initially sputum positive and negative examined by chest x ray to definite TB.

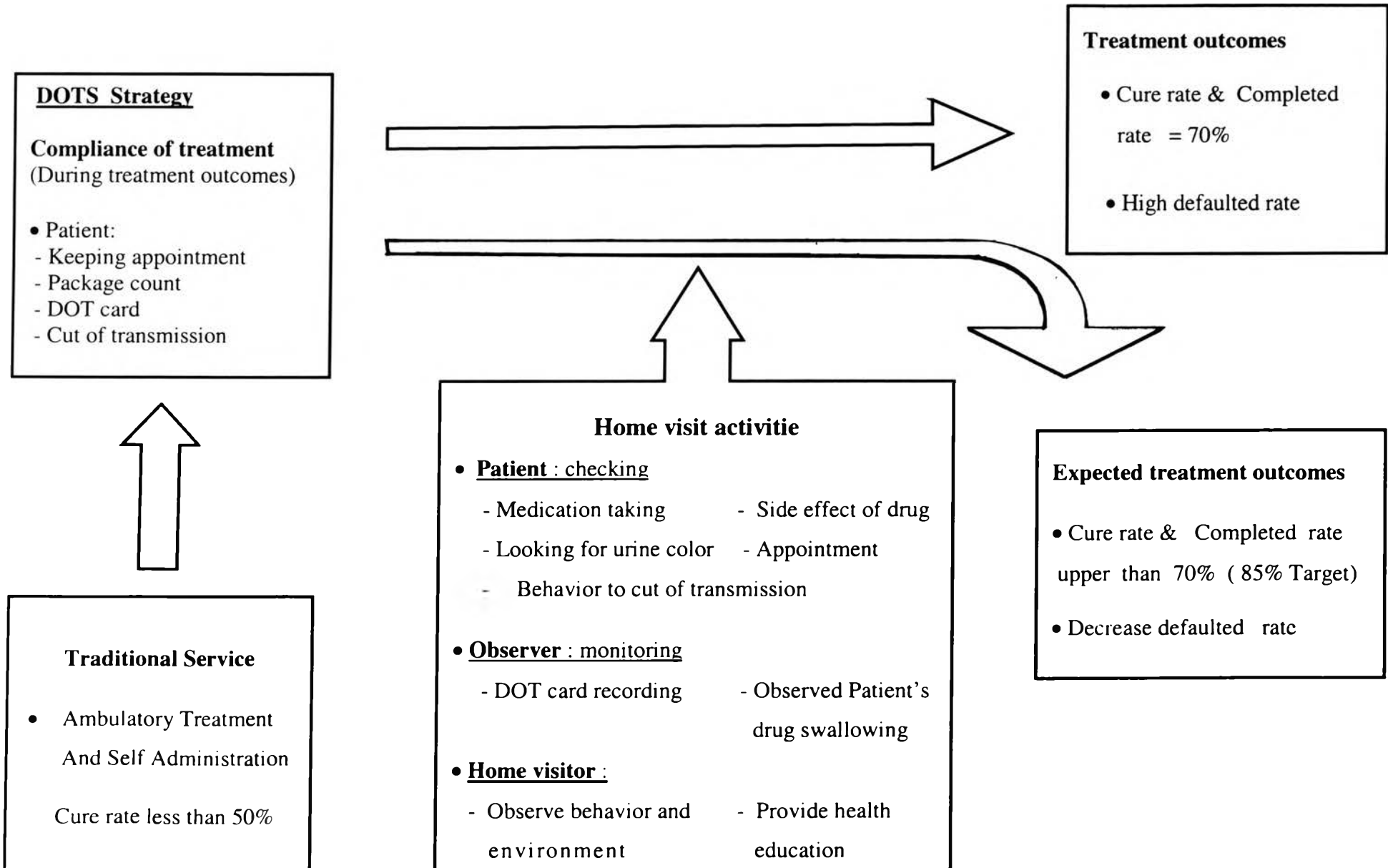
Home Visit is a public health service provided by health workers who visit patients at patients' home. The responsibilities included of checking the medication whether patients have right drugs and right dose at right time and rechecking pill or package counting by technique. The other reliability for home visit is the checking on the side effect, such as nausea, vomiting, dizziness, arthralgia. To keep anti-TB drugs, checking the swallowing of medication, the appointment, the sputum rinsing, the sputum destroyed method and giving health education about TB treatment in observing environment is a good ventilation. This freshening will dilute bacterial concentration, conduct the cut of transmission such as coughing and sneezing with the prevention and checking the activity in monitoring TB treatment.

3.7 Conceptual Framework

This study is a quasi research that compliance and cure rate are improved by home visit existing DOTS. Home visit is a public health service provided by health workers (WHO, 1999). These health workers visit patients at their home with the check of the medication that patient's regular of right drugs and right dose at the right time. This comprised also the recheck of pill counting and the package counting technique. The side effect such as nausea, vomiting, dizziness, arthralgia needed to be rechecked. Keeping the anti-TB drugs and checking the swallowing of medication of patients are necessary. The work is due by the appointment, the need to conduct the cut of transmission, such as using preventive method when coughing and sneezing is

importance. Sputum rinsing, sputum destroyed method is also applicable. To observe the environment is the deserving ventilation. This will dilute bacterial concentration. To evaluate of the result and success, the consistency from both a patient and their observer is needed. So most home visit activities make patient and family clear of TB. In conclusion, this will cause better compliance and growth in cured rate.

Conceptual Framework



3.8 Approaches:

1. Keeping the appointment before the access of anti TB drug

The compliance to have medication classified to 4 classes (Kamolratanakul et al., 1998).

Class A: Medicine taking is provided every day,

Class B: Discontinue of medicine taking every 2 – 3 days in one month,

Class C: Discontinue of medicine taking less than 7 days but more than 3 day in one month,

Class D: Discontinue of medicine taking for 7 days in one month.

2. Compliance checking is valid during the home visit.

3. Evaluation is the key to find out the outcome by cohort study in fiscal year of 3 period; October – January, February – May and June – September. A cohort analysis of treatment will be completed when patient has done the medication. The basis of the cohort was the period of registration given to treatment. A patient was included into the cohorts for that year. A patient had to have a sputum positive or negative status while one had not treated for TB.

In this study, the main outcome is analyzed that treatment outcome is 2 groups; PTB positive and negative. All cases which are positive were classified as patients who are a group in compliance of the TB treatment course with twin negative sputum AFB smear during the treatment. The result is the “cure” but there was no collection of sputum and is the “ complete treatment”. Once group cases negative were classified while patients who were completed the TB treatment course, this called “Complete treatment”. Other outcome of both group included failure, transferred, defaulted or dead.

1. Conversion rate is the percentage of patients who their sputum AFB smear converse positive to negative at the end of initial phase. This must be registered of treatment for 2 - 3 months which the evaluation of sputum AFB smear needed to be concluded (Zhao f Z.etal., 1997).

2. Cured rate is the percentage of PTB positive patients who have twice negative sputum AFB smear after the treatment with those category 1 and 2, for 12 – 16 months. One negative result during treatment and at least another negative result of the end of treatment is required (Lienhardt C. et al, 1998).

3. Completed treatment rate is the percentage of PTB negative patients who have negative sputum AFB smear after the complete treatment with those category 1 or 3 for 12 – 16 months.

3.9 Evaluation plan

The process of evaluate acting in this proposal should be started during June 2002 to March 2003 and at the end of intensive and continuous phase should be assess the keeping appointment, sputum conversion rate and outcome of treatment.

1. Keeping appointment
2. Compliance of treatment by cohort analysis :
 - Conversion rate and Cured rate - AFB positive group
 - Completed treatment rate - AFB negative group.

3.10 Budget

Transportation : gasoline 36,000 Bath.

3.11 Activity time plan

Activities	2002												2003											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
1. Review of Literature.	_____																							
2. Define and organize with health workers in ZTC3.					—																			
3. Examine registered patients with DOTS and give health education to the patients and observers.						_____																		
4. Visit patients at their houses in the city who have taken course at ZTC3.						— Once per week —																		
						— Once per month —																		
5. Evaluate patients' involved.						_____																		
6. Assess observers' practicing.						_____																		
7. Review patients' awareness of appointments.						_____																		
8. Re-evaluate conversion rate.																								
9. Cohort analysis.																								
10. Data collection, Analyze and Writing																								

Activity Time plan

The period of this project started at January 2002 – December 2003

1. Review of literature during January – May 2002 regard situation in the world, at the region and in Thailand, the epidemics of AIDS, the outcome of controlling from trimester report in the last few years, DOTS strategy, and the successful of DOTS in many countries.

2. Define and organize with health workers in ZTC 3

- Set up working team in ZTC 3 and meeting for presentation about the lower outcomes of TB controlling in the last few years. The develop to achieve the goal of TB controlling. The guideline in Home visiting and the agenda for Home visit in Muang municipality.

- The collaboration with Muang District Health Office and Health station.

Contributing training and explanation for Health Station the health officer who doing the methods and collecting data of home visit. In PTB patients who attend at ZTC 3 Chon Buri , that the physician diagnosis. These are PTB patients and register them to treat them with anti TB drugs. All most of registered PTB patient and their family member, that is selected to be observer will suggest and train to be the expect observer. The observers will record DOTS every day after patients uptake drugs.

3. The criteria to exclude patients is the registered PTB patients who has not the family member.

4. The all of PTB patients in this study will visited home every week in intensive phase and once time per month in continuous phase.

5. The collecting data of Home visiting are patients' home situation by the form appendix 1 and 2.

6. Check of appointment of PTB patient on the registered card of ZTC 3 Chon Buri, order to evaluated each patient appoint.

7. Cohort analysis of conversion rate Cured rate and Complete rate in patients with completed treatment.

8. Collecting data and analyze then write the complete research,

Reference

- Communicable Disease Control Region 3, (2000). Annual Report 1997-2000. 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.
- Department of Communicable Disease Control & World Health Organization, (1999). 2nd Review of the National Tuberculosis Program in Thailand, July 1999. Document WHO/CDS/TB/99.273, World Health Organization, Geneva.
- Kamolratanakul et al.,(1998) Effectiveness of DOTS in the treatment of Pulmonary In Thailand. Faculty of medicine, Chulalongkorn University, Bangkok, Thailand.
- Kasetjaroen, et al., (1995). DOTS : Observer base on Family. Zonal Tuberculosis Center 12, Yala Province, Communicable Disease Control Region 12.
- Lienhardt C. et al ., (1998). Factors determining the out come of Treatment of adult smear – positive TB case in the Gambia. INT J TUBERC LUNG DIS.
- Ministry of Public Health, (1998). National Policy Guidelines for Newly Revised Tuberculosis Control Strategy in Thailand. Agency Roles and Personnel Responsibilities at Regional and District Levels. Thailand. Ministry of Public Health.
- Morran, M.J., Reidel, J. and Draffin-Jones, A. (1999). A creative community based directly observed treatment program (DOT). For tuberculosis in a homeless shelter. IUATLD, Vol. 3; No. 9, supplement 1, pp. S61- 68.

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

Payanandana, V., Kladphuang, B., Somsong, W., and Jittimane, S.,(1999) Battle against TB: National Tuberculosis Program Thailand,1999. Tuberculosis Division, Department of Communicable Disease Control, Ministry of Public Health, Thailand.

Payanandana, V., Kladphuang, B., Talkitkul, N. and Tornee, S., (1999). Tuberculosis Control Program in Thailand. Tuberculosis Division, Department of Communicable Disease Control, Ministry of Public Health, Thailand

Public Health Nursing, (1995). The role of community nurse, Faculty of Public Health Nursing, Chiangmai University.

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

Tuntitavechok, (1996). Public Health Nursing. Faculty of Public Health Nursing, Chiangmai University.

World Health Organization, (1978). Operational Aspects. In Primary Health Care: Report of the International Conference on Primary Health Care, Alma-Ata, USSR. Geneva.

World Health Organization, (1978). Primary Health Care: Report of the International Conference on Primary Health Care, Alma-Ata, USSR. Geneva.

World Health Organization, (1997). Report on Tuberculosis epidemic. Geneva.

World Health Organization, (1997). Tuberculosis, A clinical manual for South-East Asia.

World Health Organization, (1997). Report on TB epidemic. Geneva.

World Health Organization, (1997). Treatment of Tuberculosis: A Guideline for National Program. Geneva.

World Health Organization, (1998). Effective diagnosis, treatment and control of tuberculosis. New Delhi. South East Asia Region.

World Health Organization, (1999). Stop TB Initiatives, and Challenges and Opportunities at the control level: Report of Regional meeting, Yangon, Myanmar. New Delhi. South East Asia Region.

World Health Organization, (1999). What is DOTS: A guideline to understanding the WHO recommended TB control strategy known as DOTS. Geneva. Communicable Diseases cluster Prevention and Control, Country Support, World Health Organization.

World Health Organization, (1999). 2nd Review of the National tuberculosis Program in Thailand, July 1999. Document WHO/CDS/TB/99.273, World Health Organization, Geneva.

World Health Organization, (2000). Global Tuberculosis Epidemic Report. Geneva.

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

Zhao f Z.etal.,(1997). Sputum microscopy results at two and three months predict Outcome of TB treatment. INT J TUBERC LUNG DIS. 1(6):570-572