INCREASING ACCESSIBILITY TO DIRECTLY OBSERVED TREATMENT SHORT-COURSE (DOTS) THROUGH A DECENTRALIZED AND COMMUNITY BASED TUBERCULOSIS CONTROL PROGRAM IN ASHRANG HEALTH POST AREA OF LALITPUR DISTRICT, NEPAL

Krishna Man Shakya

A Thesis Submitted in Partial Fulfillment of the Requirements
for the Degree of Master of Public Health
Health Systems Development Program
College of Public Health
Chulalongkorn University
Academic Year 2000
ISBN: 974-03-0153-3

© College of Public Health, Chulalongkorn University

Bangkok, Thailand

Thesis Title : Increasing Accessibility to Directly Observed Treatment Short-Course (DOTS) to TB Patients through Decentralized and Community Based TB Control Program in Ashrang HP Area of Lalitpur District, Nepal : Krishna Man Shakya By : Master of Public Health (Health Systems Development) **Program** College of Public Health Thesis Advisor : Marc Van der Putten, M.P.H. Accepted by the College of Public Health, Chulalongkorn University, Bangkok Thailand in Partial Fulfillment of the Requirements for the Master's Degree Dean of the College of Public Health (Samlee Plianbangchang, M.D., Dr.P.H.) THESIS COMMITTEE Sathisher farmer, Chairperson (Assistant Professor Sathirakorn Pongpanich, M.A, Ph.D.), Thesis Advisor (Mare Van der Putten, M.P.H) Papa Isarabhalidi , Member

(Assistant Professor Pimonpan Isarabhakdi, Ph.D)

ABSTRACT

Tuberculosis is a major public health problem and access to Directly Observed Treatment Short-Course (DOTS) is a must for effective TB control. This study deals with the issue of low access to DOTS for TB patients in the hilly area of Lalitpur District, Nepal. Geographical factors are the main obstacles but the health services are not managed adequately to overcome geographical constraints. Centralized DOTS services and shortage of trained treatment observers are the main management problems for accessible delivery of DOTS in the hilly area of the district. Low access to DOTS leads to low TB case finding and high default rates, and will have alarming socio-economic impacts on the community.

Decentralizing DOTS, indoor treatment of TB patients, family and community based Directly Observed Treatment are possible alternatives for improving access to DOTS. However, in the context of Nepal, decentralizing DOTS services to lower health institutions complemented by community based DOT would be appropriate alternative strategies for improving access to DOTS.

A rapid assessment was conducted in Lalitpur District to explore the feasibility of the alternative strategies for delivering DOTS. The assessment findings are useful for analyzing the situation in terms of the NTP policy scope, the perception of Health Post and Sub-Health Post staff, TB patients and Female Community Health Volunteers on the alternative strategies.

A pilot project has been developed to address the problem of low access to DOTS in Ashrang HP area, the hilly area of Lalitpur District. The project comprises of two interventions: (i) Decentralization of DOTS centers and sub-centers, (ii) mobilization of FCHVs as DOT observers. The project involves joint efforts of the government health offices, an INGO and the community for management and resources. The project will be evaluated on its effectiveness to improve accessibility to DOTS, increase TB case detection and decrease default among TB patients, performance on DOTS services and cooperation among stakeholders in the project.

ACKNOWLEDGEMENT

First and foremost, I would like to acknowledge the Community Development and Health Project, United Mission to Nepal for sponsoring my study and helping build my career.

I acknowledge the College of Public Health, Chulalongkorn University for providing an opportunity to study the MPH program. This enabled me to develop my knowledge and skills in public health, providing me competencies for my work in this field.

My deepest gratitude goes to Ajarn Marc Van der Putten, my thesis advisor for his untiring guidance throughout writing this thesis. To all Ajarns in the College of Public Health, I pay my gratitude for their facilitation during the program, which helped me to complete this thesis. I also appreciate the academic and library staffs for administrative and information support during my study.

I am thankful to Prof. Chitr Sitthi-amorn, the former dean of College of Public Health and Prof. Edgar J. Love for their valuable suggestions during my presentations on thesis progress. I may not forget to acknowledge Dr Wiliuam Richard Dick Harding, the Health Consultant of United Mission to Nepal, for his encouragement and valuable suggestions during my study and thesis development.

I am in-dept to my friends- Mr Rajendra BC and Mr Ram Chandra Silwal for their creative suggestions in writing this thesis. I also express my gratitude to Mr Krishna

Poudel for his support during my data exercise in Nepal. I convey my special gratitude to Dr Dirgha Singh Bam, NTC director for his valuable suggestion. I also express hearty thanks to all staffs from CDHP, NTC, and HPs in Lalitpur and the DTLA who helped me during my data collection. I heartily appreciate the library staffs in NTC Nepal and the TB Division, Thailand for providing me literature for this study.

Finally, I am obliged to be thankful to my family and friends who gave me continuous encouragement and prayer support throughout my study.

Table of contents

ABSTRACT	iii
ACKNOWLEDGEMENT	v
TABLE OF CONTENTS	vii
LIST OF TABLES	xi
LIST OF FIGURES	xii
LIST OF APPENDICES	xiii
CHAPTER I: INTRODUCTION	1
CHAPTER II: ESSAY	4
2.1. INTRODUCTION	4
2.1.1. Tuberculosis situation	4
2.1.1.1 Global situation of TB	4
2.1.1.2. TB in South East Asia	5
2.1.1.3. Current situation of TB in Nepal	6
2.1.2. DOTS Program for TB	7
2.1.2.1. DOTS: A definition and concept	7
2.1.2.2. DOTS: A strategy to control TB	8
2.1.2.3. Treatment strategy in DOTS	8
2.1.2.4. DOTS and treatment compliance	9
2.1.3. Global situation of DOTS	10
2.1.4. Situation of DOTS in Nepal	11
2.1.5. DOTS situation in Lalitpur District	12
2.1.6. Definition of accessibility	13
2.1.7. DOTS and accessibility	13
2.2. PROBLEM STATEMENT	14
2.2.1. Factors affecting accessibility to DOTS	16
2.2.1.1. Geographical factors	18
2.2.1.2. Functional factors	19
2.2.1.3. Economic factors of TB patients	23
2.2.1.4. Economic factors	24

2.2.2. Consequences	25
2.2.2.1. Case detection	25
2.2.2.2. Defaulter rate	26
2.3. REVISITING THE PROBLEM	28
2.3.1. Inconvenient DOT	29
2.3.2. Inconvenient microscopy cneter	30
2.3.3. The causes of the problem	30
2.3.3.1. Level of the DOTS center/sub-centers	32
2.3.3.2. Shortage of trained and accessible observers	32
2.4. ALTERNATIVE SOLUTIONS	33
2.4.1. Decentralizing DOTS center/sub-center	34
2.4.2. Hospital/hostel based treatment of TB patients	34
2.4.3. Family based DOT	35
2.4.4. Community based DOT	36
2.5. CONCLUSION	40
References	42
CHAPTER III: DATA EXERCISE	45
3.1. INTRODUCTION	45
3.2. RESEARCH QUESTION	46
3.3. OBJECTIVE	46
3.3.1. General objective	46
3.3.2. Specific objectives	47
3.4. METHODOLOGY	47
3.4.1. Study design	47
3.4.2. Study location	48
3.4.3. Study duration	49
3.4.4. Sampling and sample size	49
3.4.5. Language	50
3.4.6. Recorder	51
3.4.7. Data collection activities	52
4.4.8. Data analysis	53
3 5 FINDINGS	53

3.5.1. Findings of FGD (HP/SHP) staff	53
3.5.2. Findings of FGD (FCHV)	57
3.5.3. Interview findings (NTC director)	61
3.5.4. Interview findings (DTLA)	63
3.5.5. Findings of structured interview (TB)	65
3.5.6. Findings of structured interview (FCHV)	70
3.6. PROFILE OF FCHV IN NEPAL	73
3.7. DICUSSION	74
3.8. CONCLUSION	76
3.9. LESSON LEARNED	77
3.10. LIMITATION OF THE STUDY	78
3.10.1. Methodological limitations	78
3.10.2. Limitation of resources	79
3.10.3. Ethical limitations	79
Reference	80
CHAPTER IV: PROPOSAL	81
4.1. INTRODUCTION	81
4.1.1 Background of the project area	83
4.3. RATIONALE	84
4.4. OBJECTIVE	88
4.4.1. General objective	86
4.4.2. Specific objective	86
4.5. CONCEPTUAL FRAMEWORK	87
4.6. PROJECT DESCRIPTION	89
4.6.1. Approach	89
4.6.2. Strategy	89
4.6.2.1. Decentralization	89
4.6.2.2. Community based DOT	92
4.6.3. Activity plan	96
4.7. Activity time plan	112
4.8. Resources	113
4.9. Assumption and risks	115

24

Reference	117
CHAPTER V: Annotated bibliography	119
CHAPTER VI: PRESENTATION	123
APPENDICES	140
CURRUCULUM VITAE	156

List of Tables

Table no. 21. TB incidence in SEAR countries	7
Table no. 3.1. Summary of study methods, tools/techniques & sample	50
Table no. 3.2. Rapid assessment activity table	52
Table no. 3.3. Travel time to the DOTS clinic	66
Table no. 3.4. Mode of transport	66
Table no. 3.5. Perception of convenience for TB patients	66
Table no. 3.6. Reason for convenience	67
Table no. 3.7. Familiarity with ward FCHV	67
Table no. 3.8. Relationship with ward FCHV	68
Table no. 3.9. Previous contact with FCHV	68
Table no. 3.10. Reason for no contact	68
Table no. 3.11. Willingness to have DOT with FCHV	69
Table no. 3.12. Reason for not accepting FCHV	69
Table no. 3.13. Perception among TB patients	70
Table no. 3.14. Work experience	71
Table no. 3.15. Satisfaction of FCHVs	71
Table no. 3.16. Willingness to additional work	71
Table no. 3.17. Awareness about TB signs/symptoms	72
Table no. 3.18. Awareness on TB patients	72
Table no. 3.19. Willingness to be DOT observer	72
Table no. 3.20. Needs to work as DOT observer	73
Table no. 4.1. TB DOTS training	104
Table no. 4.2. Indicators to assess.	113
Table no. 4.3. Activity time plan.	114
Table no. 4.4. Budget planning	116

List of Figures

Figure no. 2.1. Factors affecting accessibility to DOTS	17
Figure no. 2.2. Problem of access to DOTS in Lalitpur	31
Figure no. 4.1. Conceptual framework	90
Figure no. 4.2. TB drug supply network	107
Figure no. 4.3. TB patients referral network	108

List of appendices

Appendix 1: Guideline for focus group discussion of FCHV	126
Appendix 2: Guideline for focus group discussion of HP/SHP staff	128
Appendix 3: Open Ended questionnaires for interview (NTC director)	130
Appendix 4: Questionnaire for interview with FCHV	131
Appendix 5: Interview questionnaire for TB DOTS patients	133
Appendix 6: Nepalese translated questionnaire for FCHV	136
Appendix 7: Nepalese translated questionnaire for TB patients	139
Appendix 8: Map of Lalitpur District with the project area	142