### MOBILIZATION OF COMMUNITY HEALTH WORKERS FOR EARLY DIAGNOSIS AND TREATMENT OF LEISMANIASIS IN NEPAL.

### Maha Nand Mishra

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Public Health,
Health System Development Program
College of Public Health
Chulalongkorn University
Academic Year 1997

ISBN 974-637-628-8

© College of Public Health, Chulalongkorn University Bangkok, Thailand.

Thesis Title	: Mobilization of Community Health Workers for Early diagnosis and Treatment of Leismaniasis in Nepal.
Ву	: Maha Nand Mishra
Program	: Master of Public Health (Health Systems Development) College of Public Health, Chulalongkorn University.
Thesis Advisors	: Wacharin Tanyanont, M.S.(Hons.), Applied Statistics.
Accepted by	the College of Public Health, Chulalongkorn University, Bangkok
Thailand in Partial l	Fulfillment of the Requirements for the Master's Degree.
-bhits	Dean of the College of Public Health  ( Professor Chitr Sitthi-Amorn, M.D., Ph.D. )
THESIS COMMIT	(AssociateProfessor WattanaS.Janjaroen,Ph.D.)  Member (Stephen King, M. Med. Sci., Dr. P.H.)  Member (Sathirakorn Pongpanich, M.A., MPH., Ph.D.)  Member (Edgar J. Love, M.D., Ph.D.)

#### **ABSTRACT**

The magnitude of high incidence, prevalence of Visceral leismaniasis along with its high mortality affecting particularly the young age group in Nepal and its disparity from the developed world and from developing countries has been an issue for policy makers and health service program officials. Since, control of Leismaniasis and mortality from V.L. is a serious problem of Public Health concern in Nepal, it is intended to find out the critical factors related to this issue.

This thesis comprises of mainly 3 parts: the essay, the proposal and the data exercise. In this essay, I have identified the problems related to health of risk group people from Leismaniasis in Nepal and found that mortality and morbidity are very high in comparision to other developing and developed countries as well. In Nepal, mortality and morbidity from Leismaniasis continue to be high because case detection and prompt treatment of V.L., especially in rural areas (being rural focus of disease) are often deficient and inappropriate to peoples situation. Situation analysis and data collection on the functioning and the use of facilities and on other aspects of V.L. was conducted in Sunsari District of Nepal. Research methods include identification of case, patients flow studies, laboratory set-up for diagnosis of case, reagents, drug supplies for treatment and review of hospital records. The situation analysis was helpful for assassins health system factors contributing to death from Leismaniasis.

While there are many factors that contribute to mortality from Leismaniasis, I have focussed those that affects the interval between the onset of complications from disease and its outcome. If early diagnosis and treatment is provided in time, the

outcome will be usually satisfactory, and hence, outcome is affected by late case detection and delayed diagnosis and inappropriate and late treatment.

In Nepal, leismaniasis could be controlled in the frame-work of primary health care program. At the local level communities should be involved in planning and decision making. With some motivation communities can be easily mobilized to implement their planned activities. The CHWS play a vital role in this and by providing regular and adequate training to CHWS with regular supervision, monitoring and evaluation of their activities, will help promote early and increased case detection, their referral in time to district hospital for diagnosis and treatment therby help reduce mortality and morbidity from the disease.

Communities should be provided with health education program for creating awareness for control of Sand Fly through residual insecticidal spraying and improved environmental sanitation. People should be discouraged for traditional practices of sleeping on the floor outside houses, keeping cattlesheds close to their houses etc., which results in transmission of disease. At the same time, people should be encouraged to adopt protective measures like use of mosquito bed-nets, repellants etc. for reducing Sand fly bite, thus minimizing transmission of disease.

A reliable and effective referral process should be developed for suspected cases of Leismaniasis for helping people at risk to reach in time when needed to appropriate health facilities for diagnosis and treatment. Role of inter-sectoral collaborations, involvement of pollitical leaders, school teachers, local NGOS, and clubs play an important role in the control of Leismaniasis if motivated properly.

I have discussed about lack of information on disease and an ineffective disease surveillance system which needs to be developed to detect the burden of disease in the communities, so that a timely and appropriate control measures could be identified.

I have also discussed about the problem of implementation of program and found that implementation of service for early diagnosis and treatment at PHC level is the appropriate solution to the problem. The proposal is focussed on the implementation of Early diagnosis and prompt treatment service with evaluation of the program in Sunsari District.

The study strengthens the capacity of Ministry of health in Nepal to design, implement EDPT service with prompt treatment in PHC and to evaluate the program, informs the decision makers about the importance of Leismaniasis control and mortality from V.L. thereby sharing information on the most effective strategies to reduce it.

#### **ACKNOWLEDGEMENTS**

I would like to express my sincere gratitude to Prof. Chitr Sithi amorn, Dean, C.P.H., Chulalongkorn for his guidance, kindness and care throughout the study.

I also would like to express my sincere regards to Dr. S.J. Wattana, Assoc. Prof. and Deputy Dean for graciously accepting me to present my thesis.

No words can be express my deep gratitude and sincere appreciation to Dr. stephen King, for his kind guidance, valuable suggestion and for constructive criticism.

I will not forget his warm and friendly advice, that served as a source of strength during my period of frustrations and despair.

I express my sincere regards to Dr. Nuntavarn Vichit-Vadakan, who encouraged and helped me all the time for completion of course. As a teacher I found her always guiding her students in the right track. I found her very kind and helpful all the time of my studies.

I am grateful to Dr. Sathirakorn P., for encouraging me every moment of my studies at Chulalongkorn. He is highly appreciated for, he made me understand the basics of Health Economics, which is of much importance for me to work as an administrator in Health services, Nepal.

I owe special thanks to my advisor, Ajarn Wacharin Tanyanont, who guided me to complete my thesis work. I would really appreciate her for making me understand the norms of statistics, which is of much help throughout my career to work in my country. She always helped me whenever I found myself in trouble during the period of my studies. She guided me all the way tocomplete my thesis.

I would like to pay my regards to Dr. Sawakorn R. for providing me a good knowledge in Health planning and policy implementation. I am also grateful to Ajarn Pete, who really helped me to work on computer in a way that I could write this thesis in time. At the same time I am obliged to Ajarn Ratna S. and Ajarn Chanawong B. for providing me all necessary help for my study. My thanks go to Dong thip, a staff of CPH, who helped me all the way making my stay at Chulalongkorn comfortable. I am also grateful to library staff for providing me all necessary support and helped me enormously during my study period.

I would like to thank my wife, who took lot of pain for my comfort during my study period at Chulalongkorn. It was her effort that I could complete my thesis. She always encouraged me and cared me during my stay in Bangkok.

Finally, I humbly acknowledge to my colleagues, who have contributed to my fund of knowledge. My thanks are due to my friends at Chulalongkorn, who made my stay comfortable and memorable.

# LIST OF CONTENTS

			Page
ABST	RACT.		iii
ACKN	10WLE	DGEMENTS	vi
LIST (	OF CO	NTENTS	viii
LIST (	OF TAE	BLES	xiii
LIST	OF FIG	URES	. xiv
I	: ES	TRODUCTION	. 1
		t treatment of Leismaniasis in Nepal	. 8
2.1		uction	
2.2	The L	eismaniasis	. 11
	2.2.1	Cause of Leismaniasis	. 11
	2.2.2	Effects of Leismaniasis	12
	2.2.3	Epidemiology of Disease	12
	2.2.4	Transmission of Disease	14
	2.2.5	Effects of Climate.	14
	2.2.6	Periodic Fluctuation.	15

	2.2.7	Population Movement	16
	2.2.8	Prevalence and Incidence of Disease.	17
	2.2.9	Age and Sex characteristics.	. 18
2.3	Staten	nent of Problem.	. 18
	2.3.1	Global problem	19
	2.3.2	Regional (distribution) Problem	20
	2.3.3	Problem in Nepal	21
2.4	Analy	tical Framework	22
	2.4.1	Out-Come	25
	2.4.2	Intermediate factors	26
	2.4.3	Distant Factors	27
2.5	Contro	ol Measures	. 28
	2.5.1	Preventive Measures	28
	2.5.2	Curative Measures	31
	2.5.3	Treatment of Visceral Leismaniasis	33
	2.5.4	Drugs Used	33
2.6	Emer	gency Measures for prevention/control of Epidemics	35
2.7	Situat	ion Analysis of Nepal	. 36
2.8	Gove	rnment Policy for Case detection and Disease control	39
<b>2</b> .9	Strate	gies for prevention and control of Leismaniasis	40
2.10	Healt	h Management and Information System (HMIS)	
	of Le	ismaniasis in Nepal	. 42
2.11	Identi	fication of Level-Where Service Can Be Provided	. 44
2 12	Integr	rated Annroach	. 45

X ,

	3.4.4 Monitoring	75
	3.4.5 Supervision	<b>7</b> 6
	3.4.6 Evaluation of Training	77
	3.4.7 Potential Problems.	87
	3.4.8 Human Resource Requirements	88
	3.4.9 Technical equipments requirements	88
	3.4.10 Sustainability of the Service	88
3.5	Ethical Issues in the study	89
3.6	Limitation of Study	90
Refer	ences	91
IV	: DATA EXERCISE	92
4.1	Introduction	92
4.2	Objectives of Data-Exercise	94
4.3	Data collection procedure	94
4.4	Focus Group Discussion.	98
	4.4.1 Field Preparation	98
	4.4.2 Sampling	98
	4.4.3 Duration	98
	4.4.4 Data Collection at Harinagar, Nepal	99
4.5	Limitations of Data Exercise	99
4.6	Findings	100
4.7	Discussion	101

4.9 Lesson le	earned from Focus Group Discussion
V : PRES	SENTATION110
VI : ANN	OTATED BIBLIOGRAPHY 123
APPENDICE	es:
Appendix I	Curriculum for Lesimaniasis EDPT Training at Narinagar
	Primary Health Center
Appendix II	Potential Members of the Project Implementation Team
Appendix III	Training of early case detection and prompt treatment
Appendix IV	Training for Early case detection and treatment
	Training Process Evaluation Questionnaires
	for Health Workers
Appendix V	Training for Case Detection and Treatment Pre-Teat
	and Post-Test Questionnaires For Health Workers
Appendix VI	Focus Guide Lines for people at risk of Leismaniasis
Appendix VII	Data Collection Instruments
Student's Curr	iculum Vitae 141

### LIST OF TABLES

Table 1:	Visceral Leismaniasis Profile	22
Table 2:	Situation of Diagnostic and Treatment Services at Present	105
Table 3:	At Primary Health Center Staffing Pattern	106
Tabel 4 :	PHC, Of Sunsari District 1996 has 3 Bed Health Facilities	106
Table 5:	District Hospital Sunsari	107

# LIST OF FIGURES

Figure 1 : Trend of Leismaniasis in Nepal	16
Figure 2 : Analytical Framework of Leismaniasis	23