# EVALUATION OF COMMUNITY BASED EDUCATION FOR WOMEN OF REPRODUCTIVE AGE GROUP IN PARO DISTRICT, BHUTAN



**Pandup Tshering** 

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Public Health in Health Systems Development

College of Public Health

**Chulalongkorn University** 

Academic Year 2003

ISBN 974-9599-42-X

Copyright of Chulalongkorn University

Thesis Title	: Evaluation of Community Based Education for Women of
	Reproductive Age Group in Paro District, Bhutan
Ву	: Dr. Pandup Tshering
Program	: Health Systems Development
Thesis Advisor	: Robert Sedgwick Chapman, M.D., M.P.H.
Accept	ed by the College of Public Health, Chulalongkorn University, Bangkok
	rtial Fulfillment of the Requirements for the Master's Degree
Pri-Sa	Lasana pradi
	(Associate Professor Prida Tasanapradit, M.D.)
THESIS COM	MITTEE  Langua Chaiman
	(Professor Surasak Taneepanichskul, DTPM.)
	Roll 5. Chapman Thesis Advisor
	(Robert Sedgwick Chapman, M.D., M.P.H.)
	Websi Celphi Member
	(Associate Professor Wichai Aekplakorn, M.D., M.M, Ph.D.)
	(Professor Edgar J. Love, M.D., Ph.D.)

# ต้นฉบับ หน้าขาดหาย

HEALTH SYSTEMS DEVELOPMENT PROGRAMME PH: 032390 : MAJOR KEY WORD: EVALUATION/COMMUNITY BASED/EDUCATION/WOMEN OF REPRODUCTIVE AGE GROUP/PARO DISTRICT/BHUTION

TSHERING: EVALUATION OF COMMUNITY PANDUP BASED EDUCATION FOR WOMEN OF REPRODUCTIVE AGE GROUP IN PARO DISTRICT, BHUTAN. THESIS ADVISOR: ROBERT SEDGWICK CHAPMAN, M.D., M.P.H., 93 pp. ISBN 974-9599-42-X

A community-based education program on recognizing five danger signs of pregnancy was given to women of reproductive age group (15-49 years) in Paro, Bhutan. The five danger signs were bleeding, fever, prolonged labor pain>12 hours, severe headache with blurring of vision and fits. The education program also encouraged women to come to hospital for treatment of these danger signs and for delivery. The education program was conducted from June 2002 to May 2003. The main objective of the education program was to increase knowledge of women on danger signs of pregnancy, and to increase hospital utilization for treatment of complications of pregnancy and delivery. The main objective of this study was to evaluate whether the education program increased the level of knowledge of women on danger signs of pregnancy, and increased hospital utilization for treatment of complications of pregnancy and delivery. Both primary and secondary data were collected. For primary data, a cross sectional study was carried out in Paro (intervention area) and Punakha (control area) The primary data included information on socio-demographic characteristics and knowledge level of the sample population. The secondary data included information on sociodemographic features and diagnosis of women who utilized the hospital. The secondary data were collected for three years (2001-2003). Descriptive statistics were used to describe the socio-demographic characteristics for primary and secondary data. Statistical tests were used on the primary data to assess associations of knowledge with place, program attendance and other independent variables. Statistical tests were also used on the secondary data to assess hospitalization before vs. after the program. The net intervention effect on hospital utilization was also calculated. The association of knowledge with place was statistically significant. (p<.001, Paro> Punakha). In Paro, the association of knowledge with program attendance was also statistically significant. (p < .001, attended > not attended). Difference in Hospital utilization for treatment of complications of pregnancy was statistically significant in Paro (p=0.022) but not in Punakha (p=0.301). For delivery it was not statistically significant in Paro (p= 0.172) or Punakha (p=0.310). For both combined it was statistically significant in Para (p=0.007) but not in Punakha (p=0.775). The net intervention effect on hospital utilization for delivery was 1%, for treatment of complications of pregnancy was 24% and for delivery and complications treatment combined was 16%. In conclusion, the education program appears to have resulted in increased knowledge of the danger signs of pregnancy. However, baseline (pre-program) knowledge level was not measured, and some degree of confounding by socio-demographic factors cannot be ruled out. The program was evidently successful in increasing hospitalization for complications of pregnancy, but not for delivery.

Field of study Health Systems Development Student's signature

Academic year 2003 Advisor's signature Roll S. Chypmyn.

#### Acknowledgements

I would like to mention here all those who were instrumental in helping me complete this thesis. I would like to thank Dr. Robert Sedgwick Chapman, my advisor, for his support and guidance through hard times during the process of writing this thesis. I would also like to thank Chairman of my Thesis committee Prof. Dr. Surasak Taneepanichskul, external examiner Associate Prof. Dr. Wichai Aekplakorn and Prof. Dr. Edgar J. Love for their guidance and feedbacks, which helped me, make my thesis for what it is today. It is my pleasure to thank all the teachers, guest lecturers, academic, library and computer room staffs of College of Public Health for their help.

I also take this opportunity to thank the Ministry of Health and Royal civil service commission, Royal government of Bhutan for giving me the opportunity to do my masters in Public Health. I am also thankful to the department of technical and economic cooperation (Thailand) for sponsoring my study in Thailand.

My acknowledgement would be incomplete if I fail to thank the community health staff of Paro and Punakha hospital for their help during preparatory phase of data collection. My special thanks to all women in Paro and Punakha who cooperated and willingly participated in the survey, without their participation result of my thesis would have been incomplete. My thanks also go to my Bhutanese friends in Rangnam apartment for making my stay in Bangkok a memorable one. Lastly my sincere thanks to my parents, wife and children back home in Bhutan for their moral support and encouragement through out my master's program in Thailand.

# TABLE OF CONTENTS

	Page
ABSTRACT	iii
ACKNOWLEGDEMENTS	iv
TABLE OF CONTENTS	v
LIST OF TABLES	ix
LIST OF FIGURES	xii
ABBREVIATIONS	xiii
CHAPTER I INTRODUCTION	1
1.1 Background	1
1.2 Description of the educational program	6
1.3 Problem statement	7
1.4 Objective of the educational program	8
1.5 Method of intervention program	9
1.6 Background Information on the Intervention Area (Paro)	
and Control area (Punakha)	8
1.7 Research objectives	11
1.8 General objective	11
1.9 Conceptual frame work	12
1.10Research questions	13
1.11Research Hypothesis	14
1.12Operational definitions of terms	15

1.13Assumption	16
1.14Limitations of the research	16
1.15Expected Benefits	16
CHAPTER II LITERATURE REVIEW	17
2.1 Health promotion program	17
2.2 Factors for utilization of Health services	21
2.3 Evaluation	22
CHAPTER III RESEARCH METHODOLOGY	25
3.1 Study population	25
3.2 Study site	26
3.3 Research design	26
3.4 Sample size	27
3.5 Instrument for data collection	29
3.6 Content validity	30
3.7 Reliability	30
3.8 Data analysis	31
3.9 Ethical consideration	31
CHAPTER IV RESULTS	32
4.1 Background	32
4.2 Demographic Features	34
4.2.1 Age	34
4.2.2 Education	36
4.2.3 Occupation	. 39

----

	4.2.4	Parity of women	40
4.3	Marita	l status	42
	4.3.1	Association of marital status with area	43
4.4	Transp	portation: Availability of Transportation among	
	survey	ed women in Paro and Punakha	43
	4.4.1	Transportation used for going to hospital	44
4.5	Chi sq	uare test for Association of independent variables	
	betwee	en Paro and Punakha	44
4.6	Knowl	edge on Danger signs of Pregnancy.	46
	4.6.1	Common Danger signs.	46
	4.6.2	Level of Knowledge.	46
	4.6.3	Frequency distribution of more than one known danger signs	
		from the survey in Paro and Punakha	47
	4.6.4	Other signs as cited by the respondent in Paro and Punakha	47
4.7	Educa	tion Program attendance in Paro.	48
4.8	Source	of information.	49
4.9	Freque	ency distribution and association of Independent variable	
	with level of knowledge		50
	4.9.1	Chi-square Test for association of knowledge level between	
		the intervention area (Paro) and control area. (Punakha)	52
4.10	4.10Secondary data: Monthly hospital utilization for Delivery and		
	treatment of complications of pregnancy in Paro and Punakha. 5		
	4.10.1	Chi-square test for association in hospital utilization	
		for delivery in Paro and Punakha	54

4.10	.2 Chi-square test for association in hospital utilization for tre	eatment
	of complications of pregnancy in Paro and Punakha.	57
4.10	.3 Chi-square test for association in hospital utilization for De	elivery
	and treatment of complications of pregnancy in Paro and P	unakha59
CHAPTER V	DISCUSSIONS, CONCLUSIONS	
	AND RECOMMENDATIONS	62
Introduct	tion	62
Dem	nographic features	63
Asso	ociation of dependent variable with area	67
Kno	wledge on danger signs of Pregnancy	68
Prog	ram attendance	69
Conclusion		75
Recomm	endations	76
Limitatio	ons of the study	78
REFERENCES	S	79
APPENDICES		
APPENDIX I	Questionnaire	84
APPENDIX II	Month wise hospital utilization for delivery	
	and treatment of complications of pregnancy	87
APPENDIX III	Frequency distribution of more than one danger sign	
	from survey in Paro and Punakha	90
APPENDIX IV	Frequency distribution of other signs from the survey	
	in Paro and Punakha	91
RIOCRAPHV		92

## LIST OF TABLES

		Page
Table 1:	Specific interventions for reducing maternal deaths	2
Table 2:	Specific interventions for reducing maternal deaths	20
Table 3:	Age distribution of the surveyed population in Paro and Punakha	34
Table 4:	Age distribution of women who utilized the hospital	
	for delivery and treatment of complications of Pregnancy.	
	(Punakha and Paro from 2001-2003)	36
Table 5:	Age distribution of women who utilized the hospital	
	for delivery and treatment of complications of Pregnancy	
	in Paro and Punakha. (2001-2003)	36
Table 6:	Education level of women from the survey in Paro and Punakha.	37
Table 7:	Education level of women who utilized the hospital	
	for delivery and treatment of complications of pregnancy	
	in Paro and Punakha. (2001 to 2003)	38
Table 8:	Occupation distribution of women from the survey	
	in Paro and Punakha.	39
Table 9:	Occupation of women who utilized the hospital for delivery	
	and treatment of complications of Pregnancy	
	in Paro and Punakha. (2001 –2003)	40
Table 10:	Parity of women from the survey in Paro and Punakha	41
Table 11:	Parity distribution of women in the survey in Paro and Punakha	41

Table 12:	Parity of women who utilized the hospital for delivery	
	and treatment of complications of Pregnancy	
	in Paro and Punakha. (2001- 2003)	42
Table 13:	Marital status of the surveyed women in Paro and Punakha	43
Table 14:	Chi-square test for Association of marital status with area	43
Table 15:	Availability of Transportation	44
Table 16:	Transportation used for going to hospital	44
Table 17:	Chi-square test for association of independent variables	
	in Paro and Punakha from the survey	45
Table 18:	Danger signs taught in the education Program as cited	
	by the respondents in Paro and Punakha	46
Table 19:	Level of knowledge of women on Danger signs	
	in Paro and Punakha	47
Table 20:	Program Attendance in Paro	48
Table 21:	Association between knowledge on danger sign	
	and program attendance	49
Table 22:	Source of information on Danger signs in Paro and Punakha	49
Table 23:	Associations between level of knowledge	
	and the independent variables among surveyed women	
	of Paro and Punakha	51
Table 24:	Test of association in the level of knowledge	
	between Paro and Punakha	52
Table 25:	Half yearly hospital utilization for delivery and Treatment	
	of complications of pregnancy in Paro and Punakha (2001-2003)	53

Table 26:	Chi square test for association in hospital utilization	
	for delivery and treatment of complications	
	of Pregnancy in Paro and Punakha	55
Table 27:	Chi square test for association of hospital utilization	
	for treatment of complications of Pregnancy in Paro and Punakha	57
Table 28:	Chi-square test for association in hospital utilization	
	for delivery and treatment of complications	
	of pregnancy in Paro and Punakha	60

### LIST OF FIGURES

		Page
Figure 1 :	Conceptual Framework	13
Figure 2:	Framework for evaluation	23
Figure 3:	Process evaluation can be done at five points	24
Figure 4:	Line graph showing hospital utilization for delivery	
	in Paro and Punakha from Jan-2001 to Dec-2003	54
Figure 5:	Line graph showing the hospital utilization for complications	
	treatment in Paro and Punakha from Jan 2001-Dec.2003	56
Figure 6:	Line graph showing hospital utilization for delivery	
	and complication treatment in Paro and Punakha combined	
	from Jan 2001 to Dec.2003	59

### **ABBREVIATIONS**

WHO World Health Organization

UNICEF United Nations Children's Economic Fund

UNFPA United Nations Fund for Population Activities

EmOC Emergency Obstetric care