

ปัจจัยที่มีผลต่อการปฏิบัติตามหลักการป้องกันโรคติดเชื้อแบบครอบจักรวาล  
ในสถาบันบำราศนราดูร



นาย สุทัศน์ โชตนะพันธ์

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาสาธารณสุขศาสตรมหาบัณฑิต  
สาขาวิชาการพัฒนาระบบสาธารณสุข  
วิทยาลัยการสาธารณสุข จุฬาลงกรณ์มหาวิทยาลัย  
ปีการศึกษา 2545  
ISBN 974-9599-04-7  
ลิขสิทธิ์ของจุฬาลงกรณ์มหาวิทยาลัย

FACTORS AFFECTING PRACTICE OF UNIVERSAL  
PRECAUTIONS IN BAMRASNARADURA INSTITUTE



Mr. Suthat Chottanapund

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

The College of Public Health

Chulalongkorn University

Academic Year 2002


ISBN 974-9599-04-7

Copyright of Chulalongkorn University

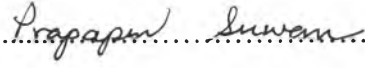
Thesis Title                      Factors affecting the practice of Universal Precautions in  
   Bamrasnaradura Institute  
By                                      Suthat Chottanapund  
Program                              Master Degree of Public Health (Health Systems  
   Development)  
Thesis Advisor                      Dr. Valaikanya Plasai  
Thesis Co-advisor                      Assistant Professor Somrat Lertmaharit


---


Accepted by the College of Public Health, Chulalongkorn University in  
Partial Fulfillment of the Requirements for the Master's Degree

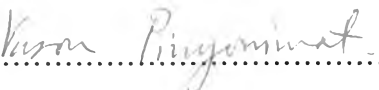
..... Dean of College of Public Health  
(Dr. Samlee Pianbangchang, M.D., Dr.P.H.)

#### THESIS COMMITTEE

..... Chairman  
(Associate Professor Dr. Prapapen Suwan, Ph.D.)

..... Thesis Advisor  
(Dr. Valaikanya Plasai, Dr.P.H.)

..... Thesis Co-advisor  
(Assistant Professor Somrat Lertmaharit, M.Méd.Stat.)

..... Member  
(Dr. Vason Pinyowiwat, M.D.)

## ABSTRACT

## PH 022341: MAJOR HEALTH SYSTEMS DEVELOPMENT

KEY WORD: HEALTHCARE WORKERS / BAMRASNARADURA INSTITUTE/  
PROTECTION/INFECTION/UNIVERSAL PRECAUTIONS

SUTHAT CHOTTANAPUND: FACTORS AFFECTING PRACTICE OF  
UNIVERSAL PRECAUTIONS IN BAMRASNARADURA INSTITUTE.

THESIS ADVISOR: DR. VALAIKANYA PLASAI, THESIS COADVISOR :  
ASSISTANT PROFESSOR SOMRAT LERTMAHARIT, 105 pp. ISBN 974-  
9599-04-7.

As an infectious disease hospital in an era of emerging and re-emerging infections, Bamrasnaradura Institute (BI) needs to strengthen its Universal Precautions (UPs) practices among its staff by first understanding the practices. This study, therefore, was proposed as the first one to understand factors that affect UPs practices among three groups of Health Care Workers (HCWs) in the Institute. A cross sectional descriptive design, with self-administered questionnaire, was employed among three groups of HCWs, doctors/dentists, nurses, and other HCWs, at BI from January 1 to 31, 2003. Altogether, 311 HCWs participated in the study.

The study found that factors that affect UPs practices among BI HCWs are age, level of education, work experience, place of work, previous experiences with UPs practices, previous UPs training, level of knowledge on UPs and its principles, attitude toward UPs effectiveness, and attitude toward hospital policy on UPs ( $p < 0.01$ ). On the other hand, factors that appeared to have no effect on the practices are gender, marital status, and working position.

Most of HCWs at BI has moderate to high levels of knowledge in UPs, 100% among doctors, dentists and nurses, and 94.5% of other HCWs. Nurse group has the highest number of participants with high level of knowledge (77.3%), while Doctor/dentist group has 65%. Only 5.5% of other HCWs have low level of UPs knowledge.

None of the HCWs has negative attitude toward UPs, with almost 90% having high level of attitude. Different level of attitude toward UPs among different groups of HCWs has no effects on UPs practice. HCWs cannot choose appropriate protective barriers, perhaps due to their insufficient knowledge. One important finding to take into account is that while HCWs has positive attitude toward UPs principles, they doubt its effectiveness against Human Immuno-deficiency Virus (HIV).

The study found that not all of HCWs in BI practice UPs, even if the Institute was responsible mainly for infectious diseases, especially HIV patients. UPs practices should be improved to ensure HCWs safety. Different types of training programs should be planned according to specific needs of HCWs.

College of Public Health  
Field of study: Health Systems Development  
Academic year 2002

Student's signature *Suthat* .....

Advisor's signature *Valai Kanya Plasai* .....

Co-advisor's signature *Somrat Lertmaharit* .....

## ACKNOWLEDGEMENTS

I never knew that thesis is a hard work, until I was in the College of Public Health. I would like to thank all doctors, nurses and other healthcare workers from Bamrasnaradura Institute who dedicated their time to answer my questions. For Chulalongkorn University, I would like to thank all my colleagues and every faculty staff who kindly helped me with my thesis. Special thanks have to be given to all of the following people who taught and helped me in this college. Without these people, I could say that I would not be able to finish my thesis. Ajarn Dr. Prapapen Suwan, my thesis chair person, who helped me to improve my thesis for behavioral part. Ajarn Somrat Lertmaharit, who is from Chulalongkorn Medical School, gave advices for my statistics. The most important person for my thesis, my thesis advisor Ajarn Dr. Valaikanya Plasai, who helped and pushed me up until I finished final draft of my thesis.

Lastly, I would like to thank the director of my hospital, Dr. Achara Chaovanit, who gave me a chance to be in this program.

Suthat chottanapund

## Table of Contents

	Pages
ABSTRACT (English).....	iv
ACKNOWLEDGEMENT.....	v
TABLE OF CONTENTS.....	vi
LIST OF TABLES.....	ix
LIST OF FIGURES.....	xi
ABBREVIATIONS.....	xii
CHAPTER I INTRODUCTION.....	1
1.1 Background.....	1
1.2 Purpose of the study.....	6
1.3 Research questions.....	6
1.4 Objectives of the study.....	6
1.5 Research hypotheses.....	6
1.6 Major determinants for practicing Universal Precautions.....	7
1.7 Operational definitions.....	8
1.8 Variables table.....	9
CHAPTER II LITERATURE REVIEW.....	10
2.1 Universal Precautions .....	10
2.2 Health behavior.....	14
2.3 Related research.....	21
2.4 Conceptual framework.....	24

### Table of Contents (Continued)

	Pages
CHAPTER III METHODOLOGY.....	25
3.1 Research design.....	25
3.2 Study population.....	25
3.3 Sampling method.....	26
3.4 Data collection.....	27
3.5 Questionnaire returned rate.....	27
3.6 Research instruments.....	29
3.7 Reliability and validity of the instruments.....	31
3.8 Data analysis.....	32
3.9 Ethical consideration.....	32
 CHAPTER IV RESEARCH RESULTS.....	 33
4.1 Socio-demographic data.....	33
4.2 Descriptive data on knowledge, attitudes, practices toward Universal Precautions and opinions about hospital's Universal Precautions policy in healthcare workers .....	39
4.3 Relationship of knowledge and attitudes that affect Universal Precautions practices in each group of healthcare workers.....	53
4.4 Comparison of knowledge, attitudes and practices among different groups of healthcare workers .....	57
4.5 Socio-demographic data and other factors that can affect to Universal Precautions practice.....	59

**Table of Contents (Continued)**

	Pages
CHAPTER V DISCUSSIONS .....	63
5.1 Hypotheses testing .....	63
5.2 Discussions.....	64
CHAPTER VI CONCLUSIONS AND SUGGESTIONS.....	67
6.1 Conclusions.....	68
6.2 Limitation of this study.....	69
6.3 Suggestions.....	70
REFERENCES.....	73
APPENDICES.....	76
APPENDIX A Questionnaire (English version).....	77
APPENDIX B Questionnaire (Thai version) .....	83
BIOGRAPHY.....	93



## List of Tables

Table	Pages	
1.1	Number of patients in Bamrasnaradura Institute.....	5
1.2	Research variables.....	9
3.1	Questionnaire returned rate.....	27
3.2	Comparison of socio-demographic data between response and non-response group of doctors and dentists .....	28
3.3	Data analysis.....	32
4.1	Distribution of frequency and percentage of healthcare workers by socio-demographic data .....	34
4.2	Descriptive data about age and working experience in each group of healthcare workers.....	38
4.3	Distribution of frequencies and percentages of healthcare workers' knowledge level by groups of respondents.....	39
4.4	Distribution of frequencies and percentages of correct and incorrect answers among healthcare workers by knowledge items.....	41
4.5	Distribution of frequencies and percentages of healthcare workers' attitude level by groups of respondents.....	42
4.6	Distribution of frequencies, percentages and mean scores of attitude toward Universal Precautions of healthcare workers by items .....	44
4.7	Distribution of frequencies and percentages of healthcare workers' practice level by groups of respondents.....	47

**List of Tables (Continued)**

Table	Pages
4.8 Distribution of frequencies, percentages and mean scores of Universal Precautions practice in healthcare workers .....	48
4.9 Distribution of frequencies and percentages of healthcare workers' opinions toward hospital's environment and UPs policy by groups of respondents .....	51
4.10 Distribution of frequencies, percentages and mean scores of healthcare workers' opinion toward hospital's environment and UPs policy.....	52
4.11 Relationship of knowledge and attitudes that affect Universal Precautions practice in the group of doctors and dentists.....	54
4.12 Relationship of knowledge and attitudes that affect Universal Precautions practice in the group of nurses.....	55
4.13 Relationship of knowledge and attitudes that affect Universal Precautions practice in the group of other healthcare workers....	56
4.14 Comparison of knowledge among different groups of healthcare workers.....	57
4.15 Comparison of attitudes among different groups of healthcare workers.....	58
4.16 Comparison of Universal Precautions practice among different groups of healthcare workers.....	58
4.17 Relationship of socio-demographic data and Universal Precautions practice of sample.....	59

## List of Figures

Figure		Pages
1.1	Causal web of poor compliance to Universal Precautions .....	4
2.1	Causes of occupational infections.....	14
2.2	Health Belief Model.....	17
2.3	PRECEDE-PROCEED Model.....	19
2.4	Conceptual framework of the study.....	24

## ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
BI	Bamrasnaradura Institute
CDC	Center for Disease Control and Prevention
CMV	Cytomegalovirus
HBM	Health Belief Model
HIV	Human Immunodeficiency Virus
SARS	Severe Acute Respiratory Syndrome
UPs	Universal Precautions
HCWs	Health care workers