Original article

Perceived benefits and perceived barriers of having safe practices and healthy lifestyles to prevent epidemic diseases among people living in the border areas of Ubon Ratchathani Province

Kulchaya Loyha*, Pattaraporn Charoenbut**
*Faculty of Public Health, Ubon Ratchathani Rajabhat University

Abstract

This study aimed to survey attitudes towards perceived benefits and perceived barriers of having safe practices and healthy lifestyles to prevent epidemic diseases among people living in the border areas of Ubon Ratchathani Province. This study was a cross-sectional descriptive study. It investigated two sample groups: patients who were sick with communicable diseases and people who were at risk of getting infected from communicable diseases. The two sample groups included Thais and foreigners who received hospital services in the border areas of Ubon Ratchathani Province between 2012 - 2013. Equipped with the two sample groups, seven hospitals in Ubon Ratchathani were examined. They were Khammaraj, Phochai, Srimuangmai, Khongjam, Sirinthorn, Boontarik, and Najaroy hospitals. The survey forms were created and distributed to two sample groups in seven hospitals. The collected data were analyzed by using descriptive statistics, that is percentage and frequency distribution. The results found that most of the samples had their attitudes towards perceived benefits and perceived barriers of preventing epidemic diseases at a moderate level (49.2%). In addition, the majority attitudes agreed with wearing a mask at all times to help protect from being infected from the airborne diseases in crowded places. Moreover, the sample groups accepted the idea that following the news about epidemic diseases continuously would help them to be aware of preventing themselves from being infected by communicable diseases (83.5 % and 72.0 %, respectively). Although most subjects perceived the benefits and barriers of practicing themselves to prevent epidemic diseases at a moderate level, some subjects were still found to be at a lower level. Interestingly, the practices of most people for preventing epidemic diseases were in a moderate level. The results were relevant to the social cognitive theory which is the basis of the Health Belief Model. The model states that if a person has good knowledge and perception in some certain cases, the good knowledge and the fine perception will affect his behaviors or actions to do well in those cases.

Keywords: Communicable diseases, perceived benefits, perceived barriers, border areas, Ubon Ratchathani Province

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Introduction

The public health preparation project on the surveillance, prevention and control of communicable diseases and non-communicable diseases was one of the 10 projects by the Ministry of Public Health in preparation for Thailand to be part of ASEAN Community. The project was carried out by Faculty of Public Health at Ubon Ratchathani Rajabhat University, an organization under the Ministry of Education, that was responsible for educating the public health authorities about health knowledge as well as the general public who want to know about public health news and healthy lifestyles.

Thus, the researchers realized the importance of the public health practices to respond to ASEAN integration projects that need to be done perfectly. They were also aware of the current situations of more than 10 communicable diseases that have been spreading in some regions of Thailand because those diseases used to spread in Ubon Ratchathani as well. In addition, the researchers understood that Ubon Ratchathani province was in the border areas connecting Thailand to the neighboring ASEAN countries. As the three results, the Boards of Faculty of Public Health were aware of the ways to develop the prevention and to take control of communicable diseases that may become epidemic due to ASEAN community when people can move freely between the countries. According to the report about communicable diseases in the border areas of Ubon Ratchathani province received from the epidemiology group at Public Health Office, located in Ubon Ratchathani, in 2012, approximately more than 2,000 patients with communicable diseases (dengue, malaria and acute diarrhea) were found yearly and admitted to Khammaraj, Phochai, Srimuangmai, Khongjam, Sirinthorn, Boontrarik, Najaroy and Numyean hospitals. The number of such patients included foreign patients: approximately 500 patients from Laos and Cambodia per year. Therefore, if we know the practices to prevent the communicable diseases for people living in the border areas, this would be important information and was necessary to find ways of preventing and controlling communicable diseases in the future.

Objective

To survey attitudes towards perceived benefits and perceived barriers in the practices to prevent communicable diseases of people living in the border areas in Ubon Ratchathani.

Materials and Methods

Research methodology

The study was a cross-sectional descriptive study.

The subjects

The subjects in this study were patients who were sick with communicable diseases and people who were at risk of getting infected from communicable diseases. They included Thai and aliens who received hospital services at the border areas of Ubon Ratchathani province during 2012-2013 at Khemarat, Phochai, Srimuangmai, Khongjaim, Sirindhorn, Boontrarik, and Najaroy hospitals as in the following details.

2.1 Inclusion criteria

2.1.1 Patients with communicable diseases were referred to patients with all kinds of communicable diseases such as dengue, malaria, acute diarrhea, sexual transmitted diseases.

2.1.2 The group at high risk of getting infected from communicable diseases were 1) the chronic patients such as the patients with hypertensive, diabetes, high cholesterol, etc., 2) the pregnant women who were physically sick with high fevers, headaches, etc., excepted for the pregnant women who were sick from complicated pregnancy, 3) the elderly who were physically sick such as having fevers, headaches, muscle aches, etc., excepted for someone who had all types of psychological illness.

2.2 Exclusion criteria

2.2.1 Patients with communicable diseases:

- Patients with other types of diseases, but not the communicable diseases
- All types of disability patients
- Involuntary patients to join in the research project

2.2.2 The high risk group to get infected from communicable diseases

- People in other groups who were not in the high risk group such as people who came to visit the hospitals and people who were not included in the three high risk groups
- The high risk group with all types of disability
- The high risk group who were involuntary to participate in the research project

The sample size

This study was to study the two sample groups: the group at high risk and the patients with communicable diseases in the border areas of Ubon Ratchathani province. The two sample groups included Thai and foreigners. They were calculated by applying a formula to find the size of the samples to estimate the proportion of the population as shown in the following details.

Formula : $n = \frac{Z^2_{\alpha/2}\, p(1-p)}{e^2}$

with n = the size of the samples

α= errors on the conclusion of characteristics of population from the statistics of the sample group

Z = Confidence coefficient received from stability given (1- α)

p = proportion (coverage or disease incidence)
e = Precision of estimation

Determined by the research question and the basic survey, the results revealed that the statistics of patients with communicable diseases in the border areas in the last 5 years, the estimated patients compared with all patients with communicable diseases of Ubon Ratchathani province were 10% per year, so the value was p = 0.1 (the data from the epidemiology department, Ubon Ratchathani Provincial Health Office) and the error was ± 37 per 1000 people. Therefore, the value was e = 0.037.

Substitute the value in the formula,
we get:

$$n = \frac{Z^2_{\alpha/2}\ p\ (1\text{-}p)}{e^2}$$

$$n = \frac{1.96^2 X\ 0.1(1\text{-}0.1)}{0.037^2}$$

$$n = \frac{0.35 = 259}{0.037^2}$$

Therefore, the sample group was approximately 259 people.

Research explained the objective and details of the research project to participants and when the participants understand to ensure that they are more than just a signature on a form.

The data were based on 12 questionnaires about perceived benefits and perceived barriers in practices to prevent the communicable diseases by applying the attitude measurement of the Likert's scale. The Likert's scale was a rating scale with each item would have the answers in 3 levels: uncertainty, agreement, and disagreement. The scoring was 3, 2, and 1, respectively for the positive questions while in the negative questions the scoring was 1, 2, and 3, respectively. The scores of the questions can be divided into three levels as follows levels (Bloom et al., 1971).

The criterion for the levels of perceived benefits and perceived barriers.

the score levels scores	percentage
high 28 – 36	≥ 80
moderate 21 – 27	60-79.9
low 0 – 20	≤ 59.9

Data analysis

The descriptive statistics used to analyze the data were percentage by using the program STATA analysis to process the data.

Results

The results showed that most subjects had attitudes at the moderate level (49.2%) and agreed with most of the questions they were asked. The first question was that "You think that if you wear a mask at all times when you are in a crowded place with many people, will wearing a mask help protect you from contagious airborne diseases?" The second question was that "Do you think that if you always follow the news about the outbreaks of the communicable diseases, this will make you aware of being infected from the communicable diseases?" The results of the two questions showed that the samples agreed 83.5% for the first question and 72.0% for the second question. There were some attitudes pointing at uncertainty in the two questions. The first one was that "Do you think that it's impossible to stay away from relatives who were patients of tuberculosis since you need to monitor them closely?" The second one was that "Do you think that you cannot exercise at least 3 times a week?" The result of the first one was 54.5% that the subjects agreed with while the second one was 47.0%. There were some disagreements in the questions "Do you think you have time to cook for yourselves? and Do you think you always have time to take care of your hygiene all the time?" The results showed disagreement that 67.7% was for the former and 63.1% was for the latte as presented in the table 2 and 3.

Discussion

Although most samples perceived benefits and perceived barriers in safe practices and healthy lifestyles to prevent themselves from getting infected from communicable diseases in the moderate level, some samples were in the low level. Similarly, the behaviors involved with safe practices to prevent from getting infected by the communicable diseases also in the moderate level as well. This result was relevant to the social cognitive theory which is the basic concept of the Health Belief Model which says that if a person with good knowledge and perception in anything, it would affect the behavior or actions in working on the duties. This result was also related to the study of Graysinee and Uthaiwan Kotathong (2013). Both of them studied on the development of the self-protection patterns of teenagers from getting infected AIDS. Factors of knowledge, characteristics of minds according to situations, and motivation were used to explain variables of behaviors performing to protect themselves from getting infected HIDS. Therefore, it is interesting to think that if we are able to make the sample groups realize the benefits and barriers in safe practices and healthy lifestyles to prevent themselves from getting infected from the communicable diseases, this effort will enable the sample groups to prevent themselves from getting infected from the communicable diseases.

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Table 1 Prevalence of communicable diseases in border areas with classified by the hospital

	Khongjam	Srimuangmai	Boontarik	Phochai	Sirinthorn	Khammaraj	Najaroy	Totals
	Percentage (95%CI)	Percentage (95%CI)	Percentage (95%CI)	Percentage (95%CI)	Percentage (95%CI)	Percentage (95%CI)	Percentage (95%CI)	
Dengue fever	3 (6.4) (0.03 – 6.3)	5 (12.5) (9.1 – 51.2)	3 (7.7) (3.3 – 39.5)	1 (3.2) (1.0 – 26.0)	0	3 (7.5) (3.3 – 39.5)	4 (10.0) (6.0 – 45.5)	19
Malaria	0	5 (12.5) (6.8 – 40.7)	7 (17.9) (12.0 – 49.3)	2 (6.5) (0.9 – 26.0)	5 (22.7) (6.8 – 40.7)	4 (10.0) (4.5 – 36.0)	2 (5.0) (0.9 – 26.0)	25
Acute diarrhea	0	7 (17.5) (12.6 – 51.0)	5 (12.8) (7.1 – 42.1)	0	2 (9.1) (1.0 – 26.9)	0	10 (22.0) (22.1 – 63.3)	24
Others	0	3 (7.5) (4.3 – 48.0)	1 (2.6) (1.6 – 31.9)	8 (25.8) (26.5 – 78.7)	0	2 (5.0) (1.6 – 40.4)	1 (2.5) (1.6 – 31.9)	15

Table 2 Perceived benefits and perceived barriers in practicing to prevent from being infected of communicable diseases

The levels of perceived benefits and perceived barriers	Size	Percentage
High (≥ 80%)	49	19.9
Moderate (60%-79.9%)	121	49.2
Low (≤ 59.9%)	76	30.9
Total	246	100.0

Table 3 The perception data of benefits and barriers in practices to prevent from being infected of communicable diseases

Perceived benefits and perceived barriers in practices to prevent from being infected of communicable diseases	Agree		Uncertain		Disagree	
1. If you wear a mask at all times when you are in a crowded place with many people, will wearing a mask help protect you from airborne contagious diseases in the air.	212	(83.5)	38	(15.0)	4	(1.6)
2. If you always follow the news about the outbreaks of communicable diseases, this will make you aware of possible infection of communicable diseases.	183	(72.0)	66	(26.0)	5	(2.0)
3. It is impossible to stay away from relatives who were patients of tuberculosis since you need to monitor them closely.	70	(27.7)	138	(54.5)	45	(17.8)
4. You think there is no time to clean the house to get rid of the mosquito breeding grounds.	56	(22.0)	72	(28.3)	126	(49.6)
5. You think you always have time to take care of your hygiene all the time.	37	(14.7)	56	(22.2)	159	(63.1)
6. You think you do not have enough time to cook for yourselves.	29	(11.4)	53	(20.9)	172	(67.7)
7. You think that you are not able to find mosquito repellents when you have to work or travel in the forest.	61	(24.0)	84	(33.1)	109	(42.9)
8. You think you are not able to find thick and safe tents to protect you from mosquitos while working or travelling in the forest.	69	(27.2)	100	(39.4)	85	(33.5)
9. You think you are not able to find thick clothes to cover all parts of your bodies when working or travelling in the forest.	50	(19.7)	77	(30.3)	127	(50.0)
10. You think going to the hospitals when you are sick is trouble for you.	78	(30.7)	53	(20.9)	123	(48.4)
11. You think wearing condoms will be an obstacle for you when having sex.	44	(17.3)	103	(40.6)	107	(42.1)
12. You think you are not able to get exercises at least three times a day.	71	(28.3)	118	(47.0)	62	(24.7)

Table 4 The relationship between of the perception data of benefits and barriers in practices to prevent from being infected of communicable diseases and health behaviors

Perceived benefits and perceived barriers in practices to prevent from being infected of communicable diseases	r	p-value
The levels of perceived benefits and perceived barriers		
High (≥ 80%)	0.08	0.58
Moderate (60%-79.9%)	-0.52	0.05*
Low (≤ 59.9%)	-0.26	0.34

*Statistically significant at the 0.05