

Level of Perception of Severity and Level of People's Anxiety about the Situation of the COVID-19 Outbreak: A Case Study of a District in Buriram Province.

Thittayawadee Intarangkul¹ Kittisak Namvicha² Nongnuch Hornniam³ Choomsri Thonkate⁴

Abstract

Buriram Province pays attention to the situation of the COVID-19 outbreak as the number of patients is increasing continuously. Therefore, it is imperative that people adopt behaviors to prevent disease and health hazards in order to reduce risks and prevent affecting the health of people in the new normal society. This research aimed to study the level of perception of severity and anxiety level as well as the relationship between people's perceptions of severity and anxiety about an outbreak of COVID-19: a case study of a district in Buriram province. The research method was a cross-sectional study among Thai people aged 18 and over. The samples consist of 800 people obtained by multistage randomization. Data were collected online. The research instrument used in the research consisted of a set of questionnaire on the perception of severity and on anxiety with a reliability of 0.76. Data were analyzed using descriptive statistics, One-way ANOVA, and the Spearman correlation test. The results showed that the means of overall perception of severity of disease and anxiety were at the highest level ($\bar{x}=14.96$, $SD=1.56$) and ($\bar{x}=4.52$, $SD=0.64$), respectively. Different Age, immunization, type of cohabiting person, income, COVID-19 protective equipment, and delayed detection of COVID-19 affected perceptions of the severity of the situation of COVID-19 outbreaks differently at the significant level, $P = 0.013, 0.038, 0.034, 0.029, 0.042,$ and 0.000 , respectively. In addition, age, number of vaccinations, side effects after vaccination, type of cohabiting person, income, COVID-19 protective equipment, and delayed detection of COVID-19 were statistically different at a P level of $0.030, 0.07, 0.049, 0.35, 0.00, .038,$ and 0.014 , respectively. The perception of severity was significantly positively associated with anxiety at the 0.01 level ($r=0.743$, $p<0.01$), with a moderate correlation. Therefore, self-protection should be strictly promoted in the new normal society.

Keywords : Perception of Severity, Anxiety, COVID-19

¹ Faculty of Nursing, Buriram Rajabhat University, E-mail: thittayawadee.it@bru.ac.th

² Faculty of Science, Buriram Rajabhat University, E-mail: Kittisak.nv@bru.ac.th

³ Faculty of Nursing, Buriram Rajabhat University, E-mail: nongnuch.hn@bru.ac.th

⁴ Faculty of Nursing, Western Buriram University E-mail: choomsritk_24@gmail.com

* Authors : Thittayawadee Intarangkul, E-mail: thittayawadee.it@bru.ac.th

Introduction

The outbreak of 2019 coronavirus disease (Department of Disease Control) Coronavirus Disease 2019, or COVID-19) is considered a "pandemic" after the infection was found around the world. At present, there are 201,655,709 cases worldwide, 197,379,125 are being treated; and 4,276,584 have died (as of 7 August 2021) . The outbreak of coronavirus has caused damage to people's lives around the world, and it may take many years for the situation to return to normal, or there may be a new way of life (a " new normal") in the daily lives of humans forever. The outbreak of COVID-19 is affecting global health security as it continues to rise and remains uncontrollable in many countries across the world. The response to the outbreak requires a complete and systematic approach, as the COVID-19 outbreak situation is changing rapidly and at high risk. This new virus has caused an increase in the number of infected patients worldwide. In Thailand, there is a widespread outbreak, especially in the community. There are 714,684 cumulatively infected patients; 212,172 are being treated; 5,845 have died; and 496,123 have recovered. In addition, due to the current epidemic situation, new infections are still being detected, and the number of deaths is increasing day by day. It is predicted that if there is a situation where disease control is not effective enough, the outbreak will occur very quickly, and the total number of patients may reach 16.7 million by 2021. In addition, COVID-19 is an emerging infectious disease caused by a new virus that has never caused a disease in humans before. Therefore, there are limitations in the knowledge that can be used to manage, control, and prevent disease. In addition, the nature of the pathogen, in which many patients show no symptoms, along with the long incubation period (maybe more than 2 weeks), makes transmission widespread and difficult to control. Moreover, there are no specific medicines or vaccines to prevent and treat this virus, which leads to some concerns about the challenge of outbreak control ².

The rapid spread of SARS-CoV-2, which is the cause of the coronavirus disease 2019 or COVID-19 has caused problems that affect people both in terms of disease control and prevention as well as the management of resources in the health care system to support patients and reduce mortality from COVID-19. The problems were also caused by the socio-economic impact of disease control policies that lead to a slowdown in economic activities.

Thailand is one of many countries around the world that need to develop policies to deal with the outbreak of COVID-19 within the country. A state emergency has been declared nationwide in accordance with the Emergency Decree to control the outbreak of the coronavirus disease 2019 from 26 March 2020³ with the expectation of reducing the number of infected people. Thailand has set the direction for managing the COVID-19 outbreak within the context of the current health system. There are measures to control the disease such as increasing physical distance, community congestion reduction, quarantine, tracing, disease isolation, resource management, measures in the health care system to support patients, such as increasing the capacity of intensive care units in each area, measures to mitigate the impact of the outbreak of COVID-19, such as remediation for sickness and death, and measures to mitigate the economic and social impacts of the disease control policy itself, such as some measures that cause a slowdown in economic activities, unemployment, and a slowdown in domestic consumption⁴. Situation of the outbreak of COVID-19 in Buriram Province, as of 5

August 2021, Buriram Province has 407 new cases, 4,714 confirmed cases of COVID-19, 685 are cured, 5,071 infected patients outside Buriram Province. And 336 cases were found in Buriram Province⁵. It was found that the trend continued to increase. This makes people have more anxiety. If the disease prevention instructions are not followed or people do not cooperate in taking care of themselves, medical treatment will be delayed, which will increase the perception of the severity of the disease. Although we are aware of the potential risk of disease, prophylactic behavior may not occur.

Preparedness to deal with the outbreak effectively is therefore imperative to reduce risks and prevent impacts on people's health, such as through hand washing, wearing masks, or social distancing, as well as disclosure of information specifically to healthcare professionals. It is believed that this is a way to overcome COVID-19. In the past, the rapid spread of COVID-19 within a few months has resulted in the company and various business establishments and educational institutions being shut down to reduce the spread of the virus. Many people have to stay at home and "work from home" instead of going to work. Students have to study online at home. However, there are quite a few people who are self-isolating at home out of fear and worry that if they go out of the house, they will put themselves at risk of COVID-19. Therefore, the author studied the perception of severity and anxiety about the outbreak of COVID-19: a case study of a district in Buriram province - to educate people on a way to protect themselves, take care of their health, alleviate anxiety about the outbreak situation, which can become stressful, be wary of the people around them, which may affect the mental state, and use the information obtained to promote awareness and prophylactic behavior for COVID-19 infection, to be able to live a normal and safe daily life from that disease.

Research Objectives

1. To study the level of perception of severity and the level of people's anxiety about the situation of the COVID-19 outbreak: a case study of a district in Buriram province.
2. To study the relationship between perception of severity and people's anxiety about the situation of the COVID-19 outbreak: a case study of a district in Buriram province.

Research Methodology

This research is cross-sectional descriptive research.

The Population was both male and female, aged 18 years and over, who live in Buriram municipality, Nai Mueang sub-district, Mueang district, Buriram province. The sample size was calculated by Cochran's method and consisted of 800 persons from a population of 43,218. The data were collected online. Multistage cluster random sampling was applied, starting with the largest group and ending with the desired sample as appropriate and the data was collected as convenient.

The instrument used in this study was a questionnaire which was divided into 3 parts as follows: 1) General information: the general data record consisted of gender, age, marital status, COVID-9 vaccination, side effects after vaccination, occupation, cohabiting person, places that they have been out of the house in the last two weeks, contact with relatives/other persons returning from risk areas, and average monthly income with a close ended question. 2) The questionnaire on the perception of the severity of disease consisted of 14 items. It was a 3-

rating scale, namely high perception, moderate perception, and low perception. 3) The questionnaire on the perception of severity of disease consisted of 15 items. It was a 3-rating scale, namely high anxiety, moderate anxiety, and low anxiety.

Instrument quality was inspected to determine the content validity of the questionnaire by trying it out with 50 people who were similar to the population to be studied in order to analyze the reliability and determine the reliability, which has a Cronbach's alpha coefficient of 0.76.

For ethical considerations, this research has been reviewed and accredited by the Human Research Ethics Committee, Buriram Provincial Public Health Office, with BRO certificate number 2022-001, dated 10 January 2022.

Data collection method

The data were collected online by completing online questionnaires and sending them to health networks in each community, which is a sample group in a specific research area of 800 sets when collecting data from the sample group. The researcher has checked the completeness of the data before data analysis with the following details:

1. A QR code of the online questionnaire was disseminated to samples obtained from purposive sampling. They were people living in the area of Buriram Municipality, Nai Mueang Sub-district, Mueang District, Buriram Province, totaling 18 communities with residents aged 18 and over, a total of 800 people. Data collection was done by using the prepared questionnaires to collect samples at convenience. When the required amount was reached, the collection stopped.
2. The completeness of the survey responses was checked before leaving the area.
3. Data were analyzed using SPSS.

Data Analysis

Data were analyzed by using descriptive statistics such as frequency, percentage, mean, standard deviation. The level of perception of severity was interpreted into three level, namely, high perception, moderate perception and low perception⁶ and the level of anxiety were interpreted into 3 level, high anxiety, moderate anxiety and low anxiety⁶ and the relationship between the perception of the severity of COVID-19 and anxiety about the COVID-19 outbreak using the Spearman correlation coefficient were interpreted into 3 levels: high, moderate and low. 0.00–0.39 was a low relationship, 0.40 – 0.69 was a moderate relationship, and 0.70–1.00 was a high relationship.

Research results

1. General information. Most of the samples were males (55.0%), aged 21-30 years. Most of them had received the first dose of the COVID-19 vaccine (77.20%), followed by those who had completed both injections (21.1%). Most of them had no side effects/adverse reactions after vaccination (43.3%), followed by myalgia, dyspnea, fever/chills, and headaches, 16.1%, 14.10, 12.12 and 11.7%, respectively. At present, most of them living together, eating and sleeping with friends (78.9%), followed by with their parents (16.1%) during the two-week period. Most of them lived in dormitories (36.70%) and did not travel to high-risk areas or

returning from the risk area (93.90%) and did not come into contact with relatives/other people return from the risk area (95.60%). This is consistent with measures to control the spread of COVID-19 by prohibiting anyone from entering and exiting epidemic and at-risk areas. If it is necessary to enter and exit the epidemic and at-risk areas, there must be permission from the communicable disease control officer in that area. Most of them had equipment and medical supplies to protect themselves from infection but they were insufficient (37.8%), followed by having sufficient and standardized equipment and medical supplies to protect themselves from infection (36.1%). During the internship, 73.9% were exposed to COVID-19 and worried that it would spread the virus to family members all the time, followed by occasional concern at 24.40%. And if there is an infection, there will always be a fear that the detection of COVID-19 will be late (61.70%). If infected, they are confident that the agency will provide care according to the patient's needs (67.80%). Regarding access to information about the COVID-19 situation, most of them receive accurate, reliable, current, and useful information (50.60%) and the biggest concern from the current COVID-19 outbreak is the hiding of the timeline of the infected (24.20%).

2. The perception of the severity of COVID-19 outbreak is at the highest level ($\bar{x}=14.96$, $SD=1.56$). When each sub-item is considered, it is found that the highest mean is that the COVID-19 situation has made people more careful and protect themselves ($\bar{x}=4.64$, $SD=0.51$), followed by people with underlying disease were more likely to pass away due to COVID-19 infection ($\bar{x}=4.61$, $SD=0.51$), and the least means were those who were overweight or obese were more likely to pass away due to the COVID-19 ($\bar{x}=4.33$, $SD=0.55$) as shown in Table 1.

Table 1: Percentage, Mean, Standard Deviation, and the Level of Perception of Severity

| Item | Perception of Severity | | | | | Mean | S.D | Level |
|--|------------------------|----------------|-------------|---------------|-----------|------|------|-----------|
| | Very High | High | Moderate | Low | Lowest | | | |
| 1. The COVID-19 situation makes you more careful and want to protect yourself. | 536 (58.5%) | 247 (29.9%) | 10 (1.1) | 63 (35.0%) | 0 | 4.64 | 0.51 | Very High |
| 2. Look for a way to prevent the spread of COVID-19 for both yourself and your close ones. | 420 (45.9%) | 384 (41.9%) | 12 (1.3) | 0 | 4 (.4) | 4.48 | 0.58 | Very High |
| 3. Strictly follow the government's COVID-19 epidemic measures. | 472 (51.5%) | 337 (36.8%) | 4 (0.4) | 7 (.8) | 0 | 4.55 | 0.55 | Very High |
| 4. Understand and be aware of | 491 | 312 | 11 | 6 | 0 | 4.57 | 0.5 | Very |

| Item | Perception of Severity | | | | | Mean | S.D | Level |
|---|------------------------|----------------|-------------|------------|------------|------|------|-----------|
| | Very High | High | Moderate | Low | Lowest | | | |
| the problems and situations related to COVID-19 that will occur many times. | (53.6) | (34.1) | (1.2) | (0.7) | | | 6 | High |
| 5. The more affected you are by the COVID-19 situation, the more you take care of yourself. | 409 (44.7) | 385 (42.0) | 3 (0.3) | 0 | 0 | 4.60 | 0.49 | Very High |
| 6. Encourage others to care, be aware and work together to prevent the spread of COVID-19. | 491 (53.6) | 312 (24.1) | 23 (2.5) | 3 (0.3) | 0 | 4.46 | 0.57 | Very High |
| 7. Exchange ideas on issues related to the COVID-19 situation with others regularly. | 491 (53.6) | 312 (24.1) | 23 (2.5) | 3 (0.3) | 0 | 4.46 | 0.57 | Very High |
| 8. Believed that one patient can infect an average of 5 - 10 other people. | 497 (54.3) | 316 (34.5) | 2 (0.6) | 3 (0.3) | 4 (0.4) | 4.59 | 0.56 | Very High |
| 9. COVID-19 virus that is on clothing or object can last for 7-8 hours and can infect people who are in contact with it. | 400 (43.7) | 399 (43.6) | 13 (1.4) | 8 (0.9) | 0 | 4.45 | 0.59 | Very High |
| 10. Patients infected with COVID-19 will develop symptoms such as fever, cough, sore throat, runny nose, stuffy nose, breathlessness, tiredness, tightness in the chest and even death. | 513 (56.0) | 291 (31.8) | 12 (1.3) | 0 | 4 (0.4) | 4.60 | 0.57 | Very High |
| 11. People with underlying diseases are more likely to pass away from the COVID-19 infection. | 510 (55.7) | 31 (32.9) | 9 (1.0) | 0 | 0 | 4.61 | 0.51 | Very High |

| Item | Perception of Severity | | | | | Mean | S.D | Level |
|--|------------------------|---------------|-------------|-------------|------------|-------------|-------------|------------------|
| | Very High | High | Moderate | Low | Lowest | | | |
| 12 People who are overweight or obese are more likely to pass away from COVID-19 infection. | 370 (40.4) | 390 (42.6) | 46 (5.0) | 8 (48.8) | 6 (0.7) | 4.33 | 0.74 | Very High |
| 13 When people with diabetes, hypertension and hyperlipidemia exposed to COVID-19, there is a chance of developing pneumonia which may lead to a heart attack and organ failure. | 495 (54.0) | 309 (33.7) | 12 (1.3) | 4 (0.4) | 0 | 4.55 | 0.55 | Very High |
| 14. When elderly people are exposed to COVID-19, it can quickly harm various organ systems in the body. | 501 (54.7) | 302 (33.0) | 15 (1.6) | 2 (0.2) | 0 | 4.59 | 0.54 | Very High |
| Overall | | | | | | 4.52 | 0.57 | Very High |

3. Mean of the anxiety about the outbreak of CIVID-19 is very high in overall (\bar{x} =4.52, SD=0.64). When each sub-item is considered, it is found that the one with the highest mean is the anxiety about their own economic system and family from the COVID-19 situation, and the more affected caused by the COVID-19 situation, the more they care about their own health (\bar{x} =4.69, SD=0.48), followed by the anxiety about the COVID-19 situation in the surrounding environment (\bar{x} =4.67, SD=0.54). And the least mean is insomnia/or sleep problems because of thinking about the outbreak of COVID-19 (\bar{x} =3.9-, SD=1.11), as shown in Table 2.

Table 2. Percentage, Mean, Standard Deviation, and Level of Anxiety Level

| Item | Level of Anxiety | | | | | Mean | S.D | Level |
|------|------------------|------|----------|-----|--------|------|-----|-------|
| | Very high | High | Moderate | Low | Lowest | | | |

| Item | Level of Anxiety | | | | | Mean | S.D | Level |
|---|-------------------|-------------------|--------------------|------------|-------------|------|----------|--------------|
| | Very high | High | Mod- erat- e | Low | Low- est | | | |
| 1. Anxiety about the COVID-19 situation in the surrounding environment. | 573 (62.6) | 227 (24.8) | 16 (1.7) | 4 (0.4) | 0 | 4.67 | 0.5 4 | Very High |
| 2. Anxiety about your own economic system and family because of the COVID-19 situation. | 596 (65.1) | 203 (22.2) | 14 (1.5) | 7 (0.8) | 0 | 4.69 | 0.5 5 | Very High |
| 3. Anxiety about physical health, mind and family from the COVID-19 situation. | 548 (59.8) | 245 (26.7) | 23 (2.5) | 4 (0.4) | 0 | 4.63 | 0.5 7 | Very High |
| 4. Anxiety about relationships between oneself and family and other people in the COVID-19 situation. | 548 (59.8) | 219 (23.9) | 46 (5.0) | 2 (0.2) | 5 (0.5) | 4.59 | 0.6 6 | Very High |
| 5. Anxiety about the social and economic recovery after the end of the COVID-19 situation. | 555 (60.6) | 239 (26.1) | 25 (2.7) | 1 (0.1) | 0 | 4.65 | 0.5 4 | Very High |
| 6. Understand and be aware of the problems caused by the outbreak of COVID-19 | 560 (61.1) | 230 (25.1) | 24 (2.6) | 3 (0.3) | 3 (0.3) | 4.64 | 0.9 4 | Very High |
| 7. The more affected you are by the COVID-19 situation, the more you care about your health. | 571 (62.3) | 241 (26.3) | 8 (0.9) | 0 | 0 | 4.69 | 0.4 8 | Very High |
| 8. Encourage others to care, be aware and work together to prevent the spread of COVID-19. | 474 (51.7) | 311 (34.0) | 32 (3.5) | 3 (0.3) | 0 | 4.53 | 0.5 9 | Very High |
| 9. Exchange ideas on issues related to the COVID-19 situation with others regularly. | 393 (42.9) | 370 (40.1) | 47 (5.1) | 8 (0.9) | 2 (0.2) | 4.40 | 0.6 6 | Very High |

| Item | Level of Anxiety | | | | | Mean | S.D | Level |
|--|------------------|---------------|---------------|-------------|-------------|-------------|-------------|------------------|
| | Very high | High | Moderate | Low | Lowest | | | |
| 10. Feel anxious and uncomfortable about having to go out of the house. | 485 (52.9) | 291 (31.8) | 37 (4.0) | 7 (0.8) | 0 | 4.53 | 0.63 | Very High |
| 11. Anxiety about preparations to prevent getting infection from COVID-19, such as food hoarding, masks, hand sanitizers, etc. | 435 (47.5) | 257 (28.1) | 102 (11.1) | 12 (1.3) | 14 (1.5) | 4.33 | 0.87 | Very High |
| 12. Insomnia/or sleep problems because of thinking about the COVID-19 outbreak | 309 (33.7) | 251 (27.4) | 160 (17.5) | 70 (7.6) | 30 (3.3) | 3.90 | 1.11 | High |
| 13. Believe that the COVID-19 situation has affected your daily life | 550 (60.0) | 222 (24.2) | 31 (3.4) | 16 (1.7) | 1 (0.1) | 4.59 | 0.67 | Very High |
| 14. How likely do you think you are to get infected with COVID-19? | 475 (51.9) | 242 (26.4) | 87 (9.5) | 15 (1.6) | 1 (0.1) | 4.43 | 0.76 | Very High |
| 15. Feel frustrated by the unexpected COVID-19. | 477 (52.1) | 262 (28.6) | 70 (7.6) | 11 (1.2) | 0 | 4.47 | 0.71 | Very High |
| Overall | | | | | | 4.52 | 0.64 | Very High |

4. The relationship between the perceptions of severity and anxiety about the COVID-19 outbreak showed that the sample group perceived the severity of the outbreak with a positive relationship with anxiety about the COVID-19 outbreak situation at a statistically significant level of .01. This means that the perception of the severity of the disease was positively correlated with anxiety about the COVID-19 outbreak at a statistically significant level of.01 ($r=0.743$, $p<0.01$) at a moderate level.

Discussion

The study showed interesting findings. Therefore, the researchers would like to discuss the results according to the research objectives as follows:

1 . People's perception of severity and anxiety about the situation of the outbreak of COVID-19 revealed that the mean of the perception of severity of COVID-19 in the overall picture was at the highest level, which correlated to the sample group that does not have protective equipment, whose perception of severity of COVID-19 was 0.013 times that of those who have sufficient protective equipment but do not meet standard. The highest mean of perceived severity of the COVID-19 situation made people more careful to take care and protect themselves. This is consistent with the COVID-19 Situation Report on the outbreak⁸ of COVID-19, or the new coronavirus 2019, which is an emerging disease that may lead to a less clear understanding of this virus, so there was a high level of perception of the severity of COVID-19 infection, causing more self-care. The perception of severity is based on the belief that one patient could infect a large number of others. This is consistent with⁹ mentioning that people can be infected by COVID-19 through airborne transmission and that one COVID-19 patient will begin to spread the virus to others when the fever symptom begins to develop. Therefore, the correct knowledge should be taught to the people in order to be able to properly prevent the infection of COVID-19. Overall, the anxiety about the outbreak of COVID-19 was very high level. The items with the highest mean were the anxiety about their own economic system and family from the COVID-19 situation and the more affected caused by the COVID-19 situation, the more they care about their health, followed by having anxiety about the COVID-19 situation in the surrounding environment, which is consistent with¹⁰. The situation with COVID-19 is spreading all over the world, as a result people have anxiety and be more self-protective. This correlated with the general information of the sample. That is to say, there is anxiety that COVID-19 will spread to family members all the time (73.90%) so they had insomnia / or sleep problems because of keeping on thinking about the outbreak of COVID-19. Regarding access to information about the COVID-19 situation, most of the samples received accurate, reliable, current, and useful information. Most of the anxiety was caused by the hiding of the timeline of the infected and no protective equipment. This will lead to the physical and mental health of oneself and family which is 0.039 times of having sufficient and standardized equipment.

2 . The relationship between people's perception of severity and anxiety about the situation of the outbreak of COVID-19: a case study of a district in Buriram province had positive correlation at a moderate level. That is to say, having a higher level of perception of the severity of the outbreak of COVID-19 will also result in a higher level of anxiety about the outbreak of COVID-19. This is consistent with the study on the perception of severity and prophylactic behavior of coronavirus disease 2019 (Covid-19) of adolescents in Sateng Nok Subdistrict, Mueang District, Yala Province which revealed that the perception of disease severity correlated to the anxiety about disease prevention with statistically significance of 0.001¹¹. Based on the study of xx which found that the perception of severity of virus infection was positively correlated with prophylactic behavior, namely, frequent hand washing, and eating hearty food¹². In addition, it was found that the perception of the severity of COVID-19

in patients with chronic disease, systemic hypertension and immunodeficiency syndrome were associated with the perception of severity and prophylactic behavior by avoiding exposure and having access to health care and being tested for COVID-19 more¹³.

Suggestion

Research result application

1. The results of this research can be used as a guideline for formulating policies, practices, and awareness for public relations to educate people about COVID-19 and disease prevention in the New Normal era. Public health facilities should focus on educating people on disease control and prevention in order to create an understanding and good attitude that will lead to the practice of COVID-19 disease prophylactic behavior in all aspects.

2. The results of this research can be used as a guideline for public health education, training, or organizing activities to promote COVID-19 disease-prevention behavior in the community.

3. All relevant agencies should disseminate the information received from reliable sources to the public and support activities to promote the campaigns in society.

Suggestions for future research

A quasi-experimental research study should be conducted to extend health education to the people and promote the campaign of disease prevention for people in at-risk groups, fragile groups, and marginal groups so that they can prevent COVID-19 infection.

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