(International Print/Online Journal)

SJIF IMPACT FACTOR: 5.565
PUBMED-National Library of Medicine ID-101739732

ISSN (Print): 2209-2870
ISSN (Online): 2209-2862

International Journal of Medical Science and Current Research (IJMSCR)
Available online at: www.ijmscr.com
Volume 5, Issue 6 , Page No: 260-266
November-December 2022

IJMSCR

The Relationship Between Knowledge Of COVID-19 And Agreement About The Transition Of COVID-19 From A Pandemic To An Endemic Among Upper Secondary Students From Three Districts In Bangkok

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Type of Publication: Original Research Paper
Conflicts of Interest: Nil

Abstract

COVID-19 was discovered in Wuhan, China, in 2019 and was labelled as a pandemic in 2020 by the World Health Organization. Then, in 2021, the Omicron strain of coronavirus was found. It is believed that the Omicron variant and the individual's higher immunization may speed the transition to an endemic. Many countries tried to start COVID-19 endemic transition by 2022, including Thailand, while it is still controversial whether this change will promote positive effects on the economy, education, social interactions, and other factors. Therefore, this study is conducted to examine people's perspectives on the transition of the COVID-19 pandemic to an endemic. In order to ascertain the relationship between these two variables, a cross-sectional survey was undertaken among adolescents from Pathumwan, Wang Thonglang, and Phra Nakhon districts in Thailand. The survey consisted of 19 questions, which were broken down into three sections: general information, knowledge of COVID-19, and agreement on the change from a pandemic to an endemic. The data were analyzed using SPSS (Statistical Product and Service Solutions) version 28.0. Interestingly, the study revealed that people's understanding and agreement of COVID-19's transition from a pandemic to an endemic are associated, as shown by Pearson's correlation test (r = 0.305). We discovered that individuals with a better understanding of COVID-19 tended to believe that the other effects of the pandemic, such as economic and social concerns, would exceed their awareness of an endemic. We hope that this research will be beneficial to other related studies.

Keywords: COVID-19, Pandemic, Endemic

Introduction

COVID-19, a new species of severe acute respiratory syndrome coronavirus, was found in Wuhan, Hubei Province, China, in late December 2019 and has since spread to over 20 countries (Yi-Chi Wu *et al.*, 2020). Fever, cough, and difficulty breathing are the most common symptoms of COVID-19. COVID-19, on the other hand, is now known to be highly variable in terms of severity, ranging from undetectable (or symptoms which were too mild to notice) to severe acute respiratory distress syndrome and mortality, as well as in terms of symptomatology, which includes otolaryngologic symptoms (Ahmad R. Sedaghat *et al.*, 2020). After recovering from their first sickness, roughly 10% to 20% of patients infected with COVID-19 endure a variety of mid- and long-term repercussions described as the post-COVID-19 conditions or "long COVID." Fatigue, chronic cough, difficulty breathing, muscle aches, absence of smell

or taste, and fever are some of the most prevalent symptoms of post-COVID-19 illness. Moreover, it is difficult to ascertain how long any specific patient's post-COVID-19 condition will last (World Health Organization [WHO], 2021).

The World Health Organization (WHO) labelled the outbreak a Public Health Emergency of International Concern on 30 January 2020 and a pandemic on 11 March 2020 (WHO, 2020). To provide a definition, a pandemic refers to an epidemic that has spread worldwide and usually affects a large number of people (Centers for Disease Control and Prevention [CDC], 2012). The huge mutation of COVID-19 has resulted in a negative change in its epidemiology. Many new varieties, such as Alpha, Beta, Gamma, and Delta, have been detected in the United Kingdom, South Africa, Brazil, and India, respectively (CDC, 2022).

During the first wave of the COVID-19 pandemic, the present findings of preventive behaviour were relatively associated with individuals' self-awareness (Michael Bang Petersen *et al.,* 2021). The COVID-19 preventive protocol comprised handwashing, avoiding crowded areas, and self-quarantine. (Qing Han *et al.*, 2021) At the end of 2020, quarantine has been evaluated as one of the highly effective preventive measures. (Nevenka Kregar Velikonja *et al.*, 2020)

Then, in late November 2021, the Omicron strain of coronavirus was discovered in South Africa and Botswana (Carlos del Rio *et al*., 2021). The previous study in Africa reveals that the transmissibility of Omicron is higher than earlier variants of the virus (Xuemei *et al.*, 2021). Also, the severity of COVID-19, hospitalization and death of Omicron infection reduces as a result of immunization (Davies *et al.*, 2022). Furthermore, there is over half of the world's population receiving at least one dose of COVID-19 vaccine including messenger RNA (mRNA), viral vector, inactivated virus, and attenuated protein subunit vaccine. Some people also have disease-induced immunity (Ritchie *et al.*, 2022). Therefore, the existence of the Omicron variant may speed the transition to an endemic phase (Gostin, 2022). Endemic is defined as the constant presence of a disease limited in a particular geographic area (CDC, 2012). On March 9, 2022, Thailand's National Communicable Disease Committee (NCDC) approved the Public Health Ministry's plan for the COVID-19 transition from pandemic to endemic from July 1, 2022, onwards, as reported by Thai PBS.

According to the 1918 influenza pandemic caused by an H1N1 virus, it resulted in an estimated number of 500 million or one-third of the world's population infected (CDC, 2018). The high number of previously infected people gave rise to high population immunity. Together with the mutation of the H1N1 virus to become less pathogenic, the virus ultimately reached an equilibrium (Gostin, 2022). Thus, previous pandemics could be considered a case study.

In terms of protocols during the endemic phase of COVID-19, airway management needs to be renovated to be more secure because people are likely to stop wearing masks leading to increased risks (T.M. Cook *et al.*, 2020). The current universal COVID's protocol appears to be a common strategy for several neglected tropical diseases (NTDs) that also reduces the risk of COVID-19 spread. This so-called "hybrid approach" will demonstrate best practices for mitigating the spread of COVID-19 virus by incorporating physical distancing, use of masks, and frequent hand-washing in the delivery of medicines to endemic communities and support actions against the transmission of the virus through water, sanitation and hygiene interventions promoted by NTD programmes (David Molyneux *et al.*, 2021). Therefore, this study is conducted to examine people's perspectives on the transition of the COVID-19 pandemic to the endemic. The hypothesis of this study is that the more people are knowledgeable about COVID-19, the more they disagree with the transition to an endemic.

Methodology

This cross-sectional survey was conducted among Thai teenagers to determine the association between knowledge of COVID-19 and agreement on the change from a pandemic to an endemic. The questionnaire comprised 19 questions, divided into 3 sections: (1) general information, (2) the knowledge of COVID-19, and (3) agreement on the transition from a pandemic to an endemic. The 6th, 7th, 10th, and 11th questions are modified from a study by Fang *et al.*, 2021. The comprehension of how confident the participants are in their understanding of COVID-19 was asked in the first section of our

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questionnaire. The next section focuses on how they might respond to the change in the classification of COVID-19. These sets of questions could reveal participants' perspectives on the new change in several viewpoints, including financial, medical, safety, and self-awareness aspects. Each question's responses are provided on a five-point Likert scale, ranging from (1) strongly disagree to (5) strongly agree. The expert also analyzed Item-Objective Congruence (IOC), and any feedback was used to revise the items. Participants in the anonymous sampling were students in Grade 10th to 12th students whose schools are located in 3 districts (Pathumwan, Phra Nakhon, and Wang Thonglang) in Bangkok, Thailand. The online survey was distributed through social media platforms (i.e., Instagram, Facebook, Twitter, and Line). Statistical Product and Service Solutions version 28.0 (SPSS) was used to analyze the data. Before launching the questionnaire, a pilot test which contained 30 samples was used to determine Cronbach Alpha's reliability test and the score was vastly acceptable at 0.849. Finally, there were 256 participants in our survey.

Instruments

The following questions were sent to participants to collect the survey data.

Part 1: General information

1. Which grade are you studying?
2. Which district is your school located in?
3. Please select your gender.

Part 2: The knowledge of COVID-19

4. You know about the Omicron variant of COVID-19 well.
5. You understand the differences between each variant of COVID-19.
6. You know about the transmission routes of COVID-19.
7. You know about the symptoms of COVID-19 infected patients.
8. You know about COVID-19 preventive behaviours.
9. You know about the classification of risk levels among people who hold the possibility of being infected by COVID-19.
10. You have knowledge regarding the available COVID-19 vaccines.
11. You have knowledge regarding the available COVID-19 drugs.

Part 3: Agreement on the transition from a pandemic to an endemic.

12. Overall, you think that the transition of COVID-19 to be an endemic will deliver more of advantages compared with disadvantages.
13. You think that the transition of COVID-19 to be an endemic could be beneficial towards economy.
14. You think that the transition of COVID-19 to be an endemic could be beneficial towards the healthcare administration.
15. You think that the transition of COVID-19 to be an endemic could be beneficial towards the educational system.
16. You think that the transition of COVID-19 to be an endemic during the spread of omicron is an optimal period.
17. You think that the transition of COVID-19 to be an endemic could be beneficial towards social interaction.
18. You think that prevention is still necessary although there is the transition of COVID-19 to be an endemic.
19. You feel safe about the transition of COVID-19 to be an endemic.

Results

Table 1. General Information

	Percentage (%)

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Grade	10th	2.7
	11th	13.3
	12th	84.0
District	Wang Thonglang	3.9
	Pathumwan	87.1
	Phra Nakhon	9.0
Gender	Male	32.0
	Female	64.1
	Others	3.9

The participants' general information is shown in Table 1. 84.0 percent of the participants were Grade 12th students, which is the majority. There are 13.3 percent of students in Grade 11th and 2.7 percent in Grade 10th. Furthermore, the percentage of high school students in Pathumwan comprise 87.1% of the total. Consecutively, 9.0 percent and 3.9 percent of students were from the districts of Phra Nakhon and Wang Thonglang, in a respective order. Finally, 64.1 percent of our samples were female, 32.0 percent of them were male, and the last 3.9 percent were from other genders.

Table 2. Descriptive Statistics (Mean and Standard Deviation)

	Mean	Std. Deviation	N
The knowledge of COVID-19	3.9893	0.57693	256
Agreement on the transition from a pandemic to an endemic	3.5908	0.73535	256

As can be observed in Table 2, the mean and standard deviation of each variable are calculated from 256 participants. The mean of the knowledge variable is 3.9893 and its standard deviation is 0.57693. Concentrating on the agreement's variable, the mean is 3.5908, while its standard deviation is 0.73535.

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Table 3. The correlation between the knowledge of COVID-19 and agreement on the transition from a pandemic to an endemic.

		Knowledge	Agreement
The knowledge of COVID-19	Pearson Correlation	1	0.305**
	Sig. (2-tailed)	-	<0.001
	N	256	256

Table 3 demonstrates that the findings did not support the hypothesis; however, the understanding and agreement on the change from a pandemic to an endemic of COVID-19 are related. The result illustrates that the knowledge of COVID-19 and agreement on the change from a pandemic to an endemic are correlated ($p > 0.01$). Pearson correlation revealed a strong correlation between the two variables, as shown by the correlation coefficient ($r = 0.305$).

Discussion

According to Table 3, the results contradicted the hypothesis. In Table 2, the descriptive statistics showed that the mean of the knowledge of COVID-19 (3.9893) was higher than the agreement on the transition from a pandemic to an endemic (3.5908). While the standard deviation of both variables is 0.73535. Regarding the following result, the majority of participants chose to answer 5 (strongly agree) in the 6th (56.64%), 7th (53.52%), and 8th questions (63.67%) consisting of the knowledge analysis part which is formed to measure participants' self-assessment in terms of the knowledge related to COVID-19.

The underlying reason that could be justified is due to the fact that COVID-19 has been with us for almost 3 years. All information related to COVID-19 has been distributed around the world including the symptoms which is one of the most crucial pieces of information that people should know worldwide. Therefore, receiving the same kind of safety procedures and self-measurement consistently could raise peoples' awareness and might be able to recognize some pieces of the entire possible symptoms and at the very least they would feel familiar with the occurrence of the real symptoms spontaneously.

Following question number 13 in the part that included people's agreement on the transition from a pandemic to an endemic whether it could be beneficial towards the economy, answer 4 (agree) was selected by most of the participants. According to government regulations, numerous stores have been compelled to close since the pandemic began. As can be observed from the Bank of Thailand's citation, Thailand's Gross Domestic Product (GDP) fell from 544.3 billions in 2019 to 501.8 billions in 2020 after the first outbreak of COVID-19. This illustrates that the pandemic has affected the economic field in the recent years. Hence, if a pandemic turns into an endemic, many businesses may reopen and the potential for economic growth may be recovered.

In compliance with question 15 in the perception section regarding if the transition of COVID-19 will have a beneficial effect towards the educational system, it illustrated that the most of participants chose answer 4 (agree). This may be due to student discrepancies and general educational losses caused by the pandemic. Furthermore, high schoolers also

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miss many educational events such as college visits that have been altered or lost and cannot be recaptured during lockdown conditions. Depression and stress caused by the lack of socialization may be one of the most significant factors that play a great role in the academic performance of adolescents, which are high schoolers. (Hoofman *et al*., 2021)

Focusing on question 17th about better social interaction after the transition, the mean is 3.875. The plausible reason is that, during the pandemic, there is a lack of interaction with family or friends while in quarantine or while receiving medical care which might lead to psychological instability in COVID-19 patients. Clinically stable patients who were released from the hospital after overcoming COVID-19 have experienced high rates of post-traumatic symptoms (Bo *et al.*, 2021). According to the result of Mental Health Check-in which is an online mental health evaluation platform from Thailand's Department of Mental Health between 1 January 2020 and 30 September 2021, the 18-month COVID-19 pandemic, 28 per cent of teenagers in Thailand experienced severe levels of stress, while 32 per cent were at risk for depression and 22 per cent were for suicide.

Last but not least, the highest mean of 4.578125 in question 19th which relates to the importance of COVID-19 prevention underlines that most participants still pay attention to COVID-19 prophylaxis despite less strict measures after the transition to be an endemic.

Conclusion

This research has been created to investigate the relationship between the knowledge of COVID-19 and the agreement among upper secondary high school students from three districts in Bangkok about the transition of COVID-19 from a pandemic to an endemic. We hypothesized that people who know more about COVID-19 would disagree with the upcoming change in its transition; however, the result was on the exact opposite side of our hypothesis. We found that participants with greater comprehension tend to believe that economic and social problems as well as other factors caused by the pandemic will outweigh their awareness over COVID-19's outbreak. We believe that this study could be beneficial to other people's further education.

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