



Knowledge and public anxiety about COVID-19 vaccination

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Abstract

Introduction: COVID-19 is a new type of virus that attacks the immune system and can be fatal. As the disease spread rapidly, everyone felt anxiety and tension. The anxiety puts the person in a psychosomatic state, causing them to complain of shortness of breath and dizziness. Common signs of infection with this virus are fever over 38°C, cough, shortness of breath and difficulty breathing. The study was to evaluate relationship between knowledge level and public anxiety about the implementation of the COVID-19 vaccination at the Tanah Tinggi Health Center in Binjai 2022.

Methods: The study was a quantitaives using an analytical survey with a cross-sectional approach. The population was the community in the working area of the Tanah Tinggi Public Health Center Binjai, with a total of 200 respondents. The sample was 20 respondents who were randomly selected. Data were collected using questionnaires and analyzed using Chi-square.

Results: The study was found that there was a significantly relationship between knowledge level and public anxiety about the COVID-19 vaccination at the Tanah Tinggi Health Center, Binjai.

Conclusion: The community is expected to increase their knowledge about COVID-19 vaccination as a way to prevent attacks against COVID-19.

Keywords: Knowledge; COVID-19 vaccination; Anxiety; Public

1 Introduction

Coronavirus disease (COVID-19) is a new type of virus that attacks the immune system and can be fatal. As the disease spread rapidly, everyone felt anxiety and tension. The anxiety puts the person in a psychosomatic state, causing them to complain of shortness of breath and dizziness. Common signs of infection with this virus are fever above 38°C, cough, shortness of breath and difficulty breathing. The virus originated in Wuhan, China. It was initially thought that the virus was caused by exposure to fish markets selling many species of live animals. This condition soon spread to other cities in China[1].

The World Health Organization has declared the new coronavirus disease (COVID-19) a pandemic since 12 March 2020. As of 9 June 2020, global case reports from 215 infected countries have confirmed 7,039,918 infections and a total death toll of 404,396 (CFR 5.8%). The COVID-19 outbreak in Indonesia is the first case since March 2020, when two Depok residents were found to have been infected after coming into contact with Japanese people. It has the third highest number of cases in Asia, with a death rate of 28,132[2].

The coronavirus disease 2019 (COVID-19) has created a global health crisis that has profoundly affected the way people perceive the world and their daily lives[3]. The government is also taking the following preventive steps to combat the

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spread of COVID-19: B. Compliance with wearing masks, maintaining distance, washing hands, avoiding crowds and reducing movement. In addition, to prevent the spread of COVID-19, you can achieve this by maintaining your immune system by consuming multivitamins and a balanced diet[4].

The qualities of anxiety are fear, worry, and agitation, and affect behavioral changes such as withdrawing from the environment, difficulty concentrating on activities, difficulty eating, irritability, decreased emotional control over anger, illogicality, and sleep disturbances[5]. Anxiety is uncertain worry, accompanied by feelings of insecurity and helplessness. This emotional state has no specific target[6].

Indonesia has a mass vaccination program that is participated in by several Indonesian citizens from various regions. This is done to create herd immunity. This is a situation where most people are protected/immunized against certain diseases, which have indirect consequences. This situation can only be achieved if vaccination coverage is high and evenly distributed, so that Indonesia can later become a COVID-19 free country[7]. The introduction of 5M is the most important preventive measure for those who have not been vaccinated. However, that does not mean that people who are vaccinated are automatically immune to the new corona virus. In this case, the vaccine actually protects the body better. However, the duration of immunity is limited or still occurs because 70% of the population has not yet reached 70% of the population in terms of duration of immunity. transmission; infection. Herd immunity, on the other hand, only occurs when 70% of the population acquires immunity within the immunity period. A vaccinated person is still susceptible to infection, and he can transmit the virus to other people a day or a week after the vaccine is injected into his body. It is believed that within three weeks after the second vaccination, a person's antibodies are fully formed and protected from viral attacks. This means that even people who have been vaccinated can catch the virus[8]. Therefore, the public is urged to remain vigilant and follow the 5M health protocol with discipline. This is to ensure that vaccinated people avoid COVID-19 and, if infected, have a lower risk of severe disease than unvaccinated people.

Vaccines are considered the most time-consuming interventions[9], and hundreds of global agencies involved in accelerating vaccine development[10]. Skepticism about vaccination is on the rise, varies from country to country, and is linked to a conspiratorial worldview. Unwillingness to vaccinate can have an adverse effect on the individual (increased risk of disease) and can further spread infection to the community. A wealth of information about the novel coronavirus disease (COVID-19) has been discovered over time. The information circulating varies from fake information to official accurate information. This situation has created fear among various groups and even made them reactive and negative by doing many harmful things, such as supplying medical equipment. This situation further provokes the emergence of mental health problems[11].

Lack of individual knowledge about preventing COVID-19 can be caused by factors such as age, gender and education[12][13]. Based on the results of previous research, that 34.7% of respondents still do not know that the Large-Scale Social Restrictions policy is a restriction on certain activities and also as an effort to prevent transmission of COVID-19, but some people still ignore it. As many as 44.6% of respondents still do not understand the health protocols that must be followed[14].

Based on the data obtained, people in the Tanah Tinggi Health Center area of Binjai are still unsure and afraid of being vaccinated against the 2019 corona virus for various reasons, including a lack of information and news regarding possible side effects of the corona virus vaccination. Some people still feel anxious or afraid to get vaccinated against COVID-19. In addition, no research has been conducted regarding the relationship between knowledge level and the level of anxiety about the COVID-19 vaccine, especially at the Tanah Tinggi Health Center in Binjai. Therefore, the study aimed to know the relationship between knowledge level and anxiety about COVID-19 vaccination in Tanah Tinggi Health Center Binjai.

2 Material and methods

This study was a correlational descriptive study with a cross-sectional approach, namely research that determines the relationship between the level of knowledge and anxiety variables. The population of this study was the local community of Tanah Tinggi Health Center Binjai, totaling 200 people in 2022. The research sample consisted of 20 respondents who were identified using a random sampling technique, the sample selection was random by giving all population groups the same opportunity to be selected as samples. The data analysis used is univariate analysis which describes the frequency distribution of the independent variable (knowledge level frequency distribution) and the dependent variable (anxiety level frequency distribution). Bivariate analysis was performed using the chi-square test.

3 Results

Table 1 shows that respondents in the age range of 25-35 years and 36-50 years have the same number of respondents with 7 respondents (35%), the majority of respondents are female, 11 people (55%) and the majority of respondents' education were at the senior high school level of education as many as 9 respondents (45%).

Table 1 Frequency distribution based on age, gender and education (n=20)

Variable	Frequency	Percent (%)
Age (yeras)		
19-25	6	30
26-35	7	35
36-50	7	35
Gender		
Male	9	45
Female	11	55
Educational		
Primary	1	5
Junior	6	30
Senior	9	45
University	4	20

Table 2 shows that knowledge level of the respondents found the highest distribution was sufficient, namely 10 respondents (50%) and the knowledge level of respondents showed the lowest distribution was good, namely 4 respondents (20%). Respondents' anxiety showed the highest distribution was moderate, namely as many as 9 respondents (45%) and respondents' anxiety showed the lowest distribution was light, namely as many as 5 respondents (25%).

Table 2 Frequency distribution of knowledge and anxiety levels (n=20)

Variable	Frequency	Percent (%)
Knowledge level		
Good	4	20
Sufficient	10	50
Less	6	30
Anxiety level		
Light	5	25
Moderate	9	45
Severe	6	30

Table 3 can be seen that the cross-tabulation of the relationship between the level of knowledge and public anxiety about the COVID-19 vaccination shows that the better the level of public knowledge about the COVID-19 vaccination, the lower the level of anxiety. Furthermore, the results of the Chi-square test obtained a calculated X^2 value of 0.028 with a significance value (p-value) of 0.002. The p-value is less than 0.05 ($0.002 < 0.05$) so the test decision is H_0 is rejected which means "There was a relationship between the level of knowledge and public anxiety about the COVID-19 vaccination at the TanahTinggi Health Center in Binjai".

Table 3 Cross-tabulation of the relationship between knowledge level and public anxiety about COVID-19 vaccination

Knowledge level	Anxiety level						Total	p-value	df
	Light		Moderate		Severe				
	f	%	f	%	f	%			
Good	3	15	1	5	0	0	4	0.028	4
Sufficient	2	10	6	30	2	10	10		
Less	0	0	2	10	4	20	6		
Total	5	25	9	45	6	30	20		

4 Discussion

The distribution of the frequency of public knowledge at the Tanah Tinggi Health Center in Binjaregarding the COVID-19 vaccine, the results obtained from 20 respondents showed that the highest distribution was sufficient, namely 10 respondents (50%) and the level of knowledge of respondents showed that the lowest distribution was good, namely 4 respondents (20%). Knowledge from good respondents about the goals and benefits of administering vaccines and believing that the COVID-19 vaccine is safe can influence respondents' willingness to participate in the vaccination program[15].

The frequency distribution of community anxiety at the Tanah Tinggi Health Center in Binjaregarding the COVID-19 vaccine, the results obtained from 20 respondents showed that the highest distribution was moderate anxiety level, namely 9 respondents (45%) followed by 6 people with severe anxiety (30%) and mild anxiety as many as 5 people (25%). Public concerns about the COVID-19 vaccine including the safety and effectiveness of the vaccine, public distrust of medical services, fear of vaccine side effects, and public concern that coronavirus can be prevented by vaccination arise from a lack of knowledge[16]. This feeling of insecurity can make people less trusting and reluctant to participate in vaccination programs[17].

The results of the chi-square test show that there is a relationship between the level of knowledge and people's anxiety about the COVID-19 vaccination. The low level of public knowledge has a greater impact on the level of public anxiety about the COVID-19 vaccination. The results of this study indicate that the respondents' knowledge of the purpose and benefits of vaccination and their belief that the COVID-19 vaccine is safe includes their willingness to participate in the vaccination program. The respondents' lack of knowledge about the indications and contraindications for using the COVID-19 vaccine is still relatively sufficient (56-75%)[18]. Public knowledge about the Covid-19 vaccine is an important aspect to motivate people to actively participate in the vaccine program[19].

In this case, the assumption of the researchers, the government, especially the health service, needs to make a more specific vaccination program and adapt the vaccination program to overcome the anxiety and resistance that appears in the community. adjust to the values held by the community for the success of informing about the COVID-19 vaccine.

5 Conclusion

Based on research conducted between September-February 2022 on 20 respondents regarding the relationship between the level of public knowledge about the COVID-19 vaccine and anxiety about vaccination, the results showed that the correlation between variables was 0.028 ($0.002 < 0.05$). It can be concluded "There was a relationship between the level of public knowledge and anxiety about the COVID-19 vaccination," where the less the level of public knowledge affects the level of public anxiety about the COVID-19 vaccination.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

After explaining the importance of the study, permission letters were taken from each of the head of health facility, and informed consent was obtained from each study participant.

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