The knowledge and anxiety toward the implementation of COVID-19 vaccination

by Lintje Boekoesoe

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ABSTRACT

The aim of the study was to analyze the relationship between the level of knowledge and anxiety regarding the implementation of the COVID-19 vaccination in the community. The research was conducted in the Dulupi Health Center work area from March to April 2022, with an analytical observational research design using a cross-sectional approach. The research population is the Dulupi Public Health Center work area community, with a total sample of 297 people taken using the cluster random sampling technique and calculated by Slovin's formula. Data were collected through a questionnaire which were then analyzed by univariate and bivariate. The knowledge variable, most of them had less knowledge (91.9%), and in the anxiety variable, most of the respondents experienced mild anxiety (55.2%). In the implementation variable, most of the respondents were not vaccinated, 245 people (82.5%), while those who were vaccinated were 52 people (17.5%). The level of knowledge and anxiety is primarily related to the implementation of COVID-19 vaccination, with P-values of (0.047) and (0.000) $<P$ (0.05). There is a significant correlation between knowledge and anxiety regarding implementing COVID-19 vaccination in the Dulupi Health Center work area, Boalemo Regency.

Key words: Anxiety, COVID-19 vaccination, knowledge

INTRODUCTION

Vaccination against COVID-19 is one of the efforts to deal with COVID-19 globally, especially in Indonesia. COVID-19 vaccination aims to reduce the spread of COVID-19, gain immunity, protect society from COVID-19, and protect society and the economy.[1] Nevertheless, it cannot be denied that there are still many groups of people who refuse vaccination. There are many reasons for groups to refuse vaccination, from health problems to religious reasons. Starting with health concerns, several community groups have different backgrounds due to fear of vaccines' increased casualties. They are worried that the body is not good at handling vaccines, resulting in pain or death.[2] It is known that many people still underestimate the coronavirus and do not implement health protocols according to government rules, resulting in an increased risk of COVID-19 infection. Therefore, in addition to intervention in implementing health procedures, other effective measures need to be taken immediately to prevent the spread of the virus, primarily through vaccination efforts.[1] The development of safe and effective vaccines is significant because it is expected to stop and prevent the spread of the disease in the future. In addition, the rapid spread of the virus

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requires the application of the vaccine in a short period to minimize its effects.[3]

The Dulupi Public Health Center, one of Gorontalo's health centers, has data on 1157 unvaccinated and 517 unvaccinated on the 2nd dose, targeting 744 vaccinated civilians.[4] The high number of unvaccinated people is due to general knowledge about the benefits of COVID-19 vaccination and general anxiety about getting the vaccine, especially the fake news circulating in the community about the adverse effects of COVID-19 vaccination, such as causing paralysis to death. The development of the Internet and the convenience of the latest information provided support for the amount of information. The dissemination of incorrect information affects public awareness of the COVID-19 vaccine, thereby influencing people's behavior. People choose and decide for vaccines based on information from the Internet, especially on social media.[5]

The aim of the study was to analyze the relationship between the level of knowledge and anxiety regarding the implementation of the COVID-19 vaccination in the community.

METHODS

The type of research was analytic observational with cross-sectional which was carried out for 2 months (March and April) in 2022 in the working area of the Dulupi Health Center, Boalemo Regency. The population used in this research was the entire Dulupi Village community in the Dulupi Health Center work area, Boalemo Regency, who had not been vaccinated at the time of initial data collection, which was 1157 people. The sampling technique is cluster random sampling technique. This technique was a sampling technique by determining samples based on groups. In this technique, research subjects would be grouped according to the population's area or place of domicile.[6] The calculation of the sample size in this study used Slovin's formula, and according to the calculation, the number of samples is 297 people.

The independent variable is knowledge (less, sufficient, and good) and anxiety (no anxiety, mild anxiety, moderate anxiety, and severe anxiety). The dependent variable is COVID-19 vaccine implementation (unvaccinated and vaccinated). The characteristics of the respondents are age, sex, last education, and hospitalization sheet. Data were collected through a questionnaire. Data analysis, namely univariate and bivariate (Chi-square and Fisher's exact test), with SPSS (Statistical Program for Social Science) with a significance level of $P < 0.05$.

RESULTS

The characteristics, most of the respondents were aged 16–25 years with a total of 98 people (33.0%), were males with a total of 149 people (50.2%), had the last education of senior high school with a total of 226 people (76.1%), and had a history of cholesterol disease with a total of 64 people [Table 1].

The knowledge level of the respondents was mostly in the less category, namely 91.9%, then the level of anxiety, namely the mild category, was 55.2%. The respondents who had not been vaccinated were 82.5% [Table 2].

Table 3 shows that there is a significant relationship between the level of knowledge and the implementation of the vaccine with a value of $P = 0.047$ where most of the respondents who have less knowledge have not been vaccinated, namely 83.9%.

Table 4 shows that there is a significant relationship between the level of anxiety and the implementation of the vaccine with a value of $P = 0.000$ where most of the respondents who experienced anxiety did not do the vaccine at 87.2%.

DISCUSSION

The knowledge toward the implementation of COVID-19 vaccination in the Dulupi Health Center work area, Boalemo Regency

A significant relationship between the level of knowledge and the implementation of the vaccine with a value of $P = 0.047$ where most of the respondents who have less knowledge have not been vaccinated. Knowledge relates to the human ability to harmonize information from one's or

Table 1: Characteristics of respondents

Characteristics	n (%)
Age (year old)	
16-25	98 (33.0)
26-35	96 (32.3)
36-45	56 (18.9)
46-55	18 (6.1)
56-65	19 (6.4)
>66	10 (3.4)
Gender	
Male	149 (50.2)
Female	148 (49.8)
Last education	
Elementary school	30 (10.1)
Junior high school	41 (13.8)
Senior high school	226 (76.1)
Hospital sheet	
Diabetes	38 (12.8)
Hypertension	38 (12.8)
Gout	25 (8.4)
Cholesterol	64 (21.5)
Other	132 (44.4)
Total	297 (100)

Table 2: The knowledge, anxiety, and implementation of coronavirus disease-19 vaccination

Variable	n (%)
Knowledge	
Less	273 (91.9)
Sufficient	11 (3.7)
Good	13 (4.4)
Anxiety	
No anxiety	48 (16.2)
Mild anxiety	164 (55.2)
Moderate anxiety	83 (27.9)
Severe anxiety	2 (0.7)
Vaccine implementation	
Unvaccinated	245 (82.5)
Vaccinated	52 (17.5)
Total	297 (100)

Table 3: The relationship of knowledge to the implementation of coronavirus disease-19 vaccination

Knowledge	Vaccine implementation		Total, n (%)	P
	Unvaccinated, n (%)	Vaccinated, n (%)		
Less	229 (83.9)	44 (16.1)	273 (100)	0.047
Good	16 (66.7)	8 (33.3)	24 (100)	
Total	245 (82.5)	52 (17.5)	297 (100)	

Table 4: The relationship of anxiety to the implementation of coronavirus disease vaccination

Anxiety	Vaccine implementation		Total, n (%)	P
	Unvaccinated, n (%)	Vaccinated, n (%)		
No anxiety	34 (61.8)	21 (38.2)	55 (100)	0.000
Anxiety	211 (87.2)	31 (12.8)	242 (100)	
Total	245 (82.5)	52 (17.5)	297 (100)	

others' experiences with the ability and experience to use information during decision-making, carry out activities, and achieve results. In short, it can be concluded that knowledge is a combination of understanding information with one's values and experiences that can determine the outcome of one's decisions.[7]

According to the results, 44 people (16.1%) were vaccinated, although they had less knowledge about COVID-19. This is related to the stimuli provided by the vaccinator. The presence of souvenirs, usually in the form of something called *"sembako"* in Indonesia, which means the nine necessities for daily living, is intriguing to the general public and makes them want to be vaccinated. This was obtained from respondents asking why they want to be vaccinated if they do not understand the COVID-19 vaccine and are still afraid of being vaccinated. Almost all respondents said that the availability of *"sembako"* encouraged them to come to get help by being vaccinated.

The research of Febriyanti *et al.* in Dukuh Menanggal Village, Surabaya City, which got a significant result of 0.000 (<0.05). It implicates an effect of knowledge on the willingness to vaccinate the residents of Dukuh Menanggal Village.[8] Furthermore, a simple linear regression analysis test was performed using SPSS. The result was that the α value between knowledge and willingness to vaccinate was 58,571, and the *b* value was 0.214. Hence, we got the equation y = 58.571 + 0.214x. A positive value in the regression coefficient (0.214) indicates that the knowledge variable has a positive effect on respondents' willingness to be vaccinated.

The anxiety toward the implementation of COVID-19 vaccination in the Dulupi Health Center work area, Boalemo Regency

A significant relationship between the level of anxiety and the implementation of the vaccine with a value of $P = 0.000$ where most of the respondents who experienced anxiety did not do the vaccine at 87.2%. Vaccination offers public anxiety, which occurred in the early days of the COVID-19 pandemic and continued when there was a vaccination program in the community. Sources of public concern concerning the COVID-19 vaccine are approximately vaccine protection and efficacy, vaccine side effects, misconceptions about vaccination needs, lack of trust in the health-care system, and lack of public knowledge about vaccine-preventable diseases. Feelings of anxiety experienced by the community can make people doubt or not be willing to vaccinate.[9]

Anxiety makes a person more trusting to believe various misinformation.[10] Vaccine-related misinformation can cause fear in recipients of information leading to noncompliance.[11] Individuals who receive misinformation are less likely to be vaccinated or refuse to receive a vaccine if the vaccine is available.[12] Misinformation about vaccines has fast and widespread, the spread of misinformation is done online through news, websites, and social media.[13] The American Psychiatric Association defines anxiety as fear or concern, tension, or restlessness stemming from the anticipation of danger, the source of which is mainly unrecognizable or unknown.[14] Controversy regarding the COVID-19 vaccine in the community continues to flow. The lack of information that the general public receives about the benefits of vaccines and the dissemination of false information through various social media could make them more fearful, anxious, and concerned about the COVID-19 vaccination and think that it could be more dangerous to their lives if they had been vaccinated. This, of course, can have a significant adverse impact on the acceptance of the COVID-19 vaccine.[15]

Thirty-four respondents (61.8%) had no anxiety but were not vaccinated in the results. Data tabulation revealed that 31 out of 34 people had less knowledge about COVID-19 vaccination. The researchers thought that a lack of knowledge about COVID-19 and vaccination leads to people not wanting to be vaccinated because they do not understand the importance of vaccines as immunity to exposure to COVID-19. Meanwhile, the other three said they did not want to be vaccinated because they suspected the halal nature of the COVID-19 vaccine, not because of fear. This is due to the news that the vaccine is made from nonhalal ingredients, as with previous immunization activities for several infectious diseases, which have brought many pros and cons to be halal and have led to many anti-vaccination groups. Meanwhile, 31 respondents (12.8%) had been vaccinated, although they were experiencing anxiety. The researchers' assumptions are the same as those of the less knowledgeable but vaccinated respondents. This is related to the stimulus provided by the vaccinator. The *"sembako"* given attracts the public's interest to be vaccinated. A relationship between willingness to be vaccinated and anxiety with the $P = 0.000$.[9]

CONCLUSION

The level of knowledge in the less category was 91.9% and mild anxiety about COVID-19 vaccination was 55.2% and not vaccinated with COVID-19 was 82.5%. On the other hand, there is a correlation between knowledge and anxiety toward the implementation of the COVID-19 vaccine in the Dulupi Health Center work area, Boalemo Regency, with a P (0.000) < α (0.05).
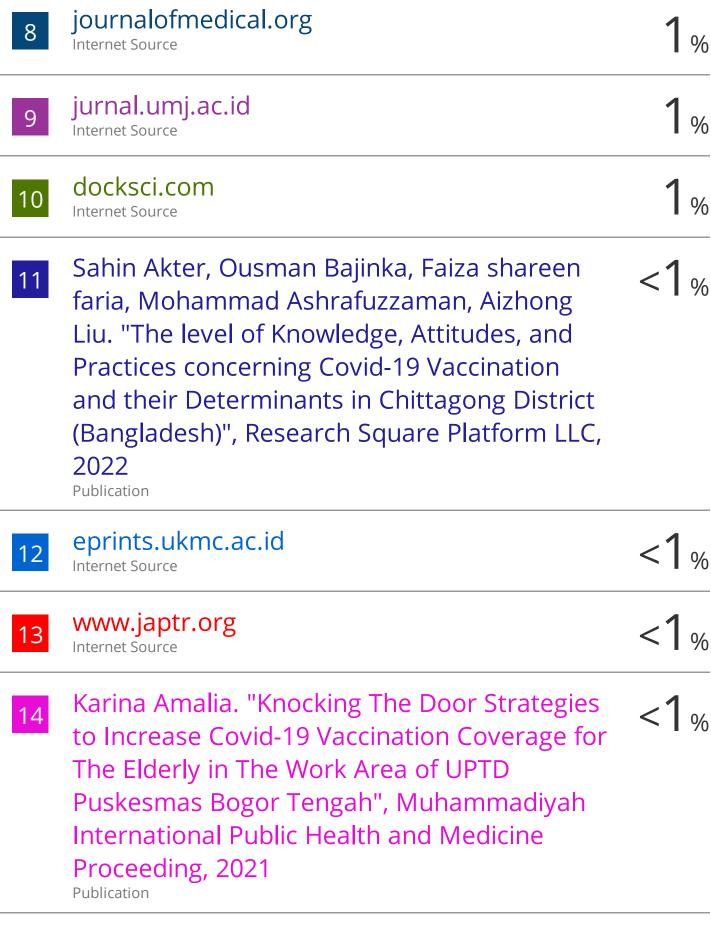
Conflicts of interest
There are no conflicts of interest.

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