

Analysis of Predisposing Factors Affecting Community Participation in COVID-19 Vaccination

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ABSTRACT

Background: Coronavirus Disease 2019 (COVID-19) is an infectious disease caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). As of June 29 2022, there were 542,188,789 cases of COVID-19 in the world, and 6,339,275 people died. Recipients of the COVID-19 vaccine in Central Lampung District dose 1 were 898,900 (81.95%) of the 80% target. Those who received the 2nd dose vaccine were 683,002 (62.27%) of the 70% target and booster vaccines by 23,665 (2.16%) of the 40% target. The study aimed to analyze the predisposing factors that influence participation in the COVID-19 vaccination in the community in Central Lampung district in 2022.

Subjects and Method: A cross-sectional study was conducted in three sub-districts of Central Lampung district from July to September 2022. A total of 110 people were selected for this study. The dependent variable was the decision of participating in the COVID-19 vaccination. The independent variables were Knowledge, Education, Attitudes, Health Information, and Trust. Data was collected by using a questionnaire. Data were analyzed using logistic regression test.

Results: Health information (aOR= 18.58; 95% CI= 1.83 to 188.05; p= 0.013), and level of trust (aOR= 18.54; 95% CI= 2.77 to 123.80; p= 0.003) were related to community participation in the COVID-19 vaccination.

Conclusion: Health information and public trust related to participation in the COVID-19 vaccination in the community.

Keywords: predisposing factors, behavior, COVID-19 vaccination.

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BACKGROUND

Coronavirus Disease 2019 (COVID-19) is an infectious disease caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). SARS-CoV-2 is a new type of coronavirus that has never been previously identified in humans. Common signs and symptoms of COVID-19 infection include symptoms of acute respiratory distress

such as fever, cough and shortness of breath. The average incubation period is 5-6 days with the longest incubation period is 14 days. In severe cases of COVID-19 it can cause pneumonia, acute respiratory syndrome, kidney failure and even mortality (Burhan et al., 2022)

The first case of Covid 19 was found in the city of Wuhan, China. WHO officially

establishes this novel coronavirus disease in humans as Coronavirus Disease (COVID-19) caused by SARS-COV2. As of June 29th, 2022, there were 542,188,789 cases of COVID-19 in the world, and 6,339,275 people died (WHO, 2022). In Indonesia, cases of COVID-19 continue to increase, both the number of confirmed positives and those who have died. There were 1,505,775 positive confirmed cases and 40,754 people died on March 30th, 2021 (COVID-19 Handling Task Force, 2021).

In Central Lampung Regency, as of March 23th, 2022, there were 6,435 confirmed cases, 640 people died, the case fatality rate (CFR) was 9.94%, the Bed Occupation Rate (BOR) in Central Lampung Regional Hospital was 90.2%. Vaccinations for COVID-19 stages 1 and 2 and boosters were 1,605,567 people, residents who got the phase 1 vaccine were 898,900 (81.95%) of the target of 80%, the community who received 2nd vaccine were 683,002 (62.27%) of the 70% target, and booster vaccines totaling 23,665 (2.16%) of the target of 40% (Central Lampung Health Office, 2022). This study aimed to analyze the predisposing factors that influence participation in the COVID-19 vaccination in the community in Central Lampung district in 2022.

SUBJECTS AND METHOD

1. Study Design

This study is a type of analytic research with a cross-sectional design, conducted in Central Lampung Regency in three sub-districts. The data were collected by using questionnaire which was carried out in July-September 2022.

2. Population and Sample

The research population is people aged 18 to 59 years old who are represented by 3 sub-districts with a total of 82,119 people in Central Lampung Regency.

3. Study Variables

The independent variables are Knowledge, Education, Attitudes, Health Information, and Trust. The dependent variable is the behavior of participating in the COVID-19 vaccination.

4. Operational Definition of Variables

Knowledge is the results of the knowledge that respondents know about the COVID-19 vaccine, categorized as good and not good.

Education is the last level of formal education which has successfully completed by the respondent, categorized as high and low.

Attitude is reaction or response from respondents to statements about COVID-19 vaccination, categorized as positive attitudes and negative attitudes.

Health Information is a source of health information that is frequently accessed to seek health information regarding the administration of the COVID-19 vaccine, categorized as accessing and not accessing health information.

Trust is the public's trust in giving the COVID-19 vaccine, grouped into positive attitudes and negative attitudes.

Behavior towards COVID-19 vaccination is a person's response or reaction to the COVID-19 vaccination, categorized as participating and not participating in the COVID-19 vaccination.

5. Data Analysis

Data were analyzed by univariate, bivariate and multivariate. Bivariate analysis was performed with Chi square, and multivariate with logistic regression test which was performed using a statistical data processing program.

6. Research Ethic

This study was submitted to the Health Ethics Committee of the Faculty of Medicine, University of Lampung for ethical approval with number: 26014/UN26.18/-PP.05.02.00/2022.

RESULTS

1. Sample Characteristic

Table 1 shows the characteristics of the subjects, respondents who participated in vaccination (93.6%), had good knowled-

ge (63.6%), higher education (30%), positive attitude (44.5%), accessing health information (62.7%), positive beliefs in participating the vaccination (79.1%), respondents were farmers (32.7).

Table 1. Characteristics of research subjects.

Variables	Categoris	Frequency (n)	Percentage (%)
Vaccination Participating Behavior	Vaccine	103	93,6
	Not Vaccine	7	6.4
Knowledge	Good	70	63,6
	Poor	40	36,4
Education	High	33	30
	Low	77	70
Attitude	Positive	49	44.5
	Negative	61	55.5
Health Information	Accessing	69	62.7
	Not Accessing	41	37.3
Trust	Positive	87	79.1
	Negative	23	20.9
Employment	Civil Servant	15	13.6
	Housewife	14	12.7
	Student	9	8.2
	Employee	18	16.4
	Farmer (Agromedicine)	36	32.7
	Entrepreneur	18	16.4
Type of Dose 1 Vaccine	Sinovac	54	49
	Astraceneca	49	45
	Pfizer	2	2
	Not vaccines	5	5
Type of Dose 2 Vaccine	Sinovac	53	48
	Astraceneca	48	44
	Pfizer	2	2
	Not vaccines	7	6
Types of Dose 1 Booster Vaccines	Moderna	24	22
	Astraceneca	8	7
	Pfizer	27	25
	Not vaccines	51	46
Vaccination Reasons	Immunity	98	89
	Cash Transfers (BLT)	5	5
	Fear of side effects	4	4
	Comorbid	3	3

2. Bivariate Analysis

Tables 2 showed the result of bivariate analysis using chi-square. knowledge (OR= 4.85; 95% CI= 0.89 to 26.31; p= 0.097), education (OR= 0.54; 95% CI= 0.11 to 2.59; p= 0.426), and attitude (OR= 5.23; 95% CI= 0.81 to 0.96; p= 0.129) were related

with participating the COVID-19 vaccination but there is no statistically significant. Information (OR= 11.65; 95% CI= 0.60 to 45.04; p= 0.010) and trust (OR= 11.80; 95% CI= 2.12 to 65.72; p= 0.004) and both result statistically significant.

Table 2. Analysis of Predisposing Factors Influencing the Participation Behavior of COVID-19 Vaccination among Community in Central Lampung Regency in 2022.

Variable	Attitudes on Reproductive Health of Young Women				OR	p
	Positive		Negative			
	N	%	N	%		
Knowledge						
Good	68	97.1	2	2.9	4.85	0.097
Poor	35	87.5	5	12.5		
Education						
High	30	90.9	3	9.1	0.54	0.426
Low	73	94.8	4	5.2		
Attitude						
Positive	48	98.0	1	2.0	5.23	0.129
Negative	55	90.2	6	9.8		
Health Information						
Accessing	68	98.6	1	1.4	11.65	0.010
Not Accessing	35	85.4	6	14.6		
Trust						
Positive	85	97.7	2	2.3	11.80	0.004
Negative	18	78.3	5	21.7		

Table 3. Final Modeling Results of Multivariate Analysis

Media	b	OR	Mean Rank		p
			Lower Limit	Upper Limit	
Parents' role	2.92	0.013	18.58	1.83	188.05
Peers	2.92	0.003	18.54	2.77	123.80

Table 3. showed the result of multivariate analysis The final results of the multivariate analysis showed that there were two variables that have a significant relationship with COVID-19 vaccination behavior, namely health information (OR=18.58; 95% CI= 1.83 to 188.05; p= 0.013), and trust (OR= 18.54; 95% CI= 2.77 to 123.80; p= 0.003).

DISCUSSION

Respondents Characteristics of the Level of Knowledge, Education, Attitudes, Health Information and Trust in Participating in COVID-19 Vaccination

The results of this study indicate that people's behavior to participate in the complete dose of COVID-19 vaccination is very high (93.6%) exceeding the national target (70%), this is because people already have

good knowledge, access health information and have positive trusts toward health workers, health facilities and vaccines used. In high level of education variable (30%) and positive attitude (44.5%) were less than 50%.

Relationship between Knowledge and Participation Behavior in COVID-19 Vaccination

Knowledge is part of the predisposing factor to health behavior. The results of the study showed that most of the people who did the COVID-19 vaccination had good category of knowledge and did the COVID-19 vaccination. In the results of the analysis test using chi-square, knowledge was not proven to have a significant relationship with taking part in the COVID-19 vaccination, the group with good knowledge and the group with lack of knowledge was not much different, respondents who had good knowledge and took part in the COVID-19 vaccination.

The results of this study are consistent with research done by Sanjaya, Fahdhienie and Santi (2022) which stated that knowledge is not related to community participation in the COVID19 vaccination program. However, it is not in line with research conducted by Luawo (2021) which stated that there was a relationship between knowledge and attitudes towards COVID-19 prevention behavior. Research conducted by Ririansyah, Efendy and Yuniati (2022) found that the knowledge variable proved to have a significant relationship with COVID-19 vaccination behavior.

Knowledge and education are closely related, and it is expected that people with higher education will have broader insights. However, it should be emphasized that this does not mean that people with low education must have low knowledge. A person's knowledge of an object contains two aspects, namely positive aspects and negative

aspects. These two aspects will determine a person's attitude, therefore, positive aspects and objects that are known will lead to a positive attitude towards certain objects (Notoatmodjo, 2014)

Relationship between Education Level and Participation Behavior in COVID-19 Vaccination

Education is an important factor related to the ability to receive information that will influence a person's mindset and knowledge related to health. In the results of the study, it was found that most of the people who carried out the COVID-19 vaccination were in the low education group (94.8%), but the results of the analysis showed that the education variable did not have a significant difference with the behavior of taking part in the COVID-19 vaccination seen from the level of education or in other words, education level was not proven to have a significant relationship with COVID-19 vaccination behavior (p-value 0.426). Differences in the findings of this study may be influenced by the environment and the characteristics of the sample where in this study the majority of the people who became the sample had a low level of education.

Based on the description above, it can be explained that the behavior of participating in the COVID-19 vaccination in this study was not significantly different in terms of education, or in other words the behavior of COVID-19 vaccination in people with high and low levels of education was relatively the same. This is in accordance with the theory which explains that health behavior can be influenced by a person's knowledge and knowledge related to education, the higher a person's education, the easier it is for the person to receive information so that his knowledge will be better. Someone with low education does not mean absolutely has low knowledge because increased knowledge is not absolutely obtain-

ned through formal education, but can also be obtained in non-formal education (Budiman and Riyanto, 2013).

Relationship between Attitude and Participation Behavior in COVID-19 Vaccination

Attitude is a reaction or response of someone who is still closed to a stimulus or object. Attitude is part of the behavioral factors that can influence interest in carrying out the COVID-19 vaccination. The results showed that the behavior of COVID-19 vaccination was dominated by respondents who had a negative attitude by 90.2%, while respondents who had a positive attitude were 98%. The results of the analysis show that there is no relationship between attitude and COVID-19 vaccination behavior.

Based on the findings of the results above, it can be explained that the proportion of respondents who carry out the COVID-19 vaccination is significantly different between those who have a positive and negative attitude, where respondents who have a positive attitude have a greater chance of carrying out COVID-19 vaccination behavior compared to those who have a negative attitude. This occurs because attitude is a form of reaction to an object so that respondents who have a positive attitude will have a good reaction and tend to act (Notoatmodjo, 2014). Whereas the main components of attitude include trust, evaluation and the tendency to act towards objects, these three components form a complete attitude.

Attitudes are not automatically manifested in an action (overt behavior) and for the realization of an attitude into an action, supporting factors such as facilities are needed (Budiman and Riyanto, 2013). From this theory, it is clear that the supporting factors in the form of COVID-19 vaccination facilities are currently available in health service places and easy to reach so

that people who have a positive attitude will have strong supporting factors in carrying out the COVID-19 vaccine.

Relationship between Health Information and Participation Behavior in COVID-19 Vaccination

Current technological developments will help the community to disseminate information about health programs through various information media/mass media so that a small number of people are exposed to information media which will be able to influence knowledge and behavior of COVID-19 vaccination. In the results of the study, it was found that most of the respondents who had carried out the COVID-19 vaccination had access to health information in terms of participating in the COVID-19 vaccination behavior, the analysis showed that there was a relationship between access to health information and the behavior of participating in the COVID-19 vaccination ($p = 0.010$), the results multivariate modeling shows that health information is the dominant variable influencing COVID-19 vaccination behavior ($OR = 18.58$; $CI = 1.83$ to 188.05).

Respondents who accessed health information had the opportunity to conduct vaccinations by 18 times higher than those who did not access health information after controlling for knowledge, education and attitude variables. It can be explained that the current information media has proven to affect the behavior of respondents in carrying out COVID-19 vaccinations, the more information respondents get from the information media, the more knowledge of respondents will be increased so that this can motivate respondents to conduct COVID-19 vaccinations. One of the information that is of concern to the global community nowadays is information related to the COVID-19 pandemic which is widely accessed on various social media pages.

The results of this study are in line with research by Durhan and Tahir (2021) which shows the high level of access to information related to the Sinovac vaccine on social media because it is influenced by the high frequency, duration and attention of the public in accessing information. Yuliwati (2016) concluded that access to information/media was proven to be related to the behavior of respondents in carrying out the COVID-19 vaccination. Respondents who accessed health information had a 19 times greater chance of carrying out the COVID-19 vaccination.

In fact, the public needs correct and definite information from trusted sources, especially from authorities who are indeed credible sources. For the public, this information is important in influencing the lives of citizens both individually, communally, socially and institutionally (Andrianto, 2020).

Relationship between Trust and Participation Behavior in COVID-19 Vaccination

The results of the study showed that most of the respondents who had carried out the COVID-19 vaccination had positive trust about health facilities and health workers. The results of the analysis found that there was a relationship between public trust and the behavior of taking part in the COVID-19 vaccination (p-value 0.004). In the multivariate analysis which showed the multivariate modeling, trust was shown to be the dominant variable influencing the behavior of taking part in the COVID-19 vaccination with a value (OR= 18.54; CI= 7.77 to 123.80) where people who have positive trust in health facilities have 18 times greater chances.

The behavior of participating in the COVID-19 vaccination compared to the community has a negative belief after controlling for the variables of knowledge, edu-

cational attitudes and health information. Based on the description above, it can be explained that positive public trust in health facilities is related to COVID-19 vaccination behavior for respondents. The findings of this study prove that positive public trust is proven to be one of the factors related to COVID-19 vaccination behavior. This happens because health workers have an important role in improving the maximum quality of health services to the community so that people are able to increase awareness, willingness, and ability to have healthy life.

The results of this study are in line with the research of Noer, Choliq and Mukti (2021) which stated that respondents who participated in the vaccinations believed in the benefits of the COVID-19 vaccine which can boost the immune system and be able to fight when exposed to the disease. The main factor that causes the success of a policy is community involvement in it, which is influenced by the level of public trust in taking part in the COVID-19 vaccination (Kriswibowo et al. 2021). According to Gunawan (2016), trust is defined as a form of attitude that shows feelings of liking and persists in using a product or brand.

Support from health workers, both in the form of education and invitations to conduct COVID-19 vaccination will form good behavior regarding COVID-19 vaccination. As explained in Lawrence Green's theory in Notoatmodjo (2012), the formation of health behavior is influenced by three main factors, namely predisposing factors, enabling factors and reinforcing factors, even though individuals have knowledge and are able to behave healthily, they do not practice so that reinforcing factors are needed here. One of the factors is from health workers to play an active role in digging further to the seven respondents

who did not vaccinate with reasons of fear of side effects and comorbidities.

AUTHOR CONTRIBUTION

Bambang Pujianto has a role in the discovery of ideas, research design, data collection and preparation of research reports. Dian Isti Anggraini played a role in the research design. Aila Karyus played a role in data analysis. All researchers play an active role in research activities until they are completed.

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This study is self-funded.

CONFLICT OF INTEREST

There is no conflict of interest in this study.

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