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Factors Related to Public Acceptance of the Covid 19 Vaccine

Agung Sutriyawan[1], Riyan Hidayatulloh[2]

[1,2]Bachelor Programme Public Health, Bhakti Kencana University

ABSTRACT

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Background: Background: Efforts in the prevention of Covid-19 are by conducting vaccination programs. However, the public response to Covid-19 vaccination is still very low. The low willingness of the public to vaccinate is the cause of the low achievement of the vaccination program.

Objectives: This study aims to find out the relationship of knowledge, attitudes, and perceptions of the public with the willingness of the Covid-19 vaccine.

Methods: The type of research used is quantitative with cross-sectional designs. The population of this study was a society of 19-59 years old. The sample was taken by 159 respondents. The instrument used is a questionnaire. The statistical test used is the chi-square test.

Results: The results showed that most of the public was not willing to be vaccinated (54.1%). Variables related to the willingness of the Covid-19 vaccine in the community are knowledge (p=0.000) and POR= 3.68 (1,864-7,274), attitude (p=0.000) and POR= 2.51 (1,302-4,852), and perception (p=0.000) and POR= 4.43 (2,273-8,637).

Conclusion: This study proves that the willingness of Covid-19 vaccination in the community is influenced by people's knowledge, attitudes, and perceptions. It is necessary to educate the public about the importance of Covid-19 vaccination in preventing the spread of Covid-19 cases.

Keywords: Vaccines, Covid-19, Knowledge, Attitudes, Perceptions

INTRODUCTION

Coronavirus pandemic 2019 (COVID-19) is a problem that occurs in more than 200 countries in the world (1). The outbreak of a new disease caused by the coronavirus (2019-nCoV) or commonly referred to as Covid-19 was officially designated as a global pandemic by the World Health Organization (WHO) on March 11, 2020. The spread of coronavirus globally is still growing. Total cases of Covid-19 in the world are confirmed as many as 120,745,239 cases. Such conditions have a direct impact on the entire community, as a result of the enactment of health protocols that must be established on all aspects of activities, ranging from social restrictions to total lockdown to inhibit all community activities. The continued effects of Covid-19 have the potential to bring major challenges to the world's health system and have far-reaching consequences for the global economy if the spread of the virus is not effectively controlled (2).

*Corresponding Author: Agung Sutriyawan

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Covid-19 cases of Indonesia as of March 19, 2021, were recorded as many as more than 1,450,993 cases 2.82% of whom died. Given the rapid spread of Covid-19 and the dangers that will arise if not addressed immediately, one possible way to prevent the spread of this virus is to develop a vaccine. Development of Covid-19 vaccination recipient data on to Indonesia until April 16, 2021, as many as 10,706,184 (3). West Java is one of the provinces with the highest number of cases. Bandung regency as of July 04, 2021, recorded as many as 21,283 cases. People who have received the first stage vaccine as much as 40.22% of the 162,812 target targets and the 75.82% stage of the 65,486 targets (4). Cibiru Hilir Health Center entered the top 10 contributors of Covid-19 cases of Bandung Regency as many as 88 cases were confirmed positive about Covid-19 and 2 people died from Covid-19. Based on preliminary studies conducted at Cibiru Hilir Health Center. Researchers interviewed 20 people who visited Cibiru Hilir Health Center found that 16 people were not willing to be vaccinated on the grounds of fear of vaccine side effects, believing there were different options to end the pandemic and 4 people were willing to be vaccinated against the Covid-19 vaccine because they had passed clinical trials.

The more people vaccinated, the number of Covid-19 cases is decreasing. However, there are still many polemics about there are advantages and disadvantages locally there are individuals who support antibodies and there are also individuals who question the feasibility and adequacy of vaccination, some even refuse immunization. Knowledge about the Covid-19 vaccine is very important so as not to cause an increase in the number of cases of Covid-19 disease that is too fast. Public knowledge about the Covid-19 vaccine can be interpreted as the result of knowing about this vaccine, understanding this vaccine (5). Knowledge plays an important role in the determination of complete behavior because knowledge will form a further belief in perceiving reality, providing a basis for determining behavior towards certain objects so that it will affect a person is behaving. The formation of new behavior, especially in adults, begins in the cognitive domain in the sense that the subject knows in advance the stimulus of matter or objects to it, giving rise to new knowledge that will be formed into attitudes and actions (6).

Previous research has shown there is a significant link between people's knowledge and behavior about Covid-19. Knowledge has a close relationship with the decisions it will take because with knowledge one has a foundation for making choices (7). Other research states that Egyptians have a good attitude to show good Covid-19 prevention behavior as well, people there believe by washing hands and restrictions on close contact can prevent the spread of the Covid-19 virus. Attitudes indicate the connotation of the conformity of reactions to certain stimuli which in everyday life is an emotional reaction to a social stimulus (8). A good perception of the prevention of the Covid-19 coronavirus outbreak will result in good preventive behavior as well, this is seen in the interview conducted wherein the results of the interview the public believes that the prevention of the Covid-19 virus is seen to prevent the spread of the current outbreak (9). Based on this, the purpose of this study is to know the relationship of knowledge, attitudes, and perceptions of the community with the willingness of the Covid-19 vaccine.

MATERIAL AND METHODS

The type of research used is quantitative with a cross-sectional design (10). This approach is done to find out the relationship of knowledge, attitudes, and Perceptions community with the willingness of the Covid-19 vaccine. The population in this study was a society of 19-59 years old. The sample was taken by 159 respondents. The instrument used is a questionnaire. Kuesioner's knowledge consists of 16 questions about the meaning of vaccination, targets, implementation, safety, and benefits of vaccines. Attitude consists of 8 questions about respondents' attitudes in receiving and responding to the Covid-19 vaccination. While perception consists of 8 questions about responses, opinions, and assessments about the Covid-19 vaccine.

The statistical analyses used in this study are univariate and bivariate. Bivariate analysis is used to determine respondents' characteristics, proportions of knowledge, attitudes, perceptions, and willingness of vaccines. Bivariate analysis is used to determine the relationship of knowledge, attitude, and perception with vaccine willingness. The statistical test used is the chi-square test.

FINDINGS

Table 1. Characteristics of Respondents

Characteristic	Frequency	Percentage
Age		
≤ 20 years	40	25,2
> 20 years	119	74,8
Gender		
Man	75	47,2
Woman	84	52,8
Education		
Low	101	63,5
High	58	36,5
Work		
Yes	68	42,8
Not	91	57,2
Total	**159**	**100**

Based on table 1. Respondents were mostly > 20 (74.8%), female (52.8%), low education (63.5%), and non-working (57.2%).

Table 2. Distribution of Knowledge, Attitudes, Perceptions, and Willingness of Covid-19 Vaccine

Variable	Frekuensi	Persentase
Knowledge		
High	94	59,1
Low	65	40,9
Attitude		
Positive	60	37,7
Negative	99	62,3
Perception		
Good	74	46,5
Less	85	53,5
Vaccine Willingness		
Willing	73	45,9
Not willing	86	54,1
Total	**159**	**100**

Based on table 2. It is seen that most respondents have high knowledge (59.1%), have negative attitudes about the Covid-19 vaccine (62.3%), have an unfavorable perception of

the Covid-19 vaccine (53.5%), and most are not willing in the vaccine (54.1%).

Table 3. Relationship of Knowledge, Attitude, Perception with Willingness of Covid-19 Vaccine

Independent Variables	Covid-19 Vaccine				*P value*	POR (95% CI)	
	Willing		Not willing				
	n	%	n	%		Lower	Upper
Knowledge					0,000	3,68 (1,864-7,274)	
High	55	58,5	39	41,5			
Low	18	27,7	47	72,3			
Attitude					0,008	2,51 (1,302-4,852)	
Positive	36	60,0	24	40,0			
Negative	37	37,4	62	62,6			
Perception					0,000	4,43 (2,273-8,637)	
Good	48	64,9	26	35,1			
Less	25	29,4	60	70,6			

Based on table 3. It is seen that the variables associated with the willingness of the Covid-19 vaccine in the community are knowledge (p=0.000) and POR= 3.68 (1,864-7,274), attitude (p=0.000) and POR= 2.51 (1,302-4,852), and perception (p=0.000) and POR= 4.43 (2,273-8,637).

DISCUSSION

Still low achievement of vaccination program in Indonesia due to the low desire community to be vaccinated. One of the reasons people rejection of vaccines is that they don't think the Covid-19 vaccine is important. Most people feel confident that the Covid-19 pandemic will go away on its own. The study found that 58.1% of respondents agreed that humans do not need a vaccine because the coronavirus will disappear on its own.

Side effects to vaccines are something to be taken into account. Effects commonly experienced by some people after getting the vaccine include pain, redness or swelling at the injection site, fatigue, headache, muscle pain, cold heat, fever, and nausea. These are normal signs that the body is building protection against Covid-19 (11). But usually, these signs will not become severe and will go away within a few days. In another study, rejection of the Covid-19 vaccine was due to concerns of side effects such as fever and pain (12%), and religious reasons (8%) (11).

The study found that most respondents were not willing to be vaccinated. This indicates that education to the community needs to be improved considering that the consensus of acceptance is the next stage of knowledge. Some information needs to be provided to the community such as the level of safety, effectiveness, reliability, vaccine emergencies and straightening out hoaxes about the Covid-19 Vaccine.

The Sinovac vaccine is a vaccine used in Indonesia in preventing Covid-19 and has been through phase three trials in various countries. Provisional data from late-stage trials in Turkey and Indonesia showed the vaccine was effective at 91.25% and 63.50% respectively. Researchers in Brazil initially said in their clinical trials the effectiveness of the Sinovac vaccine was 78%, but after the addition of the research data, the figure was revised to 50.40% and declared in January 2021 (12). The Sinovac vaccine has been unveiled for emergency use in high-risk groups in China since July 2020, and by September 2020 Sinovac had been given to 1,000 volunteers with less than 5% discomfort or mild fatigue. And the advantages of the Sinovac vaccine does not have a very fatal risk (7).

Knowledge is a factor related to the willingness of the Covid-19 vaccine in the community. Those with good knowledge are 3.6 times more likely to be willing to get the vaccine. 72.3% of respondents have low knowledge and are not willing to be vaccinated. This is because most of the respondents have low education. A vaccine acceptance study in Taiwan says poorly educated people have a lower willingness to vaccinate Covid-19 (13).

Knowledge is considered important in Covid-19 prevention efforts, if the public has good knowledge, it is expected that the community will be more compliant with Covid-19 prevention efforts recommended by the Indonesian government (14). Knowledge surveys conducted in the community in this study found that some respondents did not believe that vaccines can prevent Covid-19 infection. Another finding mentions the acceptance of the Covid-19 vaccine is strongly influenced by how effective the vaccine can inhibit diseases due to Covid-19 (15), and willingness to protect others from Covid-19 (16). Health education by public health experts is needed to straighten out public health students' knowledge about the Covid-19 vaccine. The Ecuadorian study suggested an increase in the Covid-19 vaccine education campaign to increase public knowledge about the Covid-19 vaccine so that confidence in the vaccine increases and increases acceptance of the Covid-19 vaccine (17).

People's attitudes about the Covid-19 vaccine are related to the willingness of the Covid-19 vaccine in the community. Those who have a positive attitude are 2.5 times more likely to be willing to be vaccinated. This study is by

the results of a survey conducted in Indonesia by the Indonesian Ministry of Health, NITAG, UNICEF, and WHO on vaccine acceptance in 2020 which stated that as many as 22% of respondents were unsure of the effectiveness of vaccines in preventing Covid-19 (18). While people who have a positive perception of Covid-19 have a 4.4 times chance of being willing in the Covid-19 vaccine.

In the study in Kendari mentioned the public perception of the Covid-19 vaccine is quite good by 59% and 14% have a good perception of vaccination. Good perception affects the willingness to follow vaccinations (19). Negative perceptions about Covid-19 vaccination stem from a lack of education from health services (20).

This study is done by research in South Sumatra which stated that 63% of respondents had a positive perception of the Covid-19 vaccine and the rest had a negative perception. Perception has a meaningful relationship with the willingness to be vaccinated. Knowledge affects perception, therefore it is necessary to provide information thoroughly and evenly to all circles of society (21).

CONCLUSION

Most respondents were not willing to be vaccinated against the Covid-19 vaccine. Factors that are related to people's vaccination willingness are people's knowledge, attitudes, and perceptions about Covid-19. It is necessary to educate the public about the importance of Covid-19 vaccination in preventing the spread of Covid-19 cases.

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