

# Factors Affecting Community Vaccination Perception as An Effort to Prevent Covid-19

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## ORIGINAL ARTICLE

### Factors Affecting Community Vaccination Perception as An Effort to Prevent Covid-19

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#### ABSTRACT

**Introduction:** Covid-19 is an infectious disease that can prevent by vaccination. Covid-19 is a health problem that, if not handled properly, can cause the death of the sufferer. The vaccination program for Covid-19 is a focus carried out throughout the world. WHO stated that a high commitment is needed so that the distribution of the Covid-19 vaccine can be carried out evenly. The Indonesian government also participated in the success of the Covid-19 vaccination program. The vaccination program is a preventive effort carried out so that the community has immunity against Covid-19. However, in the implementation of the Covid-19 vaccination program, there are still those who agree and some who still disagree. People still have doubts administration of this vaccine, and there are even those who doubt the efficacy of the Covid-19 vaccine. Some things that cause people to disagree with the Covid-19 vaccination program are their fright of the vaccine ingredients. Community understanding about the importance of vaccines giving must be increased. **Objectives:** The purpose of this study was to find out how people perceive the Covid-19 vaccine as an effort to prevent Covid-19. **Methods:** The design in this study is cross-sectional. The sampling technique used is purposive sampling with a total sample of 153 respondents. This study uses google form as a measuring tool. The bivariate analysis uses contingency coefficients. Multivariate analysis using multiple logistic regression tests with a significant value of 0,05. **Results:** The results showed that the influencing factors that influenced community perceptions of the Covid-19 vaccine as an effort to prevent Covid-19 were the government's fear of the ingredients of the vaccine ( $p=0,016$ ), the fear that the vaccine was not halal (0,023), anxiety about the side effects of the vaccine ( $p=0,014$ ), anxious about news about Covid-19 (0,022), and fear of injections (0,027). The logistic regression analysis showed that anxiety about the side effects of giving the vaccine was the dominant factor influencing community perception of the Covid-19 vaccine with  $p=0,003$ . **Conclusions:** The government was expected to continuously support the vaccination program to prevent Covid-19. Vaccination was expected to increase the body's immunity.

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## Introduction

Covid-19 is an infectious disease that can be prevented by vaccination. Covid-19 is a disease caused by the coronavirus that can attack humans and animals. Covid-19 is a virus-caused disease (Zhu et al., 2020) (Mohamed et al., 2021). The virus spreads through droplets when people talk or sneeze and infiltrates the respiratory tract (Anggraini, 2021). Covid-19 is a health problem that can lead to death for the sufferer if it does not handle properly (Ronghui Du, 2020). Currently, the Covid-19 crisis is experiencing worldwide (Sholicha, 2021) (Asmundson & Taylor, 2020a). The impact of the Covid-19 virus is very worrying, such as death, the impact on the health care system, the impact on the economy, psychological and social impacts (Silalahi, 2021) (Lu & Lin, 2021).

The vaccination program for Covid-19 is a concentration carried out worldwide, including Indonesia. A high commitment is needed so that the distribution of the Covid-19 vaccine can be carried out evenly (WHO, 2020b). The Covid-19 vaccination program is carried out as a preventive effort so that people have immunity to fight Covid-19 (Makarim, 2021). However, the implementation of the Covid-19 vaccination program has some obstacles because some people agree, and some still disagree with the administration of the Covid-19 vaccine. Some people still have doubts about vaccine administration and its efficacy (Putri, 2021). Some of the things that cause people to disagree with the Covid-19 vaccination program are that people are afraid of the composition of the vaccine ingredients (Chryshna, 2020). Public understanding of the importance of giving vaccines must be increased.

Covid-19 is a non-natural disaster and has become a worldwide pandemic. The case of Covid-19 was first reported in December 2019 by the State of China (Amanat & Krammer, 2020). It first happened in Wuhan, China, and quickly spread to other cities in China (Dong, 2020). In January 2020 Covid-19 began to spread in other countries (Shereen, 2020). In Indonesia, the first case of Covid-19 was reported occurred in March 2020 (Indonesia.go.id, 2020). Indonesia has the highest number of Covid-19 cases in Southeast Asia and the third number of deaths in Asia (Putri, 2021). On September 7, 2020 covid-19 sufferers reach 1.8 million cases in total on worldwide, and the death reach 40.600 cases (WHO, 2020a). Indonesia has ranked the second-highest number of cases after the Philippines (Liputan 6, 2020). Based on data from the East Java Province Health Office, the number of Covid-19 cases as of July 30, 2021, reached 303,732 cases. The Covid-19 vaccination target in East Java is 31,826,206, and the vaccination achievement rate is still 23.80% at dose one and still reaches 9.81% for vaccine dose 2. Based on data from the health officer of the City of Kediri, the number of cases of Covid-19 as of July 27, 2021, there were 2526 people, and 225 cases of them had been declared dead due to Covid-19. Martins (2020) Most Covid-19 patients died due to co-morbidities, or the patient was elderly. Covid-19 patients with chronic diseases such as diabetes, hypertension, heart disease, cancer, or old age, have a lower immune system. Their health is getting worse, and their body's ability to fight disease also decreases and can cause death (Suiraka, 2012).

One of the efforts to prevent the occurrence of Covid-19 is by giving vaccines (Makarim, 2020). By increasing the amount of Covid-19 vaccination, it is hoped that it will prevent and reduce the severe covid-19 symptoms. The perception about vaccination of the people are very different people's perceptions of giving vaccinations are very different; some people still have the wrong perception about the Covid-19 vaccination. Public understanding about the importance of vaccination is an effort that can be done to prevent the occurrence of Covid-19 disease. Based on the explanation above, the researcher is interested in researching the factors that influence public perception of vaccination to prevent Covid-19.

## Methods

This research is quantitative. The design of this research is cross-sectional. The population in this study is the people of Kediri City, with a total sample of 153 respondents. The sampling technique used in this study is purposive sampling with the following inclusion criteria: willing to be a respondent, read and write, and fill out google forms. The sampling technique in this study is purposive sampling. Some of the inclusion criteria in this study include being willing to become respondents, being a citizen of Kediri, reading and filling out google forms, and following the research until complete. The variables in this study are factors that influence the public about the importance of vaccines to prevent Covid-19.

The instrument used in this study is a questionnaire distributed in the google form containing questions related to public perceptions about the importance of vaccines to prevent Covid-19. The questionnaire used in this study has been tested for validity by involving the community. The reliability test used the Cronbach alpha technique, tested using the SPSS program. The result of r alpha for the whole questionnaire is >0.6. After data collection is complete, data tabulation, data processing, and data analysis are carried out. The bivariate analysis used in this

study is the contingency coefficient. At the same time, multivariate analysis using multiple logistic regression tests.

This research has passed the ethical test and received ethically appropriate information from the ethical commission of the Bhakti Wiyata Kediri Institute of Health Sciences with document number 249/PP2M-KE/VIII/2021.

## Results and Discussion

This research was conducted in Kediri City from August 16 to September 13, 2021. The number of respondents in this study was 153 people.

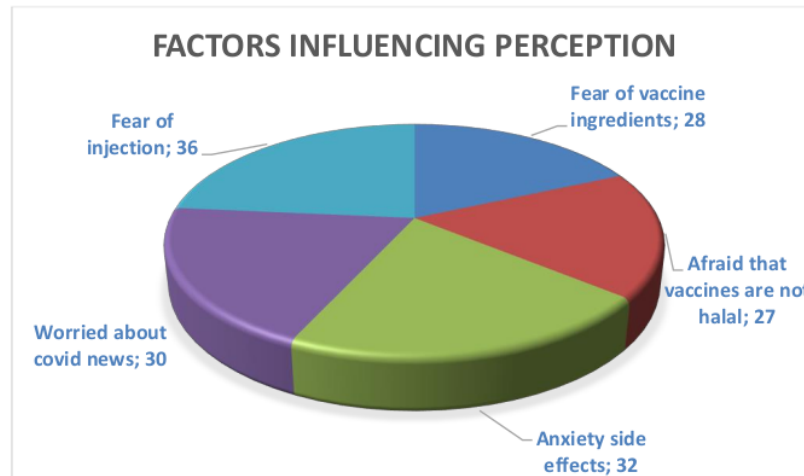
Table 1 Distribution of respondents by Age

General data		N
Age	5-11 years old	2
	12-25 years old	31
	26-45 years old	87
	46-45 years old	32
	>65 years old	1
Gender	Male	66
	Female	87
Based on Last Education	No School	1
	Primary school	5
	Junior high school	8
	Senior high school	104
	Collage	35
Occupation	Government employees	18
	Private sector worker	74
	Businessmen	44
	Other	17
History of Previous Information	Yes	108
	No	45
Previous Information Sources	Health Workers	22
	Television	29
	Internet	41
	Newspaper	5
	Radio	16
	Group WA	31
	Relatives	1
	Seminar	8

Based on the diagram above, it can be seen that most of the respondents aged 26-45 years were 87 respondents (56.8%). Most of the respondents' gender was as many as 87 respondents (56.8%). Most of the respondents' last education was high school, as many as 104 respondents (67.9%). Most respondents have jobs as private employees, as many as 74 (48%). Most of the respondents had previously received information about the Covid-19 vaccine, as many as 108

respondents (70.5%). Most of the respondents who previously received information about the Covid-19 vaccine obtained information from the internet, namely 41 people (26%).

Data on factors influencing public perception of vaccination



Analysis of factors that influence people's perception of vaccination about Covid-19 vaccination

Table 2 The results of the analysis of factors that influence people's perceptions of Covid-19 vaccination

Factor	Contingency Coefficient Exam	
	Approx. Sig.	Value
People's fear of the ingredients of the vaccine	0, 016	0, 468
Fear that vaccines are not halal	0.023	0.366
Anxiety about the side effects of giving vaccines	0.014	0.472
Anxious about the news about Covid-19	0.022	0.237
Fear of Injection	0.027	0.413

Table 3 Results of Multivariate Analysis of Factors Affecting Public Perceptions of Covid1-19 Vaccination

Factor	Multiple Logistics Regression Test	
	p-value	OR
People's fear of the ingredients of the vaccine	0.269	12,546
Fear that vaccines are not halal	0,675	2,379



Factor	Multiple Logistics Regression Test	
	<i>p-value</i>	<i>OR</i>
Anxiety about the side effects of giving vaccines	0,094	30,655
Anxious about the news about Covid-19 Afraid of injections	0,128	0,297
People's fear of the ingredients of the vaccine	0.156	14,326

From the results of bivariate analysis using the contingency coefficient test, it was found that there was a relationship between public fear of vaccine ingredients, fear that vaccines are not halal, anxiety about the side effects of giving vaccines, Anxious about the news about Covid-19, Fear of Injection with  $p < 0.05$ . Based on the odds ratio (OR) from multivariate analysis using multiple logistic regression, it can be seen that of all the factors that influence public perception of Covid-19 vaccination, one factor has the most influence on public perception, namely anxiety about side effects of vaccine administration. With  $p\text{-value } 0.025 < 0.05$ . The largest OR value is 30,655, which means that anxiety about side effects from giving vaccines has a 30,655 times chance in shaping public perceptions about Covid-19 vaccination.

### Public Perception of Vaccination as an Effort to Prevent Covid-19

In patients with Covid-19, their health is decreasing, the body's ability to fight disease is decreasing; this is what can cause death in sufferers. One of the efforts to prevent and reduce serious signs and symptoms due to Covid-19 is by giving vaccines (Makarim, 2021).

Based on the results of the research conducted, it shows that the factors that influence the public's perception of vaccination as an effort to prevent Covid-19 are the public's fear of the ingredients of the vaccine, fear that vaccines are not halal, anxiety about the side effects of giving vaccines, worry about news about Covid-19, and afraid of injections. The results of the study show that the influencing factor that affects public perceptions of the Covid-19 vaccine as an effort to prevent Covid-19 is the public's fear of the ingredients of the vaccine ( $p = 0.016$ ), fear that vaccines are not halal ( $p = 0.023$ ), anxiety about side effects from giving vaccines ( $p = 0.014$ ), anxious about news about Covid-19 (0.022), and fear of being injected (0.027). Logistic regression analysis showed that anxiety about the side effects of giving vaccines was the dominant factor influencing public perceptions of the Covid-19 vaccine with  $p = 0.003$ .

This result aligns with previous research, which states that the public has obtained various sources. There is a lot of information circulating, both hoax information and accurate official information. In addition, information describing deaths due to Covid-19 cases has also made people anxious. Almost everyone experiences anxiety about their health. They are also aware of the potential related to health; these threats can also be protective that drives their behaviour (Asmundson & Taylor, 2020b). Excessive anxiety and psychological aspects caused by the covid-19 pandemic have affected one's perception of health, which are factors related to vaccination. (Moccia et al., 2021). Some of this information can influence people's perceptions about the Covid-19 vaccination (Zulva, 2020) (Putri, 2021). People who do not want to be given the vaccine because they are afraid of side effects or post-immunization follow-up events (Akarsu et al., 2021). Vaccine scepticism is increasing and varies in different countries and is associated with world views (Hornsey, 2018).

### Conclusion

Based on the study results, it can be concluded that the most dominant factor influencing public perception about Covid-19 vaccination is anxiety about the side effects of giving the vaccine.

Based on the conclusions above, the researchers suggest further researchers increase the number of samples with a more significant number of samples to obtain more representative results. The community should continuously support the vaccination program to prevent Covid-19.

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