

# Factors Affecting Public Acceptance of the Covid-19 Vaccine in Indonesia

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## ABSTRACT

**Background** : One of the efforts to protect the community against Covid-19 cases is by vaccination. However, in the preparation of vaccination, there are several negative issues related to vaccines, which make people doubt and even reject the effort. Predisposing factors include age, gender, occupation, income, education level, history of contact with people with COVID, knowledge of vaccines, can affect acceptance of vaccines.

**Objectives** : The purpose of this activity is to find out what factors affect public acceptance of the Covid-19 vaccine.

**Materials and Methods** : The research was conducted by distributing questionnaires via google form to the general public in January 2021. The total respondents were 411 respondents. The questionnaire uses the Public Perception Survey questionnaire for the Covid-19 Vaccine in Indonesia published by WHO and the Ministry of Health of the Republic of Indonesia. Analysis using Chi Square test.

**Results** : The results of the survey showed 46.2% of respondents had not decided and refused the vaccine, and 94.2% wanted to get information about the vaccine. Factors related to vaccine acceptance include age, work in the health sector, income level, education, fear of vaccines, the thought that there are many hoaxes regarding the COVID-19 vaccine, thoughts on vaccine safety, and thoughts on the dangers of vaccines.

**Conclusion**: Accurate and scientific information, accompanied by easy access to receive the Covid-19 vaccine, is needed so that people with self-awareness carry out vaccinations as an effort to reduce the morbidity and mortality of COVID-19 in Indonesia.

**Keywords** : *factors, vaccine, public acceptance, covid 19*

## BACKGROUND

The emergency committee has stated that the spread of COVID-19 can be stopped if protection, early detection, isolation, and rapid treatment are carried out to stop the spread of COVID-19. In view of this, as an effort to protect against COVID-19, various countries from all over the world have committed together by involving governments, biotechnology companies, scientists, and academics to be able to create a Covid-19 vaccine. So far, many vaccine candidates have been launched against the SARS-CoV-2 virus, the cause of Covid-19.(1)

On October 6, 2020, the president signed and issued a Presidential Regulation regarding the procurement of vaccines and the implementation of the vaccination program to tackle the COVID-19 pandemic. (2) The National Immunization Expert Advisory Committee (Indonesian Technical Advisory Group on Immunization/ITAGI) has evaluated the situation related to COVID-19 vaccination and provides a number of recommendations regarding vaccine access for priority groups. The Ministry of Health, supported by ITAGI and development partners, has developed standard operating procedures and a roadmap for COVID-19 vaccination. These instruments have been disseminated throughout the province and other important preparations, including an instrument for assessing the readiness of vaccine introduction, are underway. All processes run simultaneously and according to ITAGI recommendations. The Ministry of Health, with support from UNICEF and WHO, has conducted an online survey in Indonesia to understand public views, perceptions and concerns regarding COVID-19 vaccination.(3)

After a survey was conducted on the acceptance of the Covid-19 vaccine in Indonesia, which took place from 19 to 30 September 2020. Around 65% of respondents said they were willing to accept the COVID-19 vaccine if provided by the government, while eight percent of them refused. The remaining 27% expressed doubts about the Government's plan to distribute the COVID-19 vaccine. This situation needs to be understood carefully; the public may have different levels of confidence in the COVID-19 vaccine due to limited information about the type of vaccine, when the vaccine will be available and its safety profile.(3)

Factors that influence people's behavior in participating in Covid-19 vaccination are influenced by predisposing factors related to individual characteristics, vaccine service providers, and reinforcing factors that are realized with the support of family or community leaders. Individual factors include knowledge of the Covid 19 disease, economic status, religion and belief, age, working in the health sector, income level, education, fear of vaccines, the thought that there is a lot of hoax news about the covid 19 vaccine, thoughts on vaccine safety, and thoughts of danger. vaccine. (2)

This study was conducted to find risk factors based on individual characteristics on the behavior of receiving the Covid-19 vaccine. By knowing the risk factors for receiving the Covid 19 vaccine, it can be used as information in providing education, especially to people who have not decided to take part in the Covid-19 vaccination so that they can follow the vaccinations as recommended by the government to break the chain of disease transmission.

## **MATERIALS AND METHODS**

This research is an analytic descriptive study with cross sectional design. This research was conducted by distributing surveys via google form to all respondents covering all regions of Indonesia. Data collection was carried out in January 2021. The number of samples was 411. The sample inclusion criteria were Indonesian people aged more than 17 years, and were able to access and fill out google forms independently. The sampling technique was purposive sampling. The independent variables include age, gender, history of working in the health sector, education, family history of being affected by Covid, feeling afraid of vaccines, thinking that there are a lot of hoax news about the COVID-19 vaccine, thoughts on vaccine safety, and thoughts of dangerous vaccines. The dependent variable is public acceptance of the Covid-19 vaccine. The questionnaire uses the Public Perception Survey questionnaire for the Covid-19 Vaccine in Indonesia published by WHO and the Ministry of Health of the Republic of Indonesia. Analysis using Chi Square test.

## **RESULTS**

The results showed that the majority of respondents were in the age range of 18-24 years (62.8%). Likewise, the group of respondents who decide, refuse, or have not decided to implement the vaccine are the majority of respondents in the 18-24 year age group. In the age group >65 years, 100% of respondents received the vaccine, and 77.78% of respondents aged 55-65 years also received the vaccine. Most of the respondents are female (73.5%), have no history of working in the health sector (90.8%), education level graduated from senior high school/vocational school (54.3%), family history of COVID-19 (52.6%), feel afraid of the covid 19 vaccine (53%), have the thought that there is a lot of hoax news about the covid 19 vaccine (77.6%), have the thought that the covid 19 vaccine is safe (77.8%), and disagree against the notion that the COVID-19 vaccine is dangerous (84.2%).

**Table 1. Factor Affecting Acceptance of the Covid-19 Vaccine**

Individual Variable	Vaccine Acceptance						Total		<i>p- value</i>	
	Not yet = 171		Not = 19		Yes = 221		n	%		
	n (171)	% (41,6)	n (19)	% (4,6)	n (221)	% (53,7)				
Age	>65	0	0	0	0	4	1,8	4	1	0,004*
	55-65	4	2,3	0	0	14	6,3	18	4,4	
	25-54	41	24	11	42,1	82	37,1	131	31,9	
	18-24	126	73,7	8	57,9	121	54,8	258	62,8	
Gender	Male	34	19,9	3	15,8	72	32,6	109	26,5	0,010*
	Female	137	80,1	16	84,2	149	67,4	302	73,5	
History of working in the health sector	Not	167	97,7	15	78,9	191	86,4	373	90,8	0,000*
	Yes	4	2,3	4	21,1	30	13,6	38	9,2	
Education	No/never been to school	0	0	0	0	1	0,5	1	0,2	0,000*
	Graduated from Junior High School	0	0	1	5,3	2	0,9	3	0,7	
	Graduated from Senior High School	118	69	9	47,4	96	43,4	223	54,3	
	Graduated from University	53	31	9	47,4	122	55,2	184	44,8	
Family history of Covid-19	Hesitant	16	9,4	0	0	9	4,1	25	6,1	0,017*
	Not	80	46,8	7	36,8	83	37,6	170	41,4	
	Yes	75	43,9	12	63,2	129	58,4	216	52,6	
Afraid of vaccines	Not	29	17	6	31,6	158	71,5	193	47	0,000*
	Yes	142	83	13	68,4	63	28,5	218	53	
The thought that a lot of hoax news about the Covid-19 vaccine	Not	6	3,5	3	15,8	7	3,2	16	3,9	0,000*
	Not Know	45	26,3	7	36,8	24	10,9	76	18,5	
	Yes	120	70,2	9	47,4	190	86	319	77,6	
Vaccine safety thinking	Strongly agree	0	0	0	0	2	0,9	2	0,9	0,000*
	Agree	102	59,6	6	31,6	208	94,1	316	76,9	
	Disagree	69	40,4	13	68,4	11	5	93	22,6	
Dangerous vaccine thinking	Agree	41	24	9	47,4	15	6,8	65	15,8	0,000*
	Disagree	130	76	10	52,6	206	93,2	346	84,2	

\*p<0,05

## DISCUSSION

The results of this study indicate that most of the respondents received and will carry out the Covid-19 vaccine (53,7%). This is similar to the results of studies in other countries such as China, Sudan, Europe and America which state that most received the Covid-19 vaccine.(4) There is a relationship between age, gender, history of working in the health sector, education level, family history affected by Covid-19, feelings of fear of vaccines, the thought that there are many hoax news regarding the Covid-19 vaccine, thoughts on vaccine safety, and the thought that vaccines are dangerous to the behavior of receiving the Covid-19 vaccine. The above factors are included in the predisposing factors in Lawrence Green's theory. Despite the support from the government and even provisions for the Indonesian people to be obligated to vaccinate against Covid-19, there are still quite a number of respondent who choose not to vaccinate.

The results of this study are in line with several other studies related to the acceptance of the Covid-19 vaccine which state that the idea of vaccines is dangerous, fear of vaccines, the idea of vaccine safety, and the protective effect of the vaccine on the acceptance of the Covid-19 vaccine.(5–8) Similar things emerged from this study and other similar studies in Indonesia and other countries, namely that most felt that the Covid-19 vaccine was important to do as protection for themselves and others against Covid-19. Most of them already believe that to break the chain of transmission of Covid-19 and to create herd immunity is by vaccination.(7,8) Most respondents who have a history of contact with Covid-19, either their family or themselves who are infected with Covid-19 tend to receive the Covid-19 vaccine. The experience of himself or his family being exposed to Covid-19 will be a strong enough reason for him to take the Covid-19 vaccine. This is in contrast to respondents who did not have contact with Covid-19, who stated that they had not received the Covid-19 vaccine (46.8%). Similar results were obtained in other studies.(6,8)

Most of the respondents who refused vaccination were respondents who did not work in the health sector. These results reflect that people who do not work in the health sector need to get information or education about the importance of the covid 19 vaccine. These results are not directly proportional to the respondents' education. Although quite a large number of respondents graduated from high school and university (more than 95%), there were also quite a large number of respondents who refused or had doubts about the Covid 19 vaccination. also respondents who reject vaccines who do not work in the health sector, and are highly educated.(9) This proves that information regarding the importance of Covid-19 has not spread widely in Indonesian territory in January 2021.

The majority of respondents who refused vaccines in this study stated that the COVID-19 vaccine was not safe. Similar results were obtained in other studies both in Indonesia and abroad.(1,4–6,8–10). These results appear probably because the data collection was carried out before the vaccine was widely circulated in the community. So that people need information in the form of real proof of how the effects that arise from vaccines after being injected in most people in the world. If most are not problematic, people will tend to believe in and comply with the vaccine's obligations. It is proven that after most of the community took the vaccine in mid-2021 and the conditions were proven safe, people flocked to vaccinate and many even waited for the vaccine stock to be ready because health facilities providing vaccines often ran out of vaccine stock.

## **CONCLUSION**

Public acceptance of the Covid-19 vaccine is related to several factors, including age, gender, education level, history of being exposed to Covid-19, perceptions of vaccine safety, and working in the health sector. Acceptance of the Covid-19 vaccine is gradually increasing after the public ensures that the vaccine is safe enough for most people in the world, and the pandemic conditions improve.

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