

Analysis of the Effect of Community Perceptions and Demographic Factors on the Behavior of the Covid-19 Booster Vaccination at the Telaga Murni Health Center, Bekasi Regency

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Abstract

Vaccination against Covid-19 in Indonesia has not gone well, many respondents do not believe that Covid-19 (SARS-CoV-2) is real or has the possibility to spread and threaten public health. Several respondents stated that the pandemic was a product of propaganda, conspiracy, hoax, and/or a deliberate attempt to spread fear through the media for profit. Many of the people are not willing to receive booster vaccines, various reasons arise and result in vaccination achievements not reaching the target. The purpose of this study was to determine the influence of public perceptions and demographic factors on booster vaccine behavior. This research was conducted at the Telaga Murni Health Center, Bekasi Regency in 2022. This type of research is a quantitative analytical survey with a cross-sectional study approach, the type of statistical test used is the Chi Square test. And the population in this study were all patients visiting the puskesmas, the sample being 85 respondents. Sample selection technique by means of Systematic Random Sampling. The results of statistical tests showed that the factors that influenced people's behavior in administering booster vaccines were: perception (p value=0.007), age (p value=0.026), and level of education (p value=0.003). While the variables that have no effect are gender (p value = 0.307) and occupation (p value = 1.0).

Keywords

covid 19; perception; vaccination; booster and demographics



I. Introduction

Indonesia is ranked 18th in the world with a total of 1,386,556 cases of Covid-19, of which 1,203,381 people have recovered and 37,547 people have died (Worldometer, 2021). The development of Covid-19 in Indonesia on 10 February 2022 with verification of case data reached 4,667,554 and there were 144,858 patients who died (RI Ministry of Health, 2022). The increase in case data was due to the addition of the latest variant of Covid-19 called Omicron. WHO has classified this variant originating from South Africa as worrying, because the number of protein mutations is higher compared to other variants (Mujtaba et al., 2021).

Virologists call for immediate vaccination and additional vaccinations, namely booster doses according to each country's vaccination program starting at the age of five. Several countries are currently improving a special vaccine, namely the second generation vaccine for Omicron. Studies have also been made to increase the booster vaccine dose to prevent the spread of Omicron (Torjesen, 2021). (WHO, 2019) A booster dose is an additional dose of vaccine that is distributed to vaccinated people who have completed a

series of primary vaccinations (one, two or three doses of the Covid-19 vaccine, depending on the vaccine and population group).

Vaccination itself aims to provide specific immunity against a particular disease so that if one day you are exposed to the disease, you will not get sick or only experience a mild illness. Of course, if a person does not get vaccinated then he will not have specific immunity against diseases that can be prevented by giving these vaccinations. However, if one day the child leaves the area with high coverage, the child will have a risk of contracting the disease because basically he does not yet have the specific immunity that can be obtained from immunization. In terms of carrying out the Covid-19 vaccination,

Covid-19 vaccination in Indonesia has not gone well, this is evidenced by research conducted by the Ministry of Health and several organizations (UNICEF, WHO and ITAGI) conducting an online survey consisting of 115,000 respondents from all provinces in Indonesia found that many people are still reluctant to receive the Covid-19 vaccine, the most global reasons for refusal are related to vaccine safety (30%); doubts about vaccine effectiveness (22%); distrust of vaccines (13%); concern about side effects such as fever and pain (12%); and religious reasons (8%). Many respondents do not believe that Covid-19 (SARS-CoV-2) is real or has the possibility to spread and threaten public health. Several respondents stated that the pandemic was a product of propaganda, conspiracy, hoax,

Based on Lawrence Green's theory, it is known that one way to change health behavior is by intervening with disposition factors, namely changing knowledge, attitudes and perceptions of health problems through health education activities. Sending selected people or selected staff to good pilot objects on health behavior will provide their valuable experience so that good health behavior is built. Community perceptions of health and disease prevention are also important factors; there are many respondents who think that exploring spirituality is a way to maintain health and deal with illness (Ministry of Health, 2020).

A study conducted on previous research found that people's behavior is positive towards current vaccinations and there is no relationship between gender and age towards people's perceptions of the Covid-19 vaccine (Luigi Roberto Biasio, et al, 2020). From other studies it was found that high acceptance of Covid-19 vaccination among the population, then in this study there was a relationship between gender, marital status, vaccine price and public perception of the Covid-19 vaccine.

The Ministry of Health's report stated that data on people who had received the Covid-19 booster vaccine from the target of 234,666,020 people as of January 16 2021 to September 20 2022 were as many as 63,308,151 or 26.98%. Whereas in West Java Province as of January 16 2021 to September 20 2022 the percentage of people who have had the Covid-19 booster vaccine is 35.34% (Ministry of Health, 2022). Furthermore, the percentage of the Covid-19 booster vaccination in Bekasi Regency as of March 26 2022 reached 246,569 people or 10.20%. (Bekasi District Health Office, 2022). Meanwhile, at the Telaga Murni Health Center, Bekasi Regency, the coverage of the Covid-19 booster vaccine was 18,258 people or 21.53% as of January 16 2021 to August 30 2022 (Telaga Murni Health Center, 2022). It can be concluded from these data that the coverage of the Covid19 booster vaccination is still low, because of the 50% target set by WHO, there are still 28.47% who have not yet done the Covid19 booster vaccine at the Telaga Murni Health Center, Bekasi Regency.

Views from the information obtained and the public's understanding of vaccine the Covid-19 booster is a benchmark to determine perceptions and other factors from the community towards the behavior of the Covid-19 booster vaccination at the Telaga Murni Health Center, Bekasi Regency in 2022. Based on this presentation, the researcher wanted to know the analysis of the effect of public perception on the behavior of the Covid-19 booster vaccination at the Puskesmas Pure Lake, Bekasi Regency

The general objective of this study is to determine the effect of community perceptions and demographic factors on the behavior of the Covid-19 booster vaccination at the Telaga Murni Health Center, Bekasi Regency, in 2022.

II. Research Method

This research is about the influence of public perceptions of the behavior of the Covid-19 booster vaccination in the work area of the Telaga Murni Health Center, Bekasi Regency, and the time for conducting the research is September - November 2022. The reason for carrying out this research is because there are still poor public perceptions of vaccine behavior Covid-19 boosters. This type of research is a quantitative analytical survey with a cross-sectional study approach, the type of statistical test used is the Chi Square test. And the population in this study were all patients who visited the Telaga Murni Health Center in October - November 2022, the sample was calculated using the sample formula. Sample selection technique by means of Systematic Random Sampling.

III. Result and Discussion

3.1 Univariate analysis

Table 1. Behavioral Distribution of the Covid 19 Booster Vaccine and its Causing Factors

Variable	Results Measure	Frequency	Percentage
Vaccine Behavior	Not yet	25	29,4
	Already	60	70,6
Perception	Bad	37	43,5
	Well	48	56,5
Age	≥ 60 years	42	49,4
	< 60 years	43	50,6
Gender	Man	42	49,4
	Woman	43	50,6
Education	Low	25	29,4
	Intermediate	40	47,1
	Tall	20	23,5
work	Doesn't work	40	47,1
	Working	45	52,9

Based on table 1 regarding the frequency distribution of respondents according to behavior in carrying out the covid 19 booster vaccine and the factors, it was found that of all variables (behavior, perception, age, gender, education and occupation) the data ratio/comparison was ideal for analysis (no percentage measurement results whose percentage is < 20 %). Thus, the bivariate analysis at the next stage can be continued.

3.2 Bivariate Analysis

a. The Effect of Perceptions on the Behavior of the Covid 19 Booster Vaccine

Table 2. The Effect of Perceptions on the Behavior of the Covid 19 Booster Vaccine

Perception	Vaccine Behavior			<i>P Value</i>	<i>OR</i> <i>95% CI</i>
	Not yet	Already	Total		
Bad	17 (45.9)	20 (54.1)	37 (100.0)	0.007	4,250 (1.5- 11.5)
Well	8 (16.7)	40 (83.3)	48 (100.0)		
Total	25 (29.4)	60 (70.6)	85 (100.0)		

In table 2 regarding the distribution of booster vaccine behavior according to perceptions of the Covid-19 booster vaccine, it shows that out of 37 respondents who had a bad perception, data obtained that 45.9% of respondents did not want to do a booster vaccine and 54.1% had the vaccine. Meanwhile, for those with good perception, it was found that the majority of them had already done a booster vaccine, namely 83.3%, only 16.7% had not done the vaccine.

The results of the statistical test (chi square) showed a p value = 0.007, meaning that the p value < alpha value (0.05), thus the decision was that Ho was rejected and Ha was accepted. The conclusion is that there is a perception effect on booster vaccine behavior. The value of OR = 4.250, meaning that respondents with bad perceptions have 4 times greater potential for not wanting to do a booster vaccine compared to those with good perceptions.

b. Effect of Age on Booster Vaccine Behavior

Table 3. Effect of Age on the Behavior of the Covid 19 Booster Vaccine

Age	Vaccine Behavior			<i>P Value</i>	<i>OR</i> <i>95% CI</i>
	Not yet	Already	Total		
≥ 60 years	17 (40.5)	25 (59.5)	42 (100.0)	0.026	2,975 (1.5- 11.5)
< 60 years	8 (18.6)	35 (81.4)	43 (100.0)		
Total	25 (29.4)	60 (70.6)	85 (100.0)		

The results of the statistical test (chi square) showed a p value = 0.026, meaning that the p value < alpha value (0.05), thus the decision was that Ho was rejected and Ha was accepted. The conclusion is that the age factor influences people's behavior in getting booster vaccines. The OR value = 2.975, meaning that respondents aged ≥ 60 years are 3 times more likely not to want to get a booster vaccine compared to those aged < 60 years.

c. Effect of Gender on Booster Vaccine Behavior

Table 4. The Effect of Gender on the Behavior of the Covid 19 Booster Vaccine

Gender	Vaccine Behavior			<i>P Value</i>	<i>OR</i> <i>95% CI</i>
	Not yet	Already	Total		
Man	15 (35.7)	27 (64.3)	42 (100.0)	0.307	1,833 (0.7- 4.7)
Woman	10 (23.3)	33 (76.7)	43 (100.0)		
Total	25 (29.4)	60 (70.6)	85 (100.0)		

The results of the statistical test (chi square) showed a p value = 0.307, meaning that the p value > alpha value (0.05), thus the decision was that Ho was accepted and Ha was rejected. The conclusion is that the gender factor does not affect people's behavior in getting booster vaccines, or it can be concluded that there is no difference in vaccine behavior between male and female respondents.

d. Effect of Education Level on Booster Vaccine Behavior

Table 5. Effect of Education Level on the Behavior of the Covid 19 Booster Vaccine

Level of education	Vaccine Behavior			P Value	OR 95% CI
	Not yet	Already	Total		
Low	12 (48.0)	13 (52.0)	25 (100.0)	0.003	-
Intermediate	12 (30.0)	28 (70.0)	40 (100.0)		
Tall	1 (5,0)	19 (95.0)	20 (100.0)		
Total	25 (29.4)	60 (70.6)	85 (100.0)		

The results of the statistical test (chi square) showed a p value = 0.003, meaning that the p value < alpha value (0.05), thus the decision was that Ho was rejected and Ha was accepted. The conclusion is that educational factors influence people's behavior in getting booster vaccines (there are differences in vaccine behavior between those with low, middle and high education). In other words, it can be concluded that the lower a person's education, the lower his willingness to get a vaccine, and the higher his education, the higher his willingness to get a booster vaccine.

e. Effect of Occupation on Booster Vaccine Behavior

Table 6. The Effect of Work on the Behavior of the Covid 19 Booster Vaccine

Work	Vaccine Behavior			P Value	OR 95% CI
	Not yet	Already	Total		
Doesn't work	12 (30.0)	28 (70.0)	40 (100.0)	1.0	1.0 (0.4- 2.6)
Working	13 (28.9)	32 (71.1)	45 (100.0)		
Total	25 (29.4)	60 (70.6)	85 (100.0)		

The results of the statistical test (chi square) showed a p value = 1.0, meaning that the p value > alpha value (0.05), thus the decision was that Ho was accepted and Ha was rejected. The conclusion is that work factors do not affect people's behavior in getting booster vaccines (there is no difference in vaccine behavior between those who do not work and those who work).

3.3 Discussion

a. The Effect of Perceptions on the Behavior of the Covid 19 Booster Vaccine

The results of the research on the effect of perceptions on the behavior of the covid 19 booster vaccine found that there was an influence of perceptions on people's behavior in doing booster vaccines (p value <0.05). This analysis also shows that respondents with bad perceptions have 4 times greater potential for not wanting to do a booster vaccine compared to those with good perceptions. This research confirms that the worse a person's perception of the existence of Covid-19, the person is less likely to want to get a vaccine to boost their immunity.

The results of this study are in line with previous research conducted by Fauziah and Nurhasanah (2021) which revealed that the factor influencing the behavior of the Covid 19 vaccine is perception (p value = 0.013). People who have a bad perception of the existence of the Covid 19 virus and booster vaccines tend to refuse to get the third vaccine (booster). As according to the theory expressed by L Green that a person's behavior is influenced by perception factors.

Perception is the process of processing information from the environment in the form of a stimulus that is captured by the senses and passed on to the brain for selection and compiled into an interpretation (Wardana et al., 2018). In addition, perception is the process of receiving a sensory stimulus that is preceded by attention. This allows the individual to know what is being observed, both outside and within the individual.

According to the researcher, bad perceptions occur as a result of minimal understanding of the transmission of Covid-19. People who do not receive information about the importance of booster vaccines feel that this vaccine action is in vain. They doubted the existence of the vaccine, their understanding was that the first and second vaccines were sufficient and there was no need to do a booster vaccine. In this study, they doubted the implementation of the booster vaccine program. If one is sick, one perceives it as a threat to be endured and takes precautions. This includes assessing medical/clinical impacts such as disability, mortality and social impacts.

b. Effect of Age on the Behavior of the Covid 19 Booster Vaccine

The results of research on the effect of age on booster vaccine behavior found a p value = 0.026 (p value <0.05), so it can be concluded that the age factor influences people's behavior in getting booster vaccines. In fact, the results of this study also revealed that respondents aged ≥ 60 years had the potential to be 3 times more likely not to want to get a booster vaccine compared to those aged <60 years.

The results of this study are in line with previous research conducted by Ichsan et al (2021) which revealed that the factor influencing the behavior of the Covid-19 vaccine is age. Furthermore, Fauziah's research (2021) shows that the behavior of the Covid 19 vaccine is influenced by the age factor (p value = 0.027). In line with L Green's theory that age is an important variable that contributes to a person's actions. The older a person's behavior will be different from those who are younger.

According to researchers, age is an important component that influences one's knowledge, attitude and behavior. The older a person is, they usually tend to act more attentively and carefully, including the decision to get a booster vaccine for Covid 19. The age difference is an important predictor of a person's acceptance of health. The adult age group over 60 years has a smaller acceptance rate than the younger age group (< 60 years). Older people are worried about the additional vaccines that their bodies must receive, they have many considerations before deciding to be vaccinated.

c. The Effect of Gender on the Behavior of the Covid 19 Booster Vaccine

The results of research on the effect of gender on vaccine behavior found that p = 0.307, meaning that p value > alpha value is 0.05), thus it can be concluded that the gender factor does not affect people's behavior in getting booster vaccines, or it can be concluded that there was no difference in vaccine behavior between male and female respondents.

The results of this study are not in line with Fauziah's previous research (2021) which showed that the behavior of the Covid-19 vaccine was influenced by gender. In previous studies it was revealed that there were differences in the behavior of the Covid 19 vaccine between male and female respondents. Furthermore, in a study conducted by Wahyuni et al. (2021) found that men are more willing to be vaccinated than women. This is because women

have negative opinions about the side effects of the COVID-19 vaccine and tend to think that the COVID-19 vaccine is less safe, which can result in lower acceptance of the COVID-19 vaccine.

According to the researcher, there is no similarity between the results of this study and previous studies, perhaps because previous studies examined people's behavior to get phase 1 and 2 vaccines, while this study examined people's behavior to get phase 3 vaccines (boosters). Researchers suspect that in vaccines 1 and 2 people tend to be afraid and worried about getting infected so they tend to want to be vaccinated, whereas in stage 3 it is only a complementary vaccine so that respondents feel safer if they don't have booster vaccines.

d. The Effect of Education Level on the Behavior of the Covid 19 Booster Vaccine

The results of research on the effect of education on vaccine behavior obtained a value of $p = 0.003$ (p value $<$ alpha value of 0.05), so the decision was that educational factors influenced people's behavior in getting booster vaccines (there were differences in vaccine behavior between those with low, middle and high education). In other words, it can be concluded that the lower a person's education, the lower his willingness to get a vaccine, and the higher his education, the higher his willingness to get a booster vaccine.

The results of this study are in line with previous research conducted by Ichsana et al (2021) which revealed that the factor influencing the behavior of the Covid-19 vaccine is the level of education. Furthermore, Fauziah's research (2021) shows that the behavior of the Covid-19 vaccine is influenced by the level of education (p value = 0.008).

Education is an important factor in determining a person's behavior, because those with higher education tend to have adequate knowledge in understanding a phenomenon. Education is a means to develop one's personality and ability to understand something. This is because the higher a person's education level, the higher the acceptance rate of the Covid-19 vaccination, which may be related to their lower tendency to believe in conspiracies and is positively associated with receiving the COVID-19 vaccination.

e. The Effect of Work on the Behavior of the Covid 19 Booster Vaccine

The results of statistical tests on the effect of work on vaccine behavior obtained a value of $p = 1.0$ (p value $>$ 0.05), thus the decision was that work factors did not affect people's behavior in getting vaccine boosters (there was no difference in vaccine behavior between them who do not work and work).

The results of this study are not in line with previous research conducted by Ichsana et al (2021) that the factor influencing the behavior of the Covid 19 vaccine is work. Furthermore, the theory expressed by Notoadmojo (2014) that work is one of the factors that influence a person's behavior.

IV. Conclusion

Based on the results of this study, it can be concluded several things, as follows:

- a. Of all the respondents who were analyzed, it was found that there were 29.4% of respondents who did not want to be vaccinated, and there were 70.6% of respondents who had been vaccinated.
- b. There is an influence between perceptions and respondents' behavior in carrying out the co-19 booster vaccine (p value = 0.007; OR = 4.250).
- c. There is an influence between age and the behavior of the respondents in doing the co-19 booster vaccine (p value = 0.026; OR = 2.975).

- d. There is no influence between gender and respondent's behavior in carrying out the co-19 booster vaccine (p value = 0.307; OR = 1.833)
- e. The level of education influences the behavior of respondents in carrying out the co-19 booster vaccine (p value = 0.003)
- f. Occupational factors did not affect the behavior of respondents in carrying out the co-19 booster vaccine (p value = 1.0; OR = 1.0)

Suggestion

For puskesmas to conduct education through health promotion programs for the whole community about the importance of the co-19 vaccine for body health. The puskesmas through health promotion can provide education and information to the public about the dangers that will arise if the community does not want to vaccinate. Puskesmas need to partner with various groups, such as: Kelurahan, Village, Karang Taruna, RW/RT administrators, mosques, community leaders to distribute complete information to the public about the benefits and uses of booster vaccines for preventing the transmission of Covid-19.

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