

THE RELATIONSHIP OF COMMUNITY PERCEPTION WITH COVID-19 VACCINE PARTICIPATION AT THE PUBLIC HEALTH CENTER

Suci Rahmadani[1], Nurdiana[2], Sukri Palutturi[3], Balqis Nazaruddin[4],
1, 2, 3, 4 Department of Administration & Health Policy, Faculty of Public Health, University of Hasanuddin, Indonesia

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CORRESPONDENCE	
Phone : 082349800558	
Email : sucirahmadani@unhas.ac.id	
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ABSTRACT

Background: *The emergence of COVID-19 in early 2020 caused high mortality worldwide. The government expects public participation in carrying out vaccines to end the pandemic. The low level of community participation is influenced by people's perceptions of getting the COVID-19 vaccine. This study examines the relationship between perceptions and community participation in the Public Health Center's COVID-19 vaccination program.* ***Method:*** *This study used a quantitative survey with a cross-sectional design. The study is conducted at Rappokalling Health Center, Makassar City, Indonesia. The samples obtained were 269 respondents in each village in the working area of the Public Health Center using the proportionate stratified random sampling technique. Data analysis used the Chi-Square test.* ***Result:*** *The results showed that perceived benefits (P = 0.001) and perceived barriers (P = 0.000) had a relationship with community participation in implementing the COVID-19 vaccination at the Public Health Center. Perceived susceptibility (P = 0.548), perceived severity (P = 0.155), and cues to act (P = 1.000) had no relationship with community participation in implementing the COVID-19 vaccination at the Public Health Center.* ***Conclusion:*** *It can be concluded that perceived benefits and perceived barriers have a relationship with community participation in carrying out the COVID-19 vaccination, while perceptions of vulnerability, seriousness, and cues to act have no relationship with community participation in carrying out the COVID-19 vaccination.*

INTRODUCTION

The Coronavirus, which began in late December 2019, has triggered significant changes in the lives of people worldwide (WHO, 2022; World Bank, 2020). In January 2020, the World Health Organization (WHO) announced that COVID-19 had become a matter of significant global health concern by declaring it a Public Health Emergency of International Significance (Ministry of Health of the Republic of Indonesia, 2020). According to data from Wordometer, the number of COVID-19 cases in the world has reached 664,205,816 cases, with 5,305,723 deaths. Indonesia holds the 15th position globally regarding COVID-19 cases, reporting a total of 6,304,207 infections and 168,717 fatalities. The number of COVID-19 cases in South Sulawesi has reached 149,276 cases, with 2,587 deaths. Makassar City is the largest contributor of cases in South Sulawesi, with 64,329 cases (Wordometer, 2023).

The Indonesian government has responded to this problem by putting in place a number of measures designed to break the cycle of COVID-19 transmission. In addition to strict enforcement of health protocol rules and the implementation of large-scale social restrictions, COVID-19 vaccination has become one of the primary tools in combating the spread of the virus. However, the success of vaccination efforts depends not only on the availability of vaccines but also on the level of vaccine participation among the population (WHO, 2022; Rasmussen et al., 2021).

On March 19, 2020, South Sulawesi announced its first two confirmed cases of COVID-19. Based on data obtained from the COVID-19 information center, it was found that a significant number of residents who were confirmed positive were in the Makassar city area (Ministry of Health of the Republic of Indonesia, 2021). The high number of COVID-19 cases in Makassar City has made the government make rules that require people to take a COVID-19 test, have a COVID-19-free certificate, and get vaccinated (Moudy & Syakurah, 2020). Among the various health centers in Makassar City, Rappokalling Health Center is one of the centers with relatively low vaccination coverage. Based on the data, Rappokalling Health Center ranks 36th out of 47 health centers in Makassar, with a total of 16,051 people vaccinated (38.92%). The number of vaccinations for dose I was 8,490 (20.59%), dose II was 7,433 (18.02%), and dose III was 126 (0.30%), with a target of 41,247 people (Dinas Kesehatan Kota Makassar, 2022). That participation rate is affected by the public's perception of the COVID-19 vaccination program.

These perceptions can vary significantly from individual to individual, influenced by various factors such as information received, trust in health authorities, culture, religion, and personal experience (Larson et al., 2015). There is too much information circulating that makes people doubt the COVID-19 vaccine (Johnson et al., 2020). Some people may have positive

beliefs about Covid-19 vaccination as an effective way to protect themselves and the community, while others may feel hesitant or even refuse to be vaccinated (Enticott et al., 2021; Salali & Uysal, 2022; Paul et al., 2021). The health belief model links beliefs to individual perceptions, such as perceived susceptibility, perceived severity, perceived benefit, perceived barriers, and cues to action, in order to explain the likelihood of change (Abraham & Sheeran, 2014). Considering the earlier explanation, it becomes essential to grasp the connection between the public's perception and their engagement in

COVID-19 vaccination efforts. This understanding will help the government, researchers, and medical personnel design more effective communication and education strategies to enhance trust and participation in COVID-19 vaccination.

METHODS

Quantitative research is used, with a cross-sectional study design and survey techniques. The community around the Rappokalling Health Center serves as the study's population. The proportionate stratified random sampling technique was used for sampling. The total number of samples obtained was 269 in each village in the health center area. Data collection was carried out through direct interviews with respondents using questionnaires. The collected data were subjected to analysis, including univariate and bivariate techniques, with the application of the chi-square test.

RESULTS

Data shows the characteristics of respondents based on gender, age, education, job, and knowledge (Table 1)

Table 1 Distribution Based on Respondent Characteristics

Characteristics of Respondents	n	%
Gender		
Male	138	51.3
Female	131	48.7
Age		
18-40 Years	159	59.1
(Adults)	110	40.9
41-59 years		
(Elderly)		
Education		
High	237	88.1
Low	32	11.9
Job		
Employed	145	53.9
Unemployed	124	46.1
Knowledge		
High	88	32.7
Low	181	67.3
TOTAL	**269**	**100**

Based on gender characteristics, results show that male are more dominant by 51.3%. Based on the characteristics of the age of respondent 59.1% are in the adult age group. Based on the characteristics of education, 88.1% of respondents have a high education. Based on the characteristics of the job of respondent 53.9% are employed. And based on the characteristics of the knowledge, 67.3% are less.

Table 2 Distribution of respondents by variables studied

Research variable	n	%
Perceived Susceptibility	225	83.6
High	44	16.4
Low		
Perceived Severity	249	92.6
High	20	7.4
Low		
Perceived Benefits	196	72.9
High	73	27.1
Low		
Perceived Barriers	235	87.4
High	34	12.6
Low		
Cues To Action		
High	258	95.9
Low	11	4.1
Vaccine Participation	234	87.0
Yes	35	13.0
No		

According to the distribution of respondents according to the investigated variables, 83.6% of them estimate themselves to be highly susceptible to COVID-19. Up to 92.6% of those surveyed have a high perception of COVID-19 severity. A strong perceived benefit of the COVID-19 vaccination campaign is held by 72.9% of responders. 87.4% of respondents have high perceived barriers to receiving COVID-19 vaccinations, according to the perceived barriers variable. The majority of respondents—95.9% of them—have a high motivation to get vaccinated, according to the cues to action variable. In terms of the COVID-19 vaccine participation variable, 87% of respondents reported having had the immunization, whereas 13% of respondents reported not having received the vaccination for COVID-19.

Table 3 The relationship between Perceived Susceptibility, Perceived Severity, Perceived Benefits, Perceived Barriers and Cues to Action to the COVID-19 Vaccine Participation at the Rappokalling Public Health Center Makassar

Independent variables	COVID-19 Vaccine Participation				Total		Statistic test
	Yes		No				
	n	%	n	%	N	%	*p value*
Perceived Susceptibility	194	86.2	31	13.8	225	100	0.548
High	40	90.9	4	9.1	44	100	
Low							
Perceived Severity							
High	219	88	30	12	249	100	0.155
Low	15	75	5	25	20	100	
Perceived Benefits							
High	179	91.3	17	8.7	196	100	0.001
Low	55	75.3	18	24.7	73	100	
Perceived Barriers							
High	216	91.9	19	8.1	235	100	0.000
Low	18	52.9	16	47.1	34	100	
Cues to Action							
High	224	86.8	34	13.2	258	100	1.000
Low	10	90.9	1	9.1	11	100	

Bivariate analysis in table 3 reveals that the variables perceived susceptibility (p = 0.548), perceived severity (p = 0.155), and cues to action (p = 1.000) have p values > 0.05, indicating that there is no association between these variables and community participation in the COVID-19 vaccination at Rappokalling Health Center in Makassar City. The statistical test results indicate that the variables perceived benefit (p = 0.001) and perceived barriers (p = 0.000), both of which have p values less than 0.05, have a significant value. The community's intention to receive COVID-19 vaccination at Makassar City's Rappokalling Health Center is influenced by perceived benefits and barriers

DISCUSSION

Perceived susceptibility is an individual's opinion of their vulnerability to the risk of contracting COVID-19, which motivates them to engage in healthier behaviors (Sulat et al., 2018; Glanz et al., 2015). The study's findings reveal that a significant portion of the respondents, regardless of whether they perceive themselves as susceptible to COVID-19 infection or not, have actively taken part in the vaccination process. This aligns with the test results, as the p-value of 0.548 is greater than the significance level of 0.05. Therefore, it can be concluded that there is no statistically significant association between the public's perception of their vulnerability to COVID-19 exposure and their involvement in COVID-19

vaccination. Indeed, while the public's perception of their susceptibility to COVID-19 exposure can play a role in shaping their decision regarding COVID-19 vaccination, it's important to note that this relationship may not always exhibit a strong correlation. Different information, beliefs, psychological factors, variations in perception, and socio-cultural factors can obscure individual perceptions of their risk (Bam, 2022; Chowdhury et al., 2023). This study's findings are consistent with research conducted in East Java that utilized the Health Belief Model approach, as it also indicated that there is no significant correlation between the impact of perceived susceptibility and adherence to health protocols during the COVID-19 pandemic (Afro et al., 2021). This refers to the individual's knowledge of his susceptibility to a disease (Glanz et al., 2022).

Perceived severity is a person's perception of how serious an illness is (Glanz et al., 2022; Skinner et al., 2015; Weston et al 2020). The perceived severity of a disease is influenced by medical information or knowledge of the disease's impact (Abraham & Sheeran, 2014; Al-Raddadi et al., 2023; Sukeri et al., 2020). The research results indicate that respondents who perceive COVID-19 as serious or not serious mostly participated in vaccination. A p-value greater than 0.05, such as 0.155, suggests that there is no significant correlation between public perception of COVID-19 severity and engagement in COVID-19 vaccination. Different levels of access to information, vaccine hesitancy, religious values or beliefs, and the tendency of people to measure risk based on their own personal experiences or situations rather than solely on perceptions of the severity of the disease in general can be stronger than perceptions of the severity of the disease (Bam, 2022; Chowdhury et al, 2023; Wong et al., 2021). A 2022 study conducted in the United States with a sample of 1,340 adults revealed that there was no notable correlation between people's perception of how severe COVID-19 is and their willingness to get vaccinated against the virus (Finkelstein et al., 2022).

Perceived benefits refer to individuals' beliefs regarding the effectiveness of different measures taken to mitigate the risk of a disease (Glanz et al., 2015; Finkelstein et al., 2022). The benefits of COVID-19 vaccination are to fortify oneself against contracting COVID-19, and if infected, it will result in less severe consequences for the body (Raczkiewicz et al., 2021). Concluding the research findings, it is outlined that the majority of participants who received the vaccination had a high perceived benefit, namely 91.3%, while the respondents who had low perceived benefits and did not participate in vaccination were 24.7%. The test results reveal a p-value of 0.001, which is less than the significance level of 0.05. This suggests a statistically significant association between the public's perception of the benefits of the vaccine and their willingness to participate in COVID-19 vaccination. These results align with the research conducted by Erawan and colleagues, as their study also

indicated that an individual's perception of the vaccine's benefits positively affects their inclination to receive the COVID-19 vaccination (Erawan et al., 2021). Greater perceived benefits associated with vaccine uptake correlate with increased public interest in getting vaccinated. Conversely, reduced perceived benefits are linked to decreased public enthusiasm for receiving the COVID-19 vaccination.

Perceived barriers are individual perceptions of perceived barriers that make it difficult to take health measures (Abraham & Sheeran, 2014; Shmueli, 2021). The research outcomes demonstrate that a substantial proportion of individuals who chose to receive the vaccination reported experiencing high perceived barriers, amounting to 91.9%. In contrast, among those who did not participate in vaccination, 47.1% had low perceived barriers. The statistical analysis revealed a significant p-value of 0.000, which is less than the significance level of 0.05. This signifies a meaningful association between the public's perception of barriers to vaccination and their decision to participate in COVID-19 vaccination. The perceived barriers reported by respondents include feeling anxious about getting vaccinated due to fears of vaccine side effects. Another barrier is the prevalence of misinformation about the COVID-19 vaccine in the community. Additionally, people feel the need for assurance regarding the potential side effects and the halal status of the vaccine. Physical health conditions and psychological states characterized by anxiety due to perceived vaccine side effects can also contribute to fear and, in some cases, death directly caused by the COVID-19 virus (Laili & Tanoto, 2021). Cues to action refer to behaviors influenced by something that serves as a stimulus or driving factor for individuals to take a particular action (Abraham & Sheeran, 2014; Houlden et al., 2021). Rosenstock argues that a cue or motivation is needed to start the decision-making process and accept recommended health actions.[14] The study found that most respondents who participated in the vaccination were motivated to do so, at 86.8%. In contrast, respondents who did not have motivation and did not participate in the vaccination were 9.1%. The test results indicated a non-significant p-value of 0.155, which is greater than the threshold of 0.05. This implies that there was no discernible association between individuals' perceptions of the need to take action and their engagement in receiving the COVID-19 vaccination. Respondents feel they cannot and do not believe in themselves enough to overcome all their abilities and be able to determine how they behave, think, and react to all situations that happen to them. The outcomes of the research conducted on adherence to health protocols during a pandemic in East Java revealed that most individuals exhibited favorable results in response to cues to action. This implies that the majority of individuals feel adequately supported by their closest associates to follow health protocols. Positive

cues to action contribute to increased community compliance (Afro et al., 2021).

CONCLUSION

The study comes to the conclusion that community participation in the COVID-19 immunization at Rappokalling Health Center is significantly influenced by perceived benefits and perceived barriers. The community's participation in the COVID-19 vaccines at Rappokalling Health Center in Makassar City, however, is not substantially correlated with perceptions of susceptibility, severity, or cues to action. The Health Office and Community Health Centers need to optimize the quality and quantity of information dissemination to the public regarding COVID-19 vaccination through a trusted and easily accessible source for the community to counter false information circulating in society. Correct and reliable information can enhance the public's positive perception of the benefits of vaccination, thus increasing community participation.

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