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Original Article

Exposure of Covid-19 Vaccination Information and Willingness to Receive Vaccination

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ABSTRACT

One of the strategies to curb the Covid-19 spread was administering the Covid-19 vaccine as it remains the most effective means to achieve control of the pandemic. As mandated by Minister of Health Decree Number 10/2021, Pangandaran District has to conduct Covid-19 vaccination to 341.216 individuals as the target population. Per July 26th, the Covid-19 vaccination coverage is still below 10% of target with Parigi, Sidamulih, and Mangunjaya Subdistricts as subdistricts with the lowest vaccination coverage. Vaccine hesitancy and misinformation present major barriers to achieving community coverage and immunity. This was a cross-sectional rapid survey conducted in August 2021, held in subdistrict Parigi, Sidamulih, and Mangunjaya of Pangandaran District, West Java Province. There was a total of 915 samples participated through an electronic questionnaire. Data were analyzed as univariate, and chi-square was used in bivariate analysis. There's a significant relationship between the exposure of information about the Covid-19 vaccine with willingness to receive the vaccination.

Key words : Covid-19, Vaccine, Information exposure, Willingness

INTRODUCTION

On March 11, 2020, Coronavirus Diseases 2019 (Covid-19) was declared a pandemic by the World Health Organization.(1) It has infected millions of individuals worldwide, with hundreds of thousands of deaths reported.(2) Covid-19 has an impact on people's daily lives, including education, work, business, and social aspects, in efforts to minimize viral transmission.(3)

One of the strategies to curb its spread was the development of the Covid-19 Vaccine.(4) Covid-19 vaccination remains the most effective means to achieve control of the pandemic.(5) More than 200 COVID-19 vaccines are in development worldwide, with governments securing deals to access advanced doses. But access is only one issue. Willingness to accept a COVID-19 vaccine when it becomes available has varied considerably across countries over the course of the pandemic.(6).

Covid-19 cases in Indonesia, by July 7th, 2021, reached 2.345.018 confirmed cases with 31.189 new cases reported. In West Java Province, by July 26th, 2021, there were 573.437 confirmed cases documented with 5.073 cases reported in Pangandaran District. As mandated by Minister of Health Decree Number 10/2021, Pangandaran District has to conduct Covid-19 vaccination to 341.216 individuals as the target population. Per July 26th, the Covid-19 vaccination coverage is still below 10% of target with Parigi, Sidamulih, and Mangunjaya Subdistricts as subdistricts with the lowest vaccination coverage.

Any immunization campaign's success is determined by its coverage and acceptance rate, although people may have a variety of concerns about the vaccine.(4) Vaccine hesitancy and misinformation present major barriers to achieving community coverage and immunity.(7) World Health Organization mentioned vaccine hesitancy as one of the top global health threats.(8) Vaccine hesitancy, which encompasses delays in acceptance or refusal of vaccines despite their availability, is a significant factor contributing to under-vaccination.(9) Misinformation about vaccines, a lack

of sense of safety, fear of adverse effects, fear of wrong/fake vaccines, government conspiracy, and other concerns all lead to negative attitudes about vaccine reluctance.(3) The public's willingness to accept a vaccine is not static; it is highly responsive to current information and sentiment around a COVID-19 vaccine, as well as the state of the epidemic and perceived risk of contracting the disease.(10)

There was a study of potential acceptance of the Covid-19 vaccine in 13,426 randomly selected people in 19 countries, most with a high burden of Covid-19. 71.5% of them answered that they would take the vaccine if it proved safe and effective, and 48.1% said they would be vaccinated if their employer recommended it. However, there was high heterogeneity in responses between countries. Furthermore, reporting a person's willingness to get vaccinated may not always be a good predictor of acceptance, as vaccine decisions are multifactorial and may change over time.(7)

The Indonesian Ministry of Health together with several organizations (II AGI, UNICEF, and WHO) conducted an online survey on 19-30 September 2020 to determine public acceptance of Covid-19 vaccines. The survey involved more than 115,000 respondents from 34 provinces in Indonesia. Based on the survey, it was found that 658 respondents were willing to accept the Covid-19 vaccine if it is provided by the government, while 8% of them refused. The remaining 274 expressed doubts about the Government's plan to distribute the Covid-19 vaccine. Based on respondent data conducted by the Ministry of Health together with the Indonesian Technical Advisory Group on Immunization (ITAGI) released in October 2020, it shows that there is still around 7.6 percent of the people who refuse to be vaccinated and 26.6 percent of the people have not decided and are still confused.(11)

The lack of information about the Covid-19 vaccination could influence people's willingness to vaccinate. The development of information technology today forces people to evaluate and choose the type of media that is considered appropriate and provides benefits for them, especially for communication purposes.(12) There were a few theories connected to information-seeking behavior, such as: 'Sense of making' theory (Dervin, 1992) states that people will seek information if they feel a gap between the situation and the expected outcome.(13) 'Uncertainty to understanding' theory (Kuhlthau, 1999) states that the development process that a person goes through begins from the stage of uncertainty to understanding.(14) 'Problem-solving needs' theory (Wilson, 1999) states that someone will look for information to solve a problem. This information-seeking will continue to the passive attention phase, passive search, and lastly active search.(15) Individuals will perform an action based on experience, perception, understanding that arises from certain situations, and the presence of a stimulus object. A person's decisions are also strongly based on deep intentions/intentions which are also influenced by attitudes, culture, and norms expected in society and perceptions. Individual beliefs will be influenced by individual intrinsic factors such as age, gender, ethnicity, socioeconomic and level of knowledge.(16)

A thorough grasp of existing vaccination sentiment and its potential influencing factors is essential for developing effective health promotion to boost vaccination coverage and successfully implementing population immunization.

METHODS

This was a cross sectional rapid survey conducted in August 2021. It was held in subdistrict Parigi, Sidamulih and Mangunjaya of Pangandaran District, West Java Province.
Thirty (30) clusters, Rukun Tetangga (RT) as unit sampling, were picked in each subdistricts using stratified random sampling means total of 90 clusters in all three subdistricts. Minimal 10 individuals, age more than 18, were chosen as sample within each cluster with simple random sampling. There were total of 915 sample participated in this study.
Data was collected using an electronic questionnaire with informed consent attached to it. The collected data were analyze as univariat, and chi square was used in bivariat analysis.

RESULTS

There were more female than male participating in the study and majority in are between 20 – 50 years old. Most of respondents are finishing their primary education (SD-SMP), but only few have a college or university education. (Fig 1)
There's thirty percents of respondents states that they have enough information about Covid-19 vaccination. There is still 3% respondents stated that they do not understand anything about the vaccination. The majority of the 67% respondents mention side effects as the information about Covid-19 vaccination that considered lacking followed by vaccine's accessibility.
The result (Fig 3) showed that most respondents stated that they had not vaccinated, with more of them unwilling to be vaccinated. There's only 17% respondent that fully vaccinated (with two doses of vaccine).
Figure 4 shows that the biggest reason why respondents refused to be vaccinated was that they were afraid of the side

effects of the Covid-19 vaccine. and some of them stated that the vaccination was unnecessary.

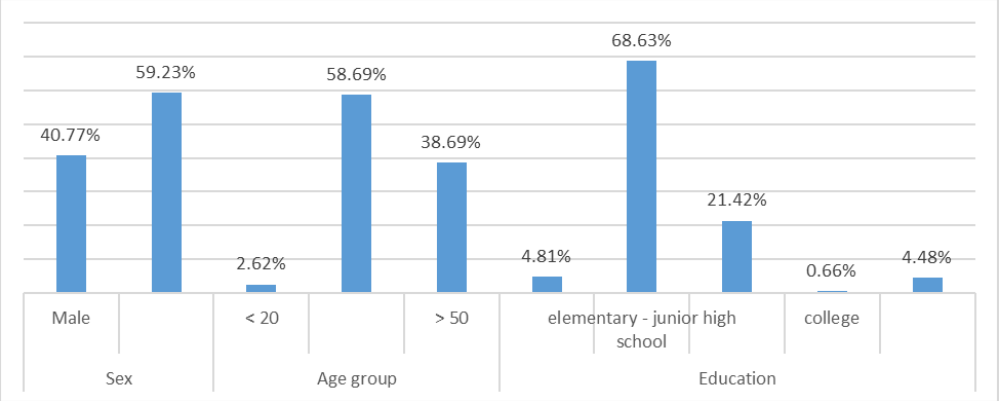

Figure 1. The characteristics of respondents

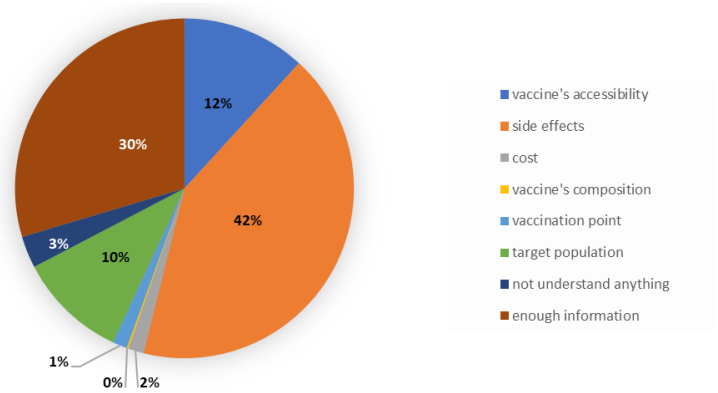

Figure 2. The exposure of Covid-19 vaccination information

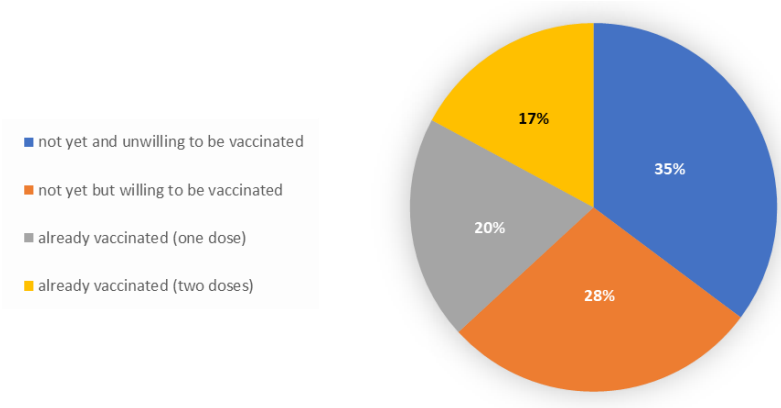

Figure 3. The exposure of Covid-19 vaccine

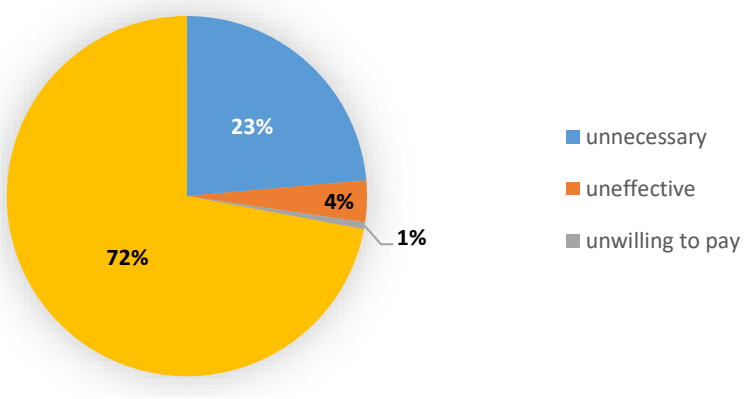

Figure 4. The reason of unwillingness to receive Covid-19 vaccination

The results of the analysis show that almost all respondents were exposed to information about Covid-19 vaccination (93,3 %) but most of them not yet and unwilling to be vaccinated. Chi-square test result (α = 0,000) shows that there is a significant relationship between information exposure and willingness to receive the Covid-19 vaccination.

Table 1. Crosstabulation between the exposure to Covid-19 vaccination information and Covid-19 vaccine exposure

The exposure to Covid-19 vaccination information	Covid-19 vaccine exposure								Total		Pearson Chi-Square
	already vaccinated (one dose)		already vaccinated (two doses)		not yet but willing to be vaccinated		Not yet and unwilling to be vaccinated				
	n	%	n	%	n	%					
was not exposed	*4*	*0,4*	*2*	*0,2*	*13*	*1,4*	*42*	*4,6*	*61*	*6,7*	0.000
exposed	*176*	*19,2*	*155*	*16,9*	*243*	*26,6*	*280*	*30,6*	*854*	*93,3*	
Total	180	19,7	157	17,2	256	28,0	322	35,2	915	100	

DISCUSSION

A study found that several things influenced people's desire to receive the Covid-19 vaccine in the Central Sulawesi area, namely age, education level, occupation, marital status, religion, and ethnicity.(17) There's another study found that there was a significant relationship between the level of education and the availability of the Covid-19 vaccine. The higher the respondent's level of education, the greater the desire to be vaccinated.(11)

The great curiosity about side effects and vaccine accessibility information could be developed from fear or, in a better word, a lack of sense of safety. It was consistent with findings from different surveys. Data from different surveys revealed a high degree of hesitation rather than outright opposition to vaccines. The most frequent complaint related to the COVID-19 vaccination was the fear of side effects.(18) It is in line with the results of a previous study conducted in Surabaya where 56.8% of respondents said they were afraid of the side effects caused by the Covid-19 vaccine thus were not willing to vaccinate. Another reasons surface was that vaccine was unnecessary, ineffective in preventing the transmission of Covid-19, and some were worried about the cost. There's a lot of fake news, misinformation, or poorly delivered ones in the media that emphasize the side effects of the Covid-19 vaccination. Another reason mentioned in another survey was that they were unsure about the safety of the Covid-19 vaccine, especially after a fake claimed that a TNI official died after being vaccinated, even though it was clarified that the cause of death was not AEFI but had a history of heart illness.(11)

In terms of information exposure, respondents admit that they get most of their information from social media and television. Dissemination of information on social media is like two sides of a coin, involving positive and negative impacts. Positively, the dissemination of information on social

media has a vast reach in terms of geography, social and age groups. The negative side is that it is prone to causing misinformation. People with poor literacy will swallow the information as they get without confirming whether the information is valid or a hoax. Disinformation about the Covid-19 vaccine in the media is suspected to be the cause of the increase in negative sentiment about vaccines, especially on Twitter (up to 15%).(19)

Not only in Indonesia but surveys in different countries also showed that not all respondents accepted and were willing to be vaccinated. In Australia, only 86% were willing when an online survey was conducted in April 2020. This figure increased when another survey was conducted in June (to 87%) and July (90%). Surveys showed the percentage of respondents that were willing to be vaccinated in the US was only 58%, 64% in the UK, and 74% in New Zealand. A survey in French conducted in March 2020 showed the same figures as the survey in New Zealand.(6)
The poor vaccination coverage undoubtedly necessitates a concerted effort on the part of all stakeholders to distribute information and ask the public to participate in these activities. Education and information openness are critical to ensuring that no misinformation causes people to be fearful and refuse to be vaccinated. Knowledge of the community's emphasis is required so that efforts can be made to enhance the coverage of immunization services; additionally, motivation and delivery of the proper message must be developed to build public confidence by involving the community in the process.

The Australian government's strategy for increasing vaccination coverage to above 95 percent is to select a method of communication to disseminate information about the Covid-19 vaccine that is appropriate and suitable, particularly for those with low health literacy and education. Equally important is the language and culture of information that is delivered appropriately and can be accepted by all groups, including people in remote areas(Dodd et al., 2021). Optimizing the role of primary health care providers, such as doctors, as the frontline for educating and delivering recommendations about the Covid-19 vaccine in the community.

Throughout the process, it is vital to urge health workers to perform their roles as educators optimally so that they may become a guarantee for the community to have access to sufficient and easily acquired information from credible sources. This is critical to meet the vaccine coverage objective and minimize the spread of Covid-19 in the community. Finally, community campaigning for Covid-19 vaccination should be led by the local community, and access to the vaccine should prioritize the most vulnerable groups.(20) Many people have yet to get vaccinated and are unwilling to receive the Covid-19 vaccination. The most prevalent explanation is because they are concerned about the potential adverse effects. There is a lack of information about the vaccine's side effects, and there are misinformations or perhaps even fake stories about it spreading in the media. The public's willingness to receive the Covid-19 vaccine has been shown to be related to exposure to information about the vaccine. As a response, education and access to information are vital to ensuring that no misinformation causes individuals to feel scared and refuse vaccination.

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