

Perception of Students of Poltekkes Kemenkes Makassar about Side Effects Incurred After Covid-19 Vaccine

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Abstract

Perception is an experience, event, or relationship obtained by inferring and interpreting information. Adverse drug effects are unwanted drug effects that are predicted in advance and within the limits of the therapeutic dose. The purpose of this study was to find out the perceptions of students at the Makassar Ministry of Health Poltekkes regarding the side effects caused by the COVID-19 vaccine. This type of research is a type of descriptive research in the form of a survey with a cross-sectional design. Data collection was carried out by sending questionnaires online to students of the Makassar Ministry of Health Poltekkes who were willing to fill out the questionnaire after receiving it via WhatsApp. The sample in this study was 100 students of the Makassar Ministry of Health Poltekkes. Using a simple random sampling technique, which is a random sampling procedure. The results showed that the perceptions of Makassar Health Polytechnic students towards the side effects caused after the COVID-19 vaccine and the side effects felt by Makassar Polytechnic students after the COVID-19 vaccine were in the category of moderate side effects.

Keywords: Perception, Side Effects, COVID-19 vaccine

Key Messages:

- Students of the Makassar Ministry of Health Poltekkes who are health students who can be trusted to disseminate information about health in the surrounding environment such as skills in educating the general public about side effects after the COVID-19 vaccine.

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1. Introduction

Coronavirus 2019 (COVID-19) is a health problem or disease that has become a global pandemic. Because transmission is very fast, this disease must be watched out for, and has an average mortality rate that cannot be ignored (1). In 2020, it is estimated that millions of people will become ill or die from COVID-19. COVID-19 caused 2.67% of confirmed patient deaths, compared to 9.60% for SARS (Severe Acute Respiratory Syndrome) between November 2002 to July 2003 and 34.4% for MERS (Middle East Respiratory Syndrome) from April 2012 to November 2019. Most people are generally susceptible to this virus. By transmission from human to human through respiratory droplets and saliva droplets (Deng and Peng, 2020). Data on COVID-19 cases on 29 September 2020 in Indonesia showed more than 280,000 people, around 10,000 deaths and around 3,000 to 4,000 cases added every day (2).

Isolation, early detection and basic protection is one of the keys to prevention in order to break the chain of transmission. In addition, the discovery and development of vaccines can increase immunity and prevent transmission (1). As well as keeping those who are vaccinated protected, COVID-19 vaccination protects entire communities by preventing the spread of the disease throughout the population. Producing a vaccine in a safe and effective way is very important because it is hoped that it will stop the spread of the disease and prevent it from happening again in the future. Due to the rapid spread of the virus, a vaccine is needed that can be spread in the near future so that it can reduce the impact of spreading the virus (3).

Various efforts have been made by the government to combat COVID-19. The President of the Republic of Indonesia has formed a national team to accelerate the development of the COVID-19 vaccination. The formation of a COVID-19 vaccine research team under the supervision of the Minister of Economy was stipulated by Presidential Decree Number 18 of 2020 issued on September 3, 2020. The team's daily work is reported to the president through the Research and Technology Department. On October 6, 2020, the President signed and issued a Presidential Regulation regarding the procurement of vaccines and the administration of vaccinations in handling COVID-19. The government will regulate the procurement and distribution of vaccinations, as well as the implementation of vaccines, in accordance with a Presidential Regulation. (4).

Doubt and misrepresentation of vaccine information presents a sizable obstacle to gaining coverage and community immunity. The existence of side effects of the COVID-19 vaccine has raised concerns about the COVID-19 vaccine. Doubts in the community are due to the lack of adequate information. Drug side effects are unwanted drug effects that have been predicted beforehand and are within the limits of therapeutic doses (5). The development of the internet and information that is easily accessible today, supports the amount of information circulating. The circulation of wrong information can affect perceptions of the side effects of the COVID-19 vaccine, thereby influencing people's behavior. Decisions and choices made are often based on information on the internet, especially social media (6). In addition to the development of the internet such as social media which can disseminate the latest information, students who are a person or group of people who are currently studying at tertiary institutions are also trusted to disseminate information. Including students of the Makassar Ministry of Health Poltekkes who are health students who can be trusted to disseminate information about health in the surrounding environment such as skills in educating the general public about side effects after the COVID-19 vaccine.

There is a lot of news out there with dubious and unwarranted sources that influence information about the COVID-19 vaccine including the side effects of the COVID-19 vaccine. Based on this background, a study was conducted to find out the perceptions of students at the Makassar Ministry of Health Poltekkes regarding the side effects caused by the COVID-19 vaccine.

2. Methods

This study used a non-experimental research type with a descriptive design in the form of a survey with a cross-sectional design which was carried out in January 2022 - May 2022. The population in this study were students of the Makassar Ministry of Health Poltekkes with a total population of 4111 students. The sample in this study were 100 students from the Poltekkes Kemenkes Makassar, who were obtained using the solvin formula. Simple random sampling was used in this study, namely a method of selecting random samples from a population. Data collection was carried out by sending questionnaires online to students of the Makassar Ministry of Health Poltekkes who were willing to fill out the questionnaire after receiving it via WhatsApp. In this research, data processing is done in a way that after the data is collected, editing will be carried out in the form of checking the completeness of the data on the questionnaires that have been filled out by the respondents and grouped based on the characteristics of the respondents including majors, gender, then the data is entered into the Statistical Package for the Social Sciences program (SPSS) which was then analyzed to determine the perceptions of students at the Makassar Ministry of Health Poltekkes regarding the side effects of the COVID-19 vaccination.

Validity and reliability tests were carried out using the Pearson product moment correlation test and Cronbach alpha. The test results show that the questionnaire items used are valid and reliable.

3. Results

Based on the results of research on the perceptions of students at the Makassar Ministry of Health Poltekkes

regarding the side effects caused after the COVID-19 vaccine, the following data was obtained:

Table 1. Characteristics of Respondents by Department

Characteristic	N	%
Department		
Pharmacy	13	13
Nursing	12	12
Environmental Health	13	13
Physiotherapy	12	12
Health Analyst	13	13
Dental Nursing	12	12
Midwifery	12	12
Nutrition	13	13
Gender		
Female	91	91
Male	9	9
Total	100	100

Table 2. Answers to the Perception and Side Effects Questionnaire

	Major	Mean	Category
Perception			
Pharmacy		25,31	Currently
Nursing		21,50	Currently
Environmental Health		24,85	Currently
Physiotherapy		22	Currently
Health analyst		20,69	light
Dental Nursing		21,83	Currently
Midwifery		19,25	light
Nutrition		19,46	light
Average		21,89	Currently
Side Effects			
Pharmacy		4,77	Currently
Nursing		3,42	light
Environmental Health		4	Currently
Physiotherapy		3,33	light
Health analyst		3,85	light
Dental Nursing		3,92	light
Midwifery		4,25	Currently
Nutrition		4,38	Currently
Average		4	Currently

4. Discussion

Based on the results of research that distributed questionnaires online to 100 students from the Makassar Ministry of Health Polekkes regarding perceptions of side effects after the COVID-19 vaccine with several characteristics such as majors and gender. Based on the characteristics of the department, it can be seen that the questionnaires were spread over 8 departments, with 13 students (13%) majoring in pharmacy, 12 students (12%) nursing majors, 13 students (13%) environmental health majors, 12 students majoring in physiotherapy (12%), majoring in health analysis as many as 13 students (13%), majoring in dental nursing as many as 12 students (12%), majoring in midwifery as many as 12 students (12%), majoring in nutrition as many as 13 students (13%). As for gender characteristics that can be seen, there are 9 male students (9%), and 91 female

students (91%).

Experiences, events, or relationships obtained by inferring and interpreting information are referred to as perceptions. Perception is the process of using sensory information and previous experiences to create a structured picture of a situation (7). Perception is an internal process that allows a person to select, organize, and interpret input from his environment, and it has an impact on his behavior (8). Perception refers to how a person receives and interprets stimuli collected by the senses in a narrow sense, and how a person perceives and interprets stimuli in a broad sense. The experience of external stimuli that attack the senses, especially the eyes (visual system), ears (auditory or auditory system), nose (olfactory or olfactory system), tongue (taste or taste buds), and skin (perception) is referred to as perception (touch). All senses have the ability to receive input from the environment, and how these stimuli are processed gives rise to perceptions (9).

The answers of the Makassar Ministry of Health Poltekkes students to the perception questionnaire based on the department, obtained the average value of perceptual answers for the pharmacy department as much as 25.31, the nursing department as much as 21.50, the environmental health department as much as 24.85. 22 physiotherapy majors, 21.83 dental nursing majors. From this value, the perceptions of pharmacy, nursing, environmental health, physiotherapy, dental nursing students about the side effects caused after the COVID-19 vaccine can be categorized as moderate ($21 \leq x < 33$). While the average score for perception answers for the health analyst major was 20.69, the midwifery department was 19.25, the nutrition department was 19.46 with this value the perception of health, midwifery and nutrition analyst students on the side effects caused after the COVID vaccine -19 can be categorized as mild ($x < 21$).

The way information is retrieved, organized, and understood is also related to perception, which is sometimes used interchangeably with the term point of view. That is, it refers to the process of converting sensory information into something useful. A stimulus that causes perception is never absolute. There will be differences in perceptions determined by the perspective of each individual as well as by philosophy. Different perspectives (in choosing, compiling, and interpreting) something will determine differences in articulating the findings of each observation, as pointed out by Thomas Khun (9). In this case the perceptions that arise from students are based on information and side effects that have been felt by students.

Side effects are unfavorable reactions to drugs that occur at doses normally used by humans for disease prevention, diagnosis, treatment, or changes in physiological function (10). The public's view of vaccines is to get losses and dangers. The likelihood that a person will be affected by a hazard is known as the perceived vulnerability (eg, a vaccine side effect). The severity of perceived risk is the amount of loss it will incur (11). The answers of students from the Poltekkes Kemenkes Makassar to the side effect questionnaire based on the department, obtained an average value of the answers to the side effects felt by students majoring in pharmacy by 4.77, students majoring in environmental health by 4, students majoring in midwifery by 4.25, students majoring in nutrition by 4,38. From this value, the side effects felt by pharmacy, environmental health, midwifery, and nutrition students can be categorized as moderate ($4 \leq x < 8$). Meanwhile, the average value of responses to side effects felt by students majoring in nursing was 3.42, students majoring in physiotherapy was 3.33, students majoring in health analysis were 3.85, and students majoring in dental nursing were 3.92. From this value, side effects felt by students majoring in nursing, physiotherapy, health analysis, and dental nursing can be categorized as mild ($x < 4$).

The results are the same as the research conducted by Hasan (12), it was found that the side effects experienced by respondents only experienced mild and moderate symptoms, none were found to have serious side effects such as anaphylactic shock. COVID-19 is not characterized by high mortality rates, but it causes significant limitations in the functioning of society. Due to limited treatment options, vaccines are the way to stop this pandemic because they help build protection against this disease and are the most important weapon in the fight against this pathogen. Vaccines are designed to provide immunity without the risk of disease. Experiencing some mild to moderate side effects is common while receiving vaccinations. This is because the immune system instructs the body to react in a certain way by increasing blood flow so more immune cells can circulate, and increasing body temperature to kill viruses. The immune system reacts to the vaccine, especially the antigens (molecules that induce an immunological response), and prepares to fight the virus as a side effect. The COVID-19 vaccine, like all vaccines, can produce side effects, most of which are mild to moderate and resolve on their own within a few days. As in the results of clinical trials, more serious or long-lasting side effects may occur (12).

Based on table 2 it can be seen that the average value obtained by students of the Makassar Ministry of

Health Poltekkes for the perception variable is 21.89 and the side effect variable is 4. Based on these values it can be seen that the values of the two variables are included in the medium category range. As for the range $21 \leq x < 33$ for the variable perception and range $4 \leq x < 8$ for the variable side effects. Therefore, it can be concluded that perceptions of side effects after the COVID-19 vaccine and side effects felt after the COVID-19 vaccine by students at the Makassar Ministry of Health Polytechnic are the same, namely moderate side effects.

5. Conclusion

Based on research conducted on 100 students of the Makassar Ministry of Health Poltekkes, the results of the study can be concluded that the perceptions of Makassar Polytechnic students of the Ministry of Health of the side effects caused after the COVID-19 vaccine are in the category of moderate side effects and side effects felt by Makassar Poltekkes students after the COVID-19 vaccine 19 is a category of moderate side effects.

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