



Description of The Level of Knowledge About Covid-19 Vaccines Among Adolescents In Public Junior High Schools

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Abstract

Coronavirus Disease 2019 (Covid-19) is an infectious disease caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). SARS-CoV-2 is a novel coronavirus that had not been identified in humans before. There are at least two known types of coronaviruses that can cause severe illnesses, such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). One of the measures to break the chain of Covid-19 transmission is through Covid-19 vaccination. The purpose of this study is to determine the characteristics of respondents and the overview of the level of knowledge about the Covid-19 vaccine among teenagers at Junior High School 1 Andong. This research is descriptive in nature. The population of this study consists of students of Junior High School 1 Andong, in grade 7 and 8, academic year 2020/2021, totaling 458 students. The sample calculation using the Slovin formula resulted in 82 respondents. The sampling was conducted using probability sampling techniques with cluster sampling. Data collection was performed using a questionnaire on knowledge about Covid-19 vaccines and national Covid-19 vaccination, taken from previous research. The characteristics of the respondents showed that the majority were early teenagers aged 11-13 years, totaling 66 respondents (80.5%), and mostly female, totaling 44 respondents (53.7%). The level of knowledge about Covid-19 vaccines among teenagers in Junior High School 1 Andong is mostly sufficient, with 74 respondents (90.2%). From these results, it can be concluded that the low knowledge of teenagers about Covid-19 vaccines is influenced by irresponsible information circulating about the vaccines. The more information teenagers receive about Covid-19 vaccines, the better their knowledge becomes.

INTRODUCTION

Coronavirus Disease 2019 (Covid-19) is an infectious disease caused by a new type of coronavirus discovered in 2019, which is subsequently referred to as Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). This virus is very small in size (120-160 nm) and primarily infects animals, including bats and camels. Currently, human-to-human transmission has become the main source of contagion, making the spread of this virus highly aggressive. The disease is transmitted from positive Covid-19 patients through droplets released when coughing and sneezing (Han, 2020).

The number of Covid-19 cases worldwide continues to increase each day. Based on data obtained on November 20, 2021, there were 155,324,963 million cases reported with 5,127,696 fatalities worldwide. The incidence rate of Covid-19 cases in Indonesia reached 4,252,705 positive cases with 143,714 deaths, and in the Central Java province, there were 485,979 cases with 30,186 deaths (Satuan Tugas Penanganan Covid-19, 2021a). In Boyolali, there were 24,580 positive cases with 1,407 deaths (Dinkes Boyolali, 2021).

The government is making various efforts to control the Covid-19 pandemic, one of which is by urging the public to adhere to the 3M health protocols (Wearing masks, Washing hands, and Watching distance). To support the government's program in controlling Covid-19, besides implementing health protocols, the government also conducts interventions by vaccinating the population as part of the efforts to prevent and control the widespread transmission of the Covid-19 virus (Mahayaty, 2020).

Teenagers are among the individuals who can contribute to the spread of the Covid-19 virus compared to other age groups. They are a vulnerable group and are often challenging to detect if they

contract the virus. Therefore, it is essential for teenagers to be vaccinated as well. Vaccination is expected to reduce the mortality and transmission rates of Covid-19 in teenagers (Windiyati & Feby, 2021).

Vaccination is the administration of vaccines into the human body with the aim of actively boosting the immune system against a particular disease. This way, if exposed to the disease at a later time, the person will experience mild symptoms or remain asymptomatic and not become a source of transmission. When vaccination coverage is high and widespread in an area, herd immunity is formed. Herd immunity leads to cross-protection, wherein unvaccinated individuals have a lower risk of contracting the disease from those around them and remain healthy because the majority of the population in that environment has been vaccinated. This demonstrates the importance of widespread and high vaccination coverage (Kementerian Kesehatan Republik Indonesia, 2021).

Covid-19 vaccines are one of the government's breakthroughs in fighting and managing Covid-19. The objectives of Covid-19 vaccination are to reduce the spread of Covid-19, lower the incidence of illness and death caused by Covid-19, achieve immunity, and protect the population from Covid-19. Not only in terms of health, but Covid-19 vaccines are also expected to boost the country's economy (Kementerian Kesehatan Republik Indonesia, 2021).

Health Minister Budi Gunadi Sadikin stated in a virtual press conference related to the extension of the Enforcement of Restrictions on Community Activities (PPKM) that Indonesia has administered the first dose of the Covid-19 vaccine to 94 million people, placing Indonesia in the 5th position globally. However, this achievement is lower than China's 1.10 billion people, India's 670.86 million people, the United States' 216.27 million people, and Brazil's 153.36 million people who have received the first dose of the Covid-19 vaccine (Satuan Tugas Penanganan Covid-19, 2021b). The Ministry of Health, together with the Indonesian Technical Advisory Group on Immunization (ITAGI), with support from the United Nations International Children's Emergency Fund (UNICEF) and the World Health Organization (WHO), conducted a national survey on the acceptance of the Covid-19 vaccine. The research revealed that the provinces with the highest vaccine acceptance rates, 75%, are in Papua, Java, and Kalimantan, while the provinces with the lowest vaccine acceptance rates, 25%, are in Aceh, Sumatra, Sulawesi, and Maluku (Kemenkes RI Dirjen P2P, 2020).

The lack of public knowledge about various negative issues surrounding vaccination has led to doubts and fears among the community. Concerns about the safety of vaccines (45%), doubts about vaccine effectiveness (22%), vaccine mistrust (13%), worries about side effects like fever and pain (12%), and religious reasons (8%) are some of the reasons contributing to this fear (Windiyati & Feby, 2021). Research conducted by Arumsari et al., (2021) explains that out of 12 statements regarding the acceptance of the Covid-19 vaccine, 9 statements received negative responses, including: the belief that the vaccine is unsafe (54.1%), doubts about its ability to suppress Covid-19 transmission (59.5%), uncertainty about vaccine halal status (50%), the belief that humans do not need vaccines (58.1%), the notion that the coronavirus will disappear if people rely on God (52.0%), the belief that preventive measures alone can suppress the virus (47.3%), the idea that the virus can be cured with traditional herbal remedies (48.0%), the perception that the Covid-19 pandemic is propaganda and conspiracy (51.4%), and the belief that the Indonesian government is incapable of effectively managing the pandemic (57.4%).

A preliminary study conducted by researchers at Junior High School 1 Andong in November 2021 revealed that there were approximately 30 students who had not received the Covid-19 vaccine. The reasons for not getting vaccinated included some students being under the age of 12, some not being in a fit condition during the vaccination period, and some being afraid of getting vaccinated. Additionally, the researchers interviewed 10 randomly selected students, and it was found that 5 students were willing to get vaccinated to meet the requirements for face-to-face learning, 3 students claimed to have little knowledge about the Covid-19 vaccine, and 2 students mentioned feeling fearful due to negative perceptions surrounding the Covid-19 vaccine before getting vaccinated.

The purpose of this study is to determine the characteristics of respondents and the overview of the level of knowledge about the Covid-19 vaccine among teenagers at Junior High School 1 Andong.

RESEARCH METHODS

This research was conducted at Junior High School 1 Andong on February 10, 2022. It is a quantitative observational study with a descriptive approach. The sampling method used for this research was cluster sampling. The population of this study consisted of 458 students from class 7 and 8 of Junior High School 1 Andong in the academic year 2020/2021. The sample calculation using the Slovin formula resulted in 82 respondents. The sampling was conducted using probability sampling techniques with cluster sampling. In sample selection, there are no limitations based on inclusion or exclusion criteria because the sampling is conducted randomly, following the technique chosen by the researcher.

The instrument used in this research utilized a questionnaire on knowledge about the Covid-19 vaccine, which was adopted from a previous researcher (Hamdi, 2021). The validity test resulted in an r-table value of 0.361, and the reliability test using Alpha Chronbach's showed a value of $> r: 0.707$, indicating that the instrument is valid for the research. Knowledge assessment was categorized as good (41-54), sufficient (30-40), and poor (<30). The research has been approved ethically with ethics number 243/UKH.L.02/EC/I/2022. The study was conducted over the course of 1 day. The analysis in this research includes age, gender, and an overview of the level of knowledge about the Covid-19 vaccine among adolescent students at Junior High School 1 Andong.

RESULT

Table 1
Frequency distribution of respondent characteristics based on age at Junior High School 1 Andong

Andong		
Age	F	%
Early adolescents (11-13 years)	66	80,5
Middle adolescents (14-16 years)	16	19,5
Late adolescents (17-21 years)	0	0
Total	82	100

Based on the table above, it shows that the majority of respondents are in early adolescence age range, between 11-13 years old, with a total of 66 respondents (80.5%).

Table 2
Frequency distribution of respondent characteristics based on gender at Junior High School 1 Andong

Andong		
Gender	F	%
Male	38	46,3
Female	44	53,7
Total	82	100

Based on the table above, it can be observed that the majority of respondents are female, with a total of 44 respondents (53.7%).

Table 3
Frequency distribution based on the level of knowledge about the Covid-19 vaccine among adolescent students at Junior High School 1 Andong

Level of knowledge	F	%
Good	8	9,8
Sufficient	74	90,2
Poor	0	0
Total	82	100

Based on the table above, it can be seen that the majority of respondents have sufficient knowledge, with a total of 74 respondents (90.2%).

DISCUSSION

Based on the research results as shown in Table 1, it can be observed that the majority of respondents are in the early adolescent age group, ranging from 11 to 13 years old, with a total of 66 respondents (80.5%). The adolescent period is a transitional phase from childhood to adulthood, during which rapid growth occurs, including reproductive functions, leading to various physical, mental, and social role developmental changes (Adila et al., 2020).

This aligns with the viewpoint of Simatupang (2016), who states that age influences one's cognitive abilities and thought patterns. As age increases, cognitive abilities and thought patterns develop, leading to an improvement in knowledge. Experience is a factor that can influence an individual's knowledge, where the older a person is, the more experiences they have accumulated (Suprayitna et al., 2020). From the above analysis, it can be concluded that rapid physical development and experiencing puberty during early adolescence will result in a high level of curiosity, where age significantly influences a person's receptiveness and thought patterns. In this study, as age increases, knowledge also increases.

Based on the research results as shown in Table 2, it can be observed that the majority of respondents are female, with a total of 44 respondents (53.7%). Gender refers to the social construction of differences in opportunities, roles, and responsibilities between males and females in family and community life (Tangkudung, 2014). A study by Argista (2021) shows that there is no significant relationship between gender and public perception of the Covid-19 vaccine in South Sumatra, as evidenced by a Chi-Square test result with a p-value of 0.411 ($p > 0.05$). From the above analysis, it can be concluded that gender equality in the modern era eliminates any restrictions between females and males in accessing the same information from various sources. Both males and females have equal rights to seek information about the Covid-19 vaccine.

Based on the research results as shown in Table 3, it can be observed that the majority of respondents have a sufficient level of knowledge about the Covid-19 vaccine, with 74 respondents (90.2%). Eight respondents (9.8%) have a good level of knowledge, and no teenagers have a poor level of knowledge about the Covid-19 vaccine. The data shows that there are more respondents with sufficient knowledge compared to those with good knowledge. The sufficient level of knowledge may be attributed to the respondents' lack of information about the importance of the Covid-19 vaccine or the prevalence of "hoax" news circulating in society, which can lead to misunderstandings and misinformation.

Knowledge is the result of curiosity through sensory processes, especially through sight and hearing, towards specific objects. Knowledge is a crucial domain in the formation of open behavior (Donsu, 2017). Generally, knowledge can be obtained from information conveyed by parents, teachers, speakers, and mass media. Education is closely related to knowledge, as it is one of the fundamental needs of human beings, essential for personal development (Simatupang, 2016).

Information greatly influences a person's level of knowledge. Information obtained from both formal and non-formal education can have a short-term impact, leading to changes or improvements in knowledge. The presence of new information about something provides a new cognitive foundation for the formation of knowledge about that particular subject (Simatupang, 2016). Indeed, knowledge and understanding related to the Covid-19 vaccine are not easy to grasp. Accurate information and data about the Covid-19 vaccine are essential. Moreover, every authorized institution should be more cautious in providing accurate and useful information to increase public awareness and vigilance. Insufficient socialization can lead to reduced trust in the Covid-19 vaccine among the public (Nugrawati et al., 2021).

This is in line with the research conducted by Kartika et al., (2021), which explains that there are several respondents with low knowledge, as evidenced by the number of respondents who do not know what vaccination is and the benefits it provides. This lack of knowledge is caused by respondents' limited exposure to information about the Covid-19 vaccine, whether through social media, mass media, posters, or banners about the Covid-19 vaccine displayed in various places.

The results of filling out the Covid-19 vaccine questionnaire at Junior High School 1 Andong show that the majority of respondents do not know the answers to certain questions. For instance, 64 respondents (78.0%) do not know that there are at least 7 official vaccine brands circulating in Indonesia, 67 respondents (81.7%) do not know that the national vaccination will be carried out in 4

phases, and 50 respondents (61.0%) do not know that the national vaccination campaign is scheduled to take place from January 2021 to March 2022. This is due to the lack of information received by teenagers. However, most respondents are aware of the benefits of the Covid-19 vaccine and the side effects that may occur after receiving it.

This is consistent with the research by Argista (2021), which explains that 82% of the respondents know how the Covid-19 vaccine works, 54.3% do not know what is given during Covid-19 vaccination, 78.4% do not know how many types of vaccines will be distributed by the government in the community, 60.7% of the respondents already know how many times the Covid-19 vaccine is injected, 74.1% do not know how many stages are involved in the administration of the Covid-19 vaccine in Indonesia, 90.2% of the respondents already know where to get the Covid-19 vaccine, 58.6% of the respondents do not know that Covid-19 vaccine administration should not involve two different vaccines, 61.4% of the respondents already know who is prioritized in receiving the Covid-19 vaccine, 61.8% of the respondents already know the name of the vaccine that has been injected in Indonesia, and 66.8% of the respondents do not know that the Covid-19 vaccine is not yet available for children.

From the above analysis, it can be concluded that the low knowledge of teenagers about the Covid-19 vaccine can be influenced by the information circulating about it. The more information teenagers receive about the Covid-19 vaccine, the better their knowledge will be.

CONCLUSION

Characteristics of respondents based on age revealed that the majority are in the early adolescence age range of 11-13 years, with a total of 66 respondents (80.5%), and in the mid-adolescence age range of 14-16 years, there are 16 respondents (19.5%). Characteristics of respondents based on gender showed that the majority are female, with a total of 44 respondents (53.7%), while male respondents are 38 (46.3%).

The overview of the level of knowledge about the Covid-19 vaccine among teenage respondents at Junior High School 1 Andong indicates that the majority have a sufficient level of knowledge, with a total of 74 respondents (90.2%), while 8 respondents (9.8%) have a good level of knowledge, and there are no teenagers with a poor level of knowledge about the Covid-19 vaccine.

This research is expected to enhance teenagers' knowledge about the Covid-19 vaccine. The findings can contribute to strengthening the field of knowledge and serve as a valuable resource for learning. Additionally, this study can provide valuable data and references for future researchers, employing different methods to achieve more comprehensive results.

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