



Research Article

The effectiveness of health education provision of animated video media in improving COVID-19 prevention behavior post-vaccination among students of Muhammadiyah Islamic Boarding School Karangasem Paciran Lamongan

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ABSTRACT

Vaccination in the context of dealing with COVID-19 has been promoted. The increasing number of cases showed the lack of community compliance in preventing the transmission of COVID-19 after Vaccination. Intrapersonal factors, such as changes in individual behavior, were the main focus of breaking the chain of the spread of COVID-19. This study aimed to determine the effectiveness of providing health education with animated video media on improving COVID-19 prevention behavior after Vaccination among students at the Karangasem Islamic Boarding School Paciran of Lamongan. This study used pre-experimental with one group pre-test and post-test design. The population was Muhammadiyah Islamic boarding school students in Karangasem Paciran Lamongan, which amounted to 460 and took samples of 332 people using a non-probability purposive sampling technique. The research instrument used a questionnaire 30 items. The results of knowledge have increased from pre-test sufficient knowledge (60.84%), and post-test good knowledge (81.02%) using the Wilcoxon signed rank test $p=0.000 (<0.05)$. The results of attitudes have increased from pre-test negative attitude (70.78%) and post-test positive attitude (76.81%) using the Chi-square test $p=0.001 (<0.05)$. The results of practice have increased from pre-test sufficient practice (62.95%), and post-test good practice (77.71%) using the Wilcoxon signed rank test $p=0.000 (<0.05)$. In conclusion, the video animation media of health education was proven to increase post-vaccination COVID-19 prevention behavior among students at the Karangasem Islamic Boarding School Paciran of Lamongan.



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INTRODUCTION

Corona Virus Disease (COVID-19) was first reported in Wuhan, Hubei, China, in December 2019, and in March 2020, the World Health Organization (WHO) declared that COVID-19 had become a worldwide pandemic. (Bedford et al., 2020). Globally, this virus showed a very high transmission rate. At the time of writing this literature, it was estimated that there were 557,917,904 infected with COVID-19 and 6,358,899 deaths (WHO, 2022).

According to the World Health Organization (WHO), COVID-19 can be transmitted through particles that come out of the breath when individuals are within one meter of it. Thus, a person can quickly become infected if using objects or surfaces that have been in contact with an infected person or come into direct contact with that person. Therefore, the WHO recommended using appropriate personal protective equipment, such as face masks, to control the spread of infection (Djalante et al., 2020). In addition, based on the Centers for Disease Control and Prevention (CDC) in controlling COVID-19, it was recommended to maintain social distancing to minimize the possibility of being exposed to the virus. (Han et al., 2020).

Various strategies and development of COVID-19 vaccines were carried out to control the COVID-19 pandemic. Various vaccines have undergone clinical trials with promising results in various countries. Vaccines' effectiveness, safety, and short and long-term side effects were major concerns in clinical trials in these strategies and developments (Setiyo Adi Nugroho, 2021). Based on the previous study, reducing the COVID-19 crisis with a vaccine would significantly positively affect overall risk if a large proportion of people received the vaccine. In addition, if the vaccine was used to complement existing

protective measures such as wearing masks, washing hands, and keeping a distance (Abo & Smith, 2020).

The government was currently implementing a program to break the chain of the spread of COVID-19, such as the COVID-19 vaccination program. According to the Indonesian Ministry of Health (2021), the COVID-19 Vaccine was expected to reduce the transmission or transmission of COVID-19 and morbidity and mortality due to COVID-19. The COVID-19 vaccination program in Indonesia, which began on January 2021, was expected to accelerate the occurrence of herd immunity which will have an impact on reducing the number of infected cases (Nasir et al., 2021). Based on data obtained on March 2022, about 146,577,204 Indonesians have been vaccinated in full doses.

Based on the survey results describing the level of community compliance in implementing the COVID-19 post-vaccination health protocol in Tangerang, it was found that 20% of respondents did not comply with the health protocol, as well as differences in the characteristics of respondents in terms of age, gender, and education. (Mulyawan et al., 2021). The spread of wrong health information caused the public perception of the risk of transmitting the virus low (Eaton & Kalichman, 2020). Public health in dealing with COVID-19 highly depends on social approaches and behavior change as strategies to stop transmission (Eaton & Kalichman, 2020). Intrapersonal factors, namely change in individual behavior a basic in preventing the transmission of COVID-19. Interventions to change individual behavior patterns have an important role in reducing disease spread, including self-isolation and social distancing (Eaton & Kalichman, 2020).

According to *World Health Organization* (WHO) the best way to prevent and slow transmission was to get information about



SARS-CoV-2, the disease it caused, and how it spreads. (Gray et al., 2020). Prevention activities were very important in breaking the chain of transmission of COVID-19 (Jaga et al., 2020). Prevention of COVID-19 transmission can be delivered through the provision of health education. Education was an effort of persuasion or learning to the community so that they were willing to take actions (practices) to maintain (solve problems) and improve their health (Gray et al., 2020).

Islamic boarding schools have a very high risk of COVID-19 transmission. This is caused by the use of shared public facilities, such as bedrooms, bathrooms, and dining rooms. Implementing health protocols was very important in breaking the chain of transmission. Therefore, this study aimed to examine the effectiveness of providing health education with animated video media on increasing COVID-19 prevention behavior after Vaccination among students at the Karangasem Islamic Boarding School Paciran of Lamongan.

METHODS

This study used a pre-experimental design with one type of research (one group pre-test-post-test design). This research was conducted by giving a pre-test before doing the intervention.

RESULTS

Table 1. Knowledge Distribution of Post-Vaccination Prevention of COVID-19 Before and After Health Education Provision of Animated Video Media

| Knowledge | Pre Test | | PostTest | |
|------------|----------|-------|----------|-------|
| | N | % | N | % |
| Well | 68 | 20.48 | 269 | 81.02 |
| Enough | 202 | 60.84 | 63 | 18.98 |
| Not enough | 62 | 18.68 | 0 | 0 |
| Amount | 332 | 100 | 332 | 100 |

$\rho = 0.000 < \alpha = 0,05$
Wilcoxon Signed Rank Test

After that, the intervention was given, then a post-test (final observation) was carried out. This study’s population was all female students, about 460 people. The sample of 332 people was obtained using a non-probability purpose sampling technique with the criteria of having been vaccinated at dose 2. The inclusion criteria were 1) female students who provided as respondents, 2) female students who had been vaccinated at dose 2, and 3) female students who were able to communicate well. The exclusion criteria were 1) female students who were not in an Islamic boarding school or having activities, 2) female students who were sick, and 3) female students who were blind and deaf.

The instrument used in this study was a questionnaire to determine the knowledge, attitudes, and practices among students of Karangasem Paciran Lamongan Islamic Boarding School in preventing COVID-19 before and after the intervention. This research was conducted 1 time, providing health education with animated video media for 60 minutes, conducted in July 2022. The data has been analyzed using the Wilcoxon Sign Rank Test and Chi-Square (Pre-Post) statistics in the SPSS 25.00 program. The data is considered to be significant if the results of statistical tests show $\alpha \leq 0.05$. This study has been approved by Ethical Committee Universitas Muhammadiyah Surabaya.



Table 2. Distribution of COVID-19 Prevention Attitudes Post Vaccination Before and After Health Education Provision of Animated Video Media

| Attitude | Pre Test | | Post Test | |
|----------|----------|-------|-----------|-------|
| | N | % | N | % |
| Positive | 97 | 29.22 | 255 | 76.81 |
| Negative | 235 | 70.78 | 77 | 23.19 |
| Amount | 332 | 100 | 332 | 100 |

$\rho = 0.001 < \alpha = 0,05$
Chi Square

Table 3. Distribution of Post-Vaccination COVID-19 Prevention Practices Before and After Health Education Provision of Animated Video Media

| Practice | Pre Test | | Post Test | |
|------------|----------|-------|-----------|-------|
| | N | % | N | % |
| Well | 57 | 17,17 | 258 | 77.71 |
| Enough | 209 | 62.95 | 74 | 22.29 |
| Not enough | 66 | 19.88 | 0 | 0 |
| Amount | 332 | 100 | 332 | 100 |

$\rho = 0.000 < \alpha = 0,05$
Wilcoxon Signed Rank Test

Table 1 shows a significant increase in knowledge of Post-Vaccination Prevention of COVID-19 after the health education provision using animated video media among students at the Karangasem Islamic Boarding School Paciran Lamongan in 2022.

Table 2 shows a significant increase in COVID-19 prevention attitudes Post-Vaccination after the health education provision using animated video media among students at the Karangasem Islamic Boarding School Paciran Lamongan in 2022.

Table 3 shows a significant increase in COVID-19 prevention practices Post-Vaccination after the health education

provision using animated video media among students at the Karangasem Islamic Boarding School Paciran Lamongan in 2022.

DISCUSSION

Knowledge of Post-Vaccination COVID-19 Prevention Before and After Health Education Provision of Animated Video Media Among Students at the Karangasem Islamic Boarding School Paciran Lamongan in 2022

Knowledge is a guide in shaping individual actions (Timmers et al., 2020). Knowledge is the result of knowing, which occurs after people sense particular objects; sensing occurs through the human senses, namely the senses



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of sight, hearing, smell, taste, and touch. Most of the knowledge was obtained from the eyes and ears. Knowledge can be categorized as good, sufficient, and lacking (Jaga et al., 2020). This level of knowledge can be influenced by several factors, including the education level of most respondents and having a secondary education background related to the ability to seek and understand information (Alrasheedy et al., 2021).

The result of this study showed that respondents' knowledge of preventing COVID-19 before being given health education intervention, and animated video media were mostly classified as sufficient knowledge (60.84%) and after being given the intervention, most were classified as good knowledge (81.02%). This knowledge includes general knowledge about the meaning of disease, clinical signs and symptoms, vaccinations, modes of disease transmission, and COVID-19 prevention behavior. The results of this study were in accordance with a previous study that showed there was a difference in knowledge about COVID-19 prevention before and after educational videos for school-age children (Adila & Wijaya, 2021).

Low knowledge can make it difficult for someone to form behavior because knowledge or cognition is a very important domain in shaping a person's actions that are influenced by the learning process. Behavior-based on knowledge will be more lasting than behavior not based on knowledge (Lee et al., 2021). Public knowledge about preventing disease transmission was very important to suppress the transmission of COVID-19. Knowledge is important in forming attitudes and behavior; if a person doesn't have sufficient knowledge, then there will be no real action taken (Law et al., 2020).

Health education interventions were defined as helping patients gain the knowledge, skills, tools, and confidence to be active in their care

so that they can achieve their self-identified health goals (Gray et al., 2020). Learning was influenced by internal and external factors. Internal factors are factors that come from within a person. And external factors were stimulation factors from outside through their senses, one of which was learning media. This study chose animated video as a medium because it can deliver material pleasantly and stimulate many senses in receiving information, especially the eyes. According to a previous study, the eyes were the five senses that channel the most information and knowledge to the brain, which was around 75-87% (Adila & Wijaya, 2021).

Based on the description above, knowledge before being given an intervention was sufficient, and after the intervention was classified as good because one of the factors that influenced the success of health education was the media used to convey messages. If there were no media, the results achieved in health education would be less than optimal. In this study, the media used was animated video media so that when researchers gave explanations about COVID-19, participants could maximize the senses of sight and hearing in receiving health education.

Attitudes to Prevent COVID-19 Post Vaccination Before and After Health Education Provision of Animated Video Media Among Students at the Karangasem Islamic Boarding School Paciran Lamongan in 2022

Attitude was a person's response or reaction to an object. The response then produces a person's behavior in dealing with the object. The formation of attitudes was influenced by several factors, including strong experience, the influence of other people who are considered important, culture, mass media, educational institutions and religious institutions, and the influence of emotional factors (Lee et al., 2021).



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Based on the research conducted, it showed that the results of respondents' attitudes towards preventing COVID-19 before being given health education intervention in animated video media were mostly classified as negative attitudes (70.78%), and after being given the intervention, most were classified as positive attitudes (76.81%). The results of this study were in accordance with the previous research that there was an effect of education about health protocols with audiovisual media on the attitudes of children aged 10-12 years at Brother Bakti Luhur Elementary School. (Sambo et al., 2021).

A person's negative attitude can be influenced by social attitudes because social attitudes are formed from the social interactions experienced by individuals. Social interaction means more than just the existence of social contact and relationships between individuals as members of social groups. In social interaction, there was a mutually influencing relationship between individuals. A reciprocal relationship also affects the behavior patterns of each individual as a member of society (Alrasheedy et al., 2021). This was in accordance with Allport's opinion that attitude was a readiness to react to an object in certain ways. The readiness in question was a potential tendency to react in a certain way when an individual faced a stimulus that required a response. After someone knows the stimulus or object, the next process will be to assess or behave towards the stimulus or health object. A person's negative attitude toward an object is a feeling of being unsupportive or unfavorable to the object (Alrasheedy et al., 2021).

The video media in this study was a supporting factor in the formation of student attitudes toward preventing COVID-19. The use of this media maximizes the reception of information through all the senses so as to allow

information to be better understood. Moving pictures and sound effects can make children interested and pay attention to the given object. This media can significantly influence changes in children's attitudes after going through the learning process (Fitria, 2018). Attitude can be seen in the behavior shown by a person in responding to an object. Attitudes cannot be seen directly. A positive or supportive attitude can be formed from knowledge and experience. Increased knowledge has a positive relationship with changes in attitudes, which will later be applied to behavior

Based on the description above, the attitude before the intervention was classified as negative and after the intervention was classified as positive because one of the influencing factors, namely knowledge, could affect a person's attitude. In addition to knowledge, the methods used in conveying messages or programs also affected a person's attitude change.

Post-Vaccination COVID-19 Prevention Practices Before and After Providing Health Education Animated Video Media Among Students at the Karangasem Islamic Boarding School Paciran Lamongan in 2022

Health practices are all activities of people to maintain health, including practices related to the prevention of infectious diseases (Gray et al., 2020). An attitude was not necessarily manifested in action. To become a real action, a supporting or enabling condition was needed, including facilities or infrastructure. Action (practice) is a person's open response to stimuli from outside the object (Lee et al., 2021). The stimulus in question was the provision of health education. Based on Edgar Dale's theory of experience, the provision of health education media by hearing and seeing will provide 50% memory, so it was expected to influence changes in respondent behavior. The formation of new behavior starts from the formation of cognitive aspects. The new object was a stimulus for



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the individual. The learning process about the stimulus will lead to new knowledge. If the stimulation is increasingly known and realized, it can lead to action in response to the new object.

This study showed that the respondents' practice of preventing COVID-19 before being given health education intervention using animated video media were mostly classified as sufficient practice (62.95%). After the intervention was given, most were classified as good practices (77.71%). This was in accordance with previous research that there was an increase in the number of respondents who have COVID-19 prevention behaviors, namely the behavior of washing hands and wearing masks while traveling (Rahmatina & Erawati, 2020).

Based on the description above, the practice before the intervention was given was quite adequate, and after the intervention was classified as good because there was a relationship between knowledge and attitudes with disease prevention efforts. If knowledge and attitudes were good, it could affect the respondent's actions, and vice versa if knowledge and attitudes were negative, it could affect a person's actions. Limitations of the study, when this research was conducted, the female students were gathered in one large hall, resulting in mass communication which was more at risk of distraction, crowded, and noisy. The female students talk to each other with friends and are less focused on the researcher.

CONCLUSION

There was an effect of providing health education with animated video media on increasing preventive behavior consisting of knowledge, attitudes, and practices for preventing COVID-19 after Vaccination among students at the Karangasem Islamic Boarding School Paciran Lamongan.

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