

## Effects of Giving Education On Covid-19 Prevention By Using Visual Audio on Adolescents' Knowledge

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### ABSTRACT

Adolescents have a greater risk of experiencing complications and severe conditions if exposed to COVID-19. One of the contributing factors is their lack of knowledge in efforts to prevent COVID-19. Thus, one of the efforts that can be made in providing knowledge regarding COVID-19 prevention is through online education in the form of videos.

To determine the effects of providing COVID-19 prevention education by using audiovisuals on adolescents' knowledge in Sukakarya Village, Bogor in 2021.

This pre-experimental research design used a one-group pre-test-post-test design. Using the purposive sampling technique, the sample in this study was 58 respondents who are residents of Sukakarya Village, Megamendung District, Bogor. The data were analyzed using the paired sample t-test which was previously tested for normality.

Univariate analysis of adolescents' knowledge on the prevention of COVID-19 through audiovisuals obtained an average value of 25.57 and an average post-test score of 30.83. Meanwhile, the bivariate analysis showed the effects of providing education on COVID-19 prevention by using audiovisuals on adolescents' knowledge with a significance value of 0.000.

Audiovisual media affect adolescents' knowledge on COVID-19 prevention. It is hoped that adolescents can increase their COVID-19 prevention knowledge by using video media so that they can change their behavior in efforts to prevent COVID-19 transmission.

**Keywords:** Audiovisual Media, Adolescent, COVID-19 Prevention Knowledge

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**BACKGROUND**

According to data from the Ministry of Health, among 636,154 confirmed cases of COVID-19 in Indonesia, 521,984 patients have recovered and 19,248 people have died. Among these, West Java Province has contributed 69,500 confirmed cases of COVID-19, found 57,289 patients who have recovered and 1,081 people who have died. In Bogor, 3,949 confirmed cases were found, as many as 3,920 patients have recovered and 16 people have died (Ministry of Health RI, 2020).

COVID-19 pandemic has affected most community activities, including the smallest group of adolescents. Changes in daily activities for adolescents do not only affect their physical aspects, but also their mental health because these changes occur quite quickly. Research recently published in Journal Science reveals that adolescents are able to transmit the COVID-19 virus to many people. Based on the results of the research, it turned out that the first patient who transmits the COVID-19 virus to many people is a group of young adults who are 20 to 45 years old, and it was suspected that they came into contact with many other people (Levana, 2020).

According to Nursastri (2020), adolescents have a greater risk of experiencing complications and severe conditions if exposed to COVID-19. Research has been conducted by a group of scientists at Rutgers University, New Jersey, and published in JAMA Pediatrics journal to support this. The research was conducted on 48 children and adolescents, ranging from newborns to 21 years old adolescents, who were treated at the Pediatric Intensive Care Unit (PICU) in the US and Canada due to COVID-19 during March - April 2020. The results of the research show that more than 80% of patients had severe conditions ranging from immune disease, obesity, diabetes, and chronic lung disease, thus 40% of these patients depended on hospital equipment or technology to survive. More than 20% of these patients have organ failure, between one or two organs at once, as a result of COVID-19 infection. Furthermore, it is also shown that more than 40% of these patients need breathing apparatus. At the end of three weeks of research observation, it was found that 33% of the patients were still in the hospital, with three patients still needed breathing apparatus, and two children died.

Besides, UNICEF Child Mental Health Observer, Ramly, said that one of the impacts of the pandemic on adolescents is the social restrictions imposed by the government to prevent the potential transmission of the COVID-19 virus. These social restrictions create excessive fear in adolescents because of the large amount of information they receive about this pandemic (KPCPEN, 2020).

One of the efforts that can be made to provide knowledge to the wider community regarding steps to prevent the spread of COVID-19 is through online education. Online education can support the learning process to become a formal one by using technology (Bower, 2019). Distance learning processes and methods have become new habits that can provide summaries via a computer or smartphone screen (Fantini & Tamba, 2020).

Social media has become one of the media for online education, starting from the abundance of information and opportunities for interaction as well as directions for developing information in other links. This indicates that in addition to its relationship as a medium of entertainment, social media can be used as an alternative source of answers to daily questions, including information and questions about COVID-19 (Sampurno et al., 2020). Delivering educational messages online cannot only be used in information technology, but also other fields such as health (Perera et al., 2017).

Further research conducted by Prabandari (2018) shows the results of data analysis that have been carried out—in which before and after counseling with video media, the

average knowledge was  $5,000 \pm 1,846$ . Meanwhile, the average difference in knowledge before and after counseling with booklet media was  $2.714 \pm 1.243$ . The two treatments have been shown to increase knowledge, but the average difference in knowledge before and after in the experimental group, namely counseling with video media was greater. Also, it was known that the average difference between respondents who did counseling with video media and counseling with booklet media was  $2.286 \pm 0.421$  with a p-value of  $0.000 < 0.05$ , thus  $H_0$  is rejected and  $H_a$  is accepted, which means there is an effect.

Different results were brought by Sabarudi et al. (2020). The results of statistical tests with Wilcoxon showed that the value on the use of video media & leaflets was  $P = 0.001 < 0.05$ , this indicates that there is a significant difference in knowledge before and after online education. On video media  $P = 0.248 > 0.05$ , this shows that there is no significant difference after online education. Whereas in the leaflet media  $P = 0.045 < 0.05$ , this shows that the leaflet media is more effectively used as an online education for the prevention of COVID-19 compared to video media.

The results of a preliminary study on 10 adolescents who are residents of Sukakarya Village, Megamendung District, Bogor, show that 6 adolescents did not know the correct way to prevent COVID-19, all they knew were washing their hands but they did not know how to do it properly and correctly and keeping their distance but they did not really know how many meters should a good distance means, thus they answer that a good distance is as long as they do not stick to each other.

## METHODS

This research used a pre-experimental design with one group pre-test-post-test design. The subjects in this research were adolescents. The sample in this study was 58 people. This research was conducted in Sukakarya Village, Megamendung District, Bogor. The sampling technique used was the purposive sampling technique. The research instrument consisted of a questionnaire on COVID-19 prevention knowledge. Bivariate analysis was done using paired sample t-test.

## RESULT

### Univariate Analysis

**Table 1**  
**Adolescents' Knowledge Before and After Getting Education on COVID-19 Prevention through Audiovisuals in Sukakarya Village in 2020**

Variable	N (58)	Percentage
<b>Adolescents' Knowledge Before Getting Education</b>		
Good	0	0
Sufficient	28	48.3
Low	30	51.7
<b>Adolescents' Knowledge After Getting Education</b>		
Good	31	53.4
Sufficient	25	43.1
Low	2	3.4

Table 1 shows that out of 58 adolescent respondents, the knowledge before getting an education on COVID-19 prevention through audiovisuals, for most of them, was in the low category with 30 respondents (51.7%). Meanwhile, the knowledge after getting an education on COVID-19 prevention through audiovisuals was mostly in the good category with as many as 31 respondents (53.4%).

### Bivariate Analysis

**Table 2 Effects of Providing Education on COVID-19 Prevention Using Audiovisuals on Adolescents' Knowledge in Sukakarya Village in 2020**

Adolescents' Knowledge	<i>Pre-test</i>	<i>Post-test</i>	Difference in Mean	P Value
	<i>Mean</i>	<i>Mean</i>		
	24.55	30.83	6.28	0,000

Table 2 is based on the results of difference testing using the paired sample t-test which has a significant value of  $0.000 < 0.05$ , which means that there are differences in the adolescents' knowledge before and after being provided with education on COVID-19 prevention using audiovisuals in Sukakarya Village in 2020. Thus, it is concluded that there are effects of providing education on COVID-19 prevention by using audiovisuals on adolescents' knowledge in Sukakarya Village in 2020.

## DISCUSSION

### Adolescents' Knowledge before Getting an Education on COVID-19 Prevention through Audiovisuals in Sukakarya Village in 2020

Based on the results of this research from 58 adolescent respondents, the knowledge before getting an education on COVID-19 prevention through audiovisuals in the good category was not found, whereas 48.3% were in the sufficient category and 51.7% were in a low category. Thus, most of the adolescent respondents had low knowledge of COVID-19 prevention before being provided with education on COVID-19 prevention through audiovisuals.

Wawan & Dewi (2017) explain that knowledge is an important factor in determining a person's behavior because knowledge can cause changes in people's perceptions and habits. Increased knowledge can change people's perceptions about disease. According to Notoatmodjo (2017), obtaining knowledge can be done through trial and error, power or authority, personal experience, thinking, and scientific research. According to Wawan & Dewi (2017), the factors that influence knowledge are education, interest, age, experience, provision of information, media exposure, seminars, and counseling. Meanwhile, according to Nursalam (2017) factors that influence knowledge include environment, socio-culture, and economic status.

According to the Ministry of Health of RI (2020), the principle of preventing and controlling COVID-19 in the community is carried out by regularly cleaning hands, using a mask, keeping a minimum distance of 1 meter, immediately taking a shower and changing clothes when arriving home before having contact with family members, and keeping healthy lifestyle as well as increasing endurance by using traditional ingredients, avoid smoking, exercising to manage mental health and psychosocial, implementing new normal habits by implementing health protocols in every activity.

The results of this research are in line with Andriani's (2017) research results, in which it is revealed that before displaying the audiovisual media of washing hands, it turned out that most children's knowledge was in the low category with a value of 65.6. The lack of ability of pre-school children to wash their hands with soap properly can be caused by a lack of knowledge, children's lack of understanding of the importance of washing hands and how to wash hands using soap properly, lack of direct learning from teachers, parents and health workers, and unavailability of a place to wash hands such as faucet or *wasthafel* outside the classroom which is provided with soap, towels/rags – that makes children not used to washing hands properly with soap. Meanwhile, research conducted by Quyumi & Alimasur (2020) also shows that most of the COVID-19 Volunteers (67%) only had sufficient knowledge on COVID-19 prevention.

Researchers assume that adolescents' lack of knowledge on COVID-19 prevention efforts is due to the inexperience that adolescents have, so they don't really know how to conduct proper prevention. So far, they get information either through television, from teachers or friends, and from the surrounding environment, but the information is not so clear that the knowledge possessed by adolescents is in a low category.

This can be seen from the results of the questionnaire that many adolescent respondents answered incorrectly that new normal is a return to the original habit before the emergence of the COVID-19 outbreak. This opinion is wrong because the new normal actually means an adaptation of new habits (after the COVID-19 outbreak) by implementing health protocols in every activity. The wrong opinion also states that if you visit a friend's house, you don't need to wear a mask because you don't want to offend your friend; this condition can make the spread of COVID-19 even faster because if we make contact with people whose disease status is unknown, it can potentially increase the spread of the virus, so even if s/he is a friend we should use a mask as a deterrent when visiting her/his house. Similarly with the opinion that after going out of the house, we don't need to change clothes; this will actually cause the spread of the virus because COVID-19 is caused, one of which, by droplets splashing on clothes and bodies after traveling. There is a need for increased knowledge to increase adolescents' awareness in efforts to prevent COVID-19.

### **Adolescents' Knowledge after Getting an Education on COVID-19 Prevention through Audiovisual in Sukakarya Village in 2020**

Based on the results of this research, from 58 adolescent respondents, the knowledge before getting an education on COVID-19 prevention through audiovisuals in the good category was 53.4%, the sufficient category was 43.1%, and the low category was 3.4%. It can be seen that most of the female adolescent respondents' knowledge after being provided with education on COVID-19 prevention through audiovisuals are in a good category; this indicates that their knowledge has increased.

According to Notoatmodjo (2017), the increase of knowledge occurs through the five human senses, namely the senses of smell, sight, hearing, taste, and touch. Most human knowledge is obtained through the eyes and ears. According to Rogers (1974), cited by Notoatmodjo (2017), there is a sequential process before adopting a new behavior in a person, which starts with awareness, then a feeling of attraction to the object that makes us consider the action on the object, after that trying the behavior, and finally adopting the behavior.

Suparman (2017) explains that videos, slides, film strips, and the internet are electronic media. Fitriani (2017) explains that video is a media that can present factual and fictional messages that can be informative, educational, or instructional. According to Riyana (2016),

audiovisual media as a material aims to clarify and facilitate the delivery of messages so that they are not too verbal, to overcome the limitations of time, space, and sensory power of participants and instructors, and be used appropriately and variedly.

Research results by Handayani et al. (2020) on educational research using leaflet and video media in one intervention group found that video can increase knowledge, attitudes, and actions towards personal hygiene behavior during teenage menstruation. In essence, health education is an activity or effort to convey health messages to the community, groups, or individuals, with the hope that with this message the community, group or individual can gain knowledge about health. Finally, this knowledge can lead to changes in the target behavior. Further research conducted by Prabandari (2018) shows the results of data analysis that before and after counseling with video media the average knowledge is  $5,000 \pm 1,846$ . Whereas, the average difference in knowledge before and after counseling with booklet media was  $2.714 \pm 1.243$ . The two treatments have been proven to increase knowledge, but the average difference in knowledge before and after in the experimental group, namely counseling with video media was greater.

Researchers assume there is an increase in adolescents' knowledge in efforts to prevent COVID-19; this is because with health education through videos they can see interesting features, then listen to what is being informed thus it can easily attract the attention of the audiences. This condition can increase adolescents' behavior change starting from being aware, feeling interested, considering what s/he has learned, then adopting the behavior in making efforts to prevent COVID-19. Seeing these results, it can be seen that video media can increase adolescents' knowledge, especially in preventing COVID-19.

### **Effects of Providing Education on COVID-19 Prevention by Using Audiovisuals on Adolescents' Knowledge in Sukakarya Village in 2020**

The results of difference testing using the Paired Samples Test show a significant value of  $0.000 < 0.05$ , which means that there is a difference in adolescents' knowledge before and after being provided with an education on COVID-19 prevention by using audiovisuals in Sukakarya Village in 2020. Thus it can be concluded providing education on COVID-19 prevention by using audiovisuals affects adolescents' knowledge in Sukakarya Village in 2020.

Riyana (2016) explains that videos are able to seize 94% of the entry channels of messages or information into the human soul through the eyes and ears and are able to make people, in general, remember 50% of what they see and hear from video shown. Messages conveyed through video media can influence strong emotions and also achieve quick results that cannot be achieved by other media. Sadiman (2016) states that video is very good for explaining a process by using slow repetition of movements to clarify descriptions and illustrations, attract attention, stimulate and motivate the target group, besides videos and films are also very good for presenting theory and practice, saving time to do the explanation.

According to Arsyad (2017), learning using media can generate new desires and interests, increase motivation, stimulate learning, and affect student psychology. One solution is to provide counseling through the right media, including video (Effendy, 2017). Haryoko (2016) explains that audiovisual media can facilitate understanding and strengthen memory so that it can optimize students' abilities and potential. According to Munadi (2018) video in learning should aim to improve cognitive, psychomotor development, and influence attitudes as well as emotions.

The results of this research are in line with Andriani's research (2017), in which her

research results using the Wilcoxon test show a  $p\text{-value} = 0,000 < \alpha (0.05)$  which means that the audiovisual media of washing hands affect the ability of the pre-school children in kindergarten to wash hands with soap. Likewise, according to Sabarudi et al. (2020), the results of statistical tests with Wilcoxon obtained a value of  $p = 0.001 < 0.05$  on the use of video media, which indicates that there is a significant difference in knowledge before and after online education. Jubaedah et al. (2020) on video media reveal that videos were more effective than a leaflet. Handayani et al. (2020) on educational research using video media found that using video in learning can increase knowledge, attitudes, and actions towards personal hygiene behavior during adolescent menstruation.

Researchers assume that there are effects of providing education on COVID-19 prevention by using audiovisuals on adolescents' knowledge because by using video, the message that is informed is easy to understand. The existence of an interesting feature makes adolescents interested to focus on seeing the material presented; besides the senses used are not only the eyes but also the ears, so that the information conveyed can be heard directly by them, which makes it can be easily understood because they can see the process clearly. It can be seen that providing counseling through the right media, including video media can facilitate understanding and strengthen memory so that it can optimize the abilities and potential of adolescents in efforts to prevent COVID-19.

## CONCLUSION

Based on the results of research conducted in Sukakarya Village, from 58 adolescents, the average adolescents' knowledge before getting an education on COVID-19 prevention through audiovisuals was 25.57. Meanwhile, after getting an education on COVID-19 prevention through audiovisuals, it increased to an average value of = 30.83. Thus, there are effects of providing education on COVID-19 prevention by using audiovisuals on adolescents' knowledge in Sukakarya Village in 2020 with a significance value of 0.000.

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