

## *The Effect of Animated Videos on the Prevention of Sexual Behavior on Knowledge And Attitudes in Junior High School Students*

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### ABSTRACT

**Background:** Premarital sexual activity in adolescents has increased globally in recent decades. Lack of understanding can risk having unhealthy dating behavior, and can even encourage adolescents to engage in sexual behavior up to premarital sex, which has an impact on teenage pregnancy and sexually transmitted infections. Prevention efforts that can be done are by providing animated videos as a very suitable alternative to influence understanding and change adolescent behavior. **Objective:** Knowing the effect of animated videos on preventing sexual behavior on the knowledge and attitudes of junior high school students. **Methods:** Quantitative research with a quasi-experimental design using a pretest-posttest with control group design conducted on students aged 13-15 years with 30 respondents as an intervention group, and 30 respondents as a control group. **Results:** The results of the analysis in the intervention group showed an increase in knowledge and attitudes after being given an animated video with a p-value of 0.000. Then the results showed a difference in the level of knowledge and attitudes in the intervention group after being given treatment compared to the control group with a p-value of 0.000. **Conclusion:** There is a difference in the level of knowledge and attitude of students before and after being given animated videos and leaflets in the intervention group. There is a difference in the level of knowledge and attitude of students in the intervention group who were given treatment in the form of animated videos with the control group who were not given treatment and only given leaflets.

**Keywords:** Adolescents, Animated Videos, Indonesia, Sexual Behavior, Students

### INTRODUCTION

Adolescence is a stage of sexual development from child to adult characterized by puberty (Gunawan and Tadjudin, 2022). Adolescents who are just entering puberty often have friendships that can lead adolescents to unnatural juvenile delinquency (Lilis, 2020). One of the juvenile delinquencies that is often encountered is premarital sexual behavior (Parawansa and Nasution, 2022). Premarital sexual activity in adolescents in recent decades has increased globally. According to data from the World Health Organization (WHO) shows that more than 500 million adolescents living in developing countries claim to have had their first sex at the age of less than 15 years, and 60% of teenage pregnancies occur in developing countries (Rasyid, Claudia and Podungge, 2020). Meanwhile, in Indonesia, based on survey data conducted by the Indonesian Child Protection Committee (KPAI), it is stated that adolescents admit to dating for

the first time at the age of 12 which is followed by a permissive dating style, namely 92% holding hands while dating, 82% have dared to kiss and 63% groping (petting) which triggers adolescents to have sexual intercourse (Ekasari, Rosidawati and Jubaedi, 2019).

Based on these facts, it shows that adolescents can be at risk of having unhealthy dating behavior, which can even encourage adolescents to have premarital sex which has an impact on teenage pregnancy and sexually transmitted infections (Berliana, Hilal and Minuria, 2021). Sexual behavior in adolescents is becoming an increasingly common challenge in society, not only as a problem but also as a social phenomenon. Among adolescents, premarital sexual behavior is starting to be considered as a normal thing, which means that such behavior is acceptable, including teenage sexual behavior (Muklathi, Fitriyanti and Prasetyaningtyas, 2022). In addition, it is supported by advances in digital

technology today where adolescents can easily access information about sexual matters including pornographic content (Maisya and Masitoh, 2020).

In addition to technological developments, sexual behavior in adolescents can also be influenced by a lack of proper knowledge and attitudes. Adolescents who have limited knowledge tend to have a higher risk of engaging in sexual behavior (Kusumawardani, Ramani and Cahyaningrat, 2024). This can allow adolescents to have the wrong attitude and understanding of sexual behavior (Andriani, Suhrawardi and Hapisah, 2022). Therefore, it is necessary to prevent and treat adolescents related to sexuality so that adolescents do not engage in risky sexual behavior.

One of the preventions that can be done is health education for adolescents through schools. The process of providing health education to individuals becomes more effective by involving attractive media in order to influence understanding and change the behavior of individual groups (Handini, 2021). Along with the development of technology, health education can utilize digital media such as educational videos as an alternative option that is very suitable for the current lifestyle and environment of adolescents (Hafizah, 2023). Because videos can combine audio and visuals by producing dynamic and animated shows, it is hoped that adolescents can more easily understand, accept and remember

learning messages (Wulandari and Fatisa, 2023).

If the information conveyed is easily understood and well received, it can improve the knowledge and attitudes of adolescents. Positive adolescent attitudes can be influenced by a good level of knowledge. With good knowledge about reproductive health and the negative impact of sexual behavior will make adolescents wiser and allow them to avoid sexual intercourse before marriage (Muliani *et al.*, 2024). Supported by research that has been conducted that educational learning video media has a significant effect on increasing adolescent knowledge and attitudes (Fahrezi, Ismiati<sup>3</sup> and Marleni, 2024). Therefore, this study aims to analyze the effect of animated videos on the prevention of sexual behavior on the knowledge and attitudes of junior high school students.

## METHODS

This study is a quantitative research with a quasi-experimental design that uses a pretest-posttest with control group design, with the determination of the sample using the matching of intervention group and control group respondents. Based on data from the Semarang City Health Office, SMPN 42 and SMPN 23 Semarang are located in areas with the highest cases of teenage pregnancy in Semarang City.

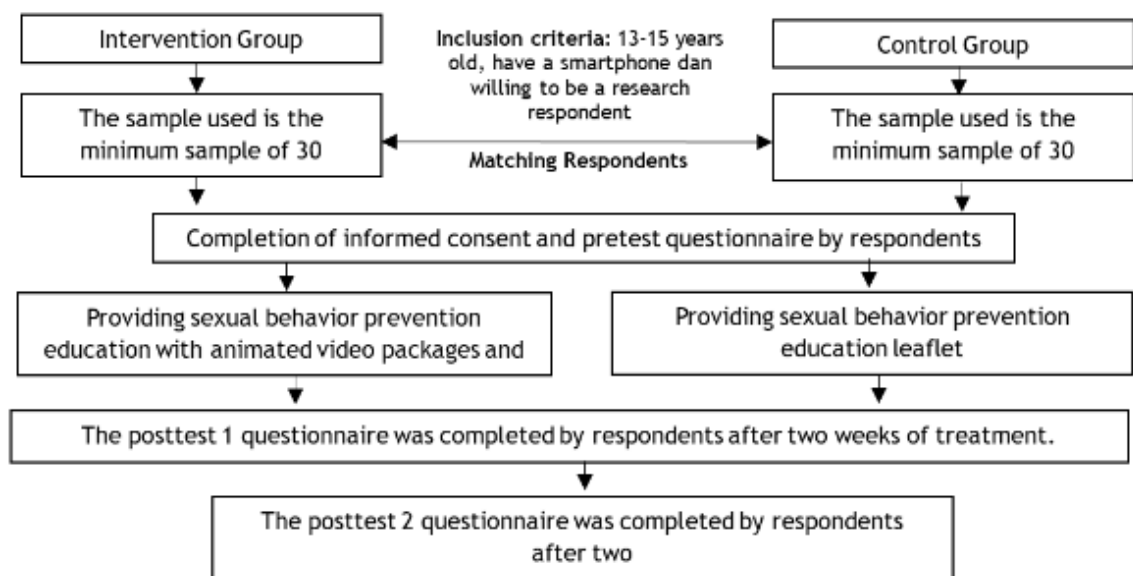


Diagram 1. Stages of the treatment proces

The samples used in this study were 30 respondents from SMPN 42 Semarang as the treatment group who were given educational videos and leaflets, and 30 respondents from SMPN 23 Semarang as the control group who were only given leaflets. Then data collection in this study was carried out 3 times, namely pretest conducted before treatment and posttest 1 conducted 2 weeks after the intervention. While posttest 2 was conducted 2 weeks after posttest 1 data collection.

Data collection was carried out using instruments that had been tested for validity and reliability with a total of 34 statements covering knowledge and attitude assessments. Then the data obtained is coded as follows.

**Table 1.** Coding for Respondents' Answers.

Variable	Answer	Coding
Knowledge	Yes	1
	No	0
Attitude	Strongly Disagree	1
	Disagree	2
	Agree	3
	Strongly Agree	4

After coding, the data were tested for normality using the Shapiro-Wilk test. Data that were not normally distributed were analyzed using the Wilcoxon Sign Rank Test and Mann Whitney test. While normally distributed data used Paired Sample t-test and Independent t-test. This analysis was conducted to determine the knowledge and attitudes of junior high school students before and after being given an educational video on preventing sexual behavior. This study was conducted based on ethical approval from the Health Research Ethics Committee from Faculty of Public Health Diponegoro University No. 330/EA/KEPK-FKM/2024, dated July 30, 2024.

## RESULTS AND DISCUSSION

**Table 2.** Distribution of Student Characteristics

Characteristics	Intervention Group		Control Group	
	n	%	n	%
Age				
13	13	43.3	21	70

14	16	53.3	9	30
15	1	3.3	0	0
<b>Total</b>	<b>30</b>	<b>100</b>	<b>30</b>	<b>100</b>
<b>Gender</b>				
Male	17	56.7	15	50
Female	13	43.3	15	50
<b>Total</b>	<b>30</b>	<b>100</b>	<b>30</b>	<b>100</b>

Based on table 1, it is known that the number of samples in each group is 30 respondents, most of whom are 13 years old in the control group as much as 70.0% and most are 14 years old in the intervention group as much as 53.3%. While the characteristics based on gender, most of the respondents were male, namely 56.7%.

**Table 3.** Descriptive Statistics of Knowledge Differences Before and after Treatment of Intervention Group

Intervention Group	Knowledge		Description
	Mean	p-value	
Pretest	13.03	0.000	There is a Difference
Posttest 1	17.97		
Pretest	13.03	0.000	There is a Difference
Posttest 2	16.43		
Posttest 1	17.97	0.000	There is a Difference
Posttest 2	16.43		

Based on table 2, it is known that the difference in student knowledge before and after being given treatment in the form of animated videos and leaflets in the intervention group has an average value at pretest of 13.03, at posttest 1 of 17.97 and at posttest 2 of 16.43. Then the statistical analysis test was carried out using the Wilcoxon test which obtained the results of pretest to posttest 1, pretest to posttest 2, posttest 1 to posttest 2 with a p-value = 0.000 > 0.05, which means that there is a statistical difference between student knowledge before and after the intervention of animated videos and significant leaflets in the intervention group.

**Table 4.** Descriptive Statistics of Knowledge Differences Before and after Treatment of Control Group

Knowledge	Description
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Control Group	Mean	p-value	
Pretest	13.63	0.051	No Difference
Posttest 1	14.13		
Pretest	13.63	0.201	No Difference
Posttest 2	13.93		
Pretest 1	14.13	0.428	No Difference
Posttest 2	13.93		

In table 3, it is known that knowledge in the control group has an average pretest value of 13.63 and at posttest 1 of 14.13 and at posttest 2 of 13.93. The analysis test using the Wilcoxon test showed a p-value > 0.05, which means that there was no difference in the level of knowledge between before and after the intervention.

In line with the research that has been done with the results there are differences in knowledge in respondents before and after being given health education about risky sexual behavior through videos with a p-value of 0.000, where increased knowledge can provide prevention of risky behavior in adolescents (Gurning, Hardiyanti and Batara, 2025).

The provision of animated videos to the intervention group can enhance the respondents' knowledge, as animated videos are able to capture attention, provide a more enjoyable learning experience, and reduce students' boredom, thereby increasing their learning motivation (Frisda, Fatmaningrum and Ningtyas, 2022). With this motivation, students are more likely to effectively receive and understand the information presented (Ilhami, Rahayu and Maryati, 2022).

**Tabel 5.** Descriptive Statistics of Attitude Differences Before and after Treatment of Intervention Group

Intervention Group	Attitude		Description
	Mean	p-value	
Pretest	47.20	0.000	There is a Difference
Posttest 1	55.13		
Pretest	47.20	0.000	There is a Difference
Posttest 2	51.93		
Posttest 1	55.13	0.000	There is a Difference
Posttest 2	51.93		

Based on table 4, it is known that the attitude of students in the intervention group before and after being given treatment is different. In the pretest average value of 47.20, there was an increase in posttest 1 of 55.13 and in posttest 2 of 51.93. Data were analyzed using the Wilcoxon test, which showed that in the comparison between pretest and posttest 1, pretest and posttest 2, and posttest 1 and posttest 2, a p-value of 0.000 (<0.05) was obtained. These results indicate that there are differences in student attitudes before and after being given interventions in the form of animated videos and leaflets regarding the prevention of sexual behavior.

**Tabel 6.** Descriptive Statistics of Attitude Differences Before and after Treatment of Control Group

Control Group	Attitude		Description
	Mean	p-value	
Pretest	47.47	0.132	No Difference
Posttest 1	48.27		
Pretest	47.47	0.058	No Difference
Posttest 2	47.87		
Pretest 1	48.27	0.546	No Difference
Posttest 2	47.87		

In table 5, it is known that the attitude in the control group has a pretest value with an average of 47.47, an average posttest 1 value of 48.27 and an average posttest 2 value of 47.87. The data were analyzed using the Wilcoxon test with the results of the p-value > 0.05, which means that there is no difference in attitude in the control group before and after the intervention. This finding is in line with the results of previous studies which showed a difference in attitude before and after being given education through learning video media, as evidenced by the results of statistical tests showing a p-value of 0.000. The increase in attitude contributes to efforts to prevent sexual behavior in adolescents (Kedaton and Aniarti, 2024).

The improvement in attitudes within the intervention group occurred due to the use of animated videos and leaflets on the prevention of sexual behavior in health education (Saing *et al.*, 2024). Education through animated videos has proven effective in enhancing attitudes because the material is presented in an engaging



manner through moving visuals and concise explanations, making it easier for respondents to quickly understand the content (Amalia, Suwarni and Selviana, 2025).

**Tabel 7.** Differences in Knowledge between Intervention Group and Control Group Before and After Treatment

Kwonladge	Mean		P-Value
	Intervention	Control	
Pretest	13.03	13.63	0.097
Posttest 1	17.97	14.13	0.000
Posttest 2	16.43	13.93	0.000

Based on table 6, it is known that the level of knowledge with an average value in the intervention group is 13.03 and the control group is 13.63. Then analyzed using the Mann Whitney Test with the results of the p-value of  $0.097 > 0.05$  which means that there is no difference in the level of knowledge between the intervention group and the control group or means an equal level of knowledge between the 2 groups before being given the intervention.

Furthermore, the average value of posttest 1 in the two groups is different, where the intervention group has a significant increase after being given treatment in the form of giving animated videos and leaflets on preventing sexual behavior with an average value of 17.97, while the control group which is only given leaflets gets an average value of 14.13. While in posttest 2 it is known that the average value of knowledge in the intervention group is 16.43 and in the control group it is 13.93. Then the posttest 1 and posttest 2 data were analyzed using statistics to obtain a p-value of  $0.000 < 0.5$ , which means that there is a significant difference in knowledge between the intervention group given interventions in the form of animated videos and leaflets and the control group which was only given leaflets.

Increased knowledge in students can be a preventive measure for sexual behavior (Febriana and Pratiwi, 2021). Increased knowledge can be supported by media, one of which is video media. Video is considered a very effective and informative media in health education to increase knowledge. Besides being easy to understand, videos are also much more interesting (Arisa *et al.*, 2023). This is evidenced by the results of this study that

there is a difference in the level of knowledge in the intervention group after being given treatment in the form of animated videos and leaflets, compared to the control group.

**Tabel 8.** Differences in Attitudes of Intervention Group and Control Group Before and After Treatment

Attitude	Mean		P-Value
	Interventio n	Contro l	
Pretest	47.20	47.47	0.207
Posttest 1	55.13	48.27	0.000
Posttest 2	51.93	47.87	0.000

Based on Table 5, it was found that the mean score of the intervention group's attitude at pretest was 47.20, while the control group had a mean score of 47.47. Furthermore, statistical analysis using the Independent T-Test test resulted in a p-value of 0.207, indicating that there was no difference in attitude between the control group and the intervention group before the intervention was given. Whereas in posttest 1, the average value was 55.13 in the intervention group and 48.27 in the control group, and in posttest 2, the average value was 51.93 in the intervention group and 47.87 in the control group. Furthermore, the analysis of posttest 1 data and posttest 2 data with statistics obtained a p-value of  $0.000 < 0.05$ , which means that there is a significant difference between the attitude of the intervention group given animated videos and leaflets with the attitude of the control group which is only given leaflets.

Educational video media using animation in learning can attract the attention of students, can reduce boredom and drowsiness because there are interesting images accompanied by audio, so that students can better understand the information conveyed (Kedaton and Aniarti, 2024). Increased understanding of the information provided can affect attitudes, resulting in an increase in attitudes that continue to prevent risky behavior (Alvionita, Pujiana and Majid, 2022). Therefore, there are differences in attitudes in the intervention group before and after giving animated videos and leaflets about preventing sexual behavior, compared to the control group given leaflets.

## CONCLUSIONS

There is a difference in the level of knowledge and attitudes of students before and after being given animated videos and leaflets in the intervention group. In addition, there is also a difference in the level of knowledge and attitudes of students about preventing sexual behavior in the intervention group who were given treatment in the form of animated videos with the control group who were not given treatment and only given leaflets. The use of animated videos on adolescent students in the intervention can increase the knowledge and attitudes of adolescents as an effort to prevent sexual behavior.

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