

## The Effect Of Animated Video Media On The Dangers Of Smoking On Adolescents' Knowledge And Attitudes At SMP Negeri 5 Lirung

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### Abstract

*Adolescence is a time of emotional and psychological instability, where young people search for their identity. This search for identity often ignores the health risks of the harmful effects of smoking. Cigarettes are a significant health risk factor among adolescents, so interesting and effective educational interventions are needed. Animated video media was chosen as an educational tool because it has visual and audio capabilities to convey messages interactively and are easily understood. This study aims to analyze the effect of animated video media on the dangers of smoking on the knowledge and attitudes of adolescents at SMP Negeri 5 Lirung. This study used a quantitative method with a One-Group Pretest and posttest design. The research sample consisted of 70 junior high school students in grades 7, 8, and 9 who were selected using the purposive sampling technique. The results showed a significant increase in knowledge and changes in students' attitudes after watching animated videos about the dangers of smoking. The Wilcoxon test showed a significant value ( $p = 0.001 < 0.05$ ). Thus, it can be concluded that there is a significant influence of providing education through animated videos on the dangers of smoking on the knowledge and attitudes of adolescents at SMP Negeri 5 Lirung*

*Keywords: Animated Video, Dangers of Cigarettes, Knowledge, Attitude, Teenagers*

### Abstrak (Indonesian)

Masa remaja adalah masa ketidakstabilan emosi dan psikologis, di mana anak muda mencari jati dirinya. Pencarian identitas ini sering kali mengabaikan risiko kesehatan dari dampak bahaya merokok. Rokok merupakan salah satu faktor risiko Kesehatan yang signifikan di kalangan remaja, sehingga diperlukan intervensi edukatif yang menarik dan efektif. Media video animasi dipilih sebagai alat edukasi karena memiliki kemampuan visual dan audio yang dapat menyampaikan pesan secara interaktif dan mudah dipahami. Penelitian ini bertujuan menganalisis pengaruh media video animasi bahaya rokok terhadap pengetahuan dan sikap reemaja di SMP Negeri 5 Lirung. Penelitian ini menggunakan metode kuantitatif dengan desain One-Group Pre-test dan Posttest. Sampel penelitian terdiri dari 70 siswa SMP kelas 7, 8, dan 9 yang dipilih menggunakan teknik Purposive Sampling. Hasil penelitian menunjukkan adanya peningkatan yang signifikan dalam pengetahuan dan perubahan sikap siswa setelah menonton video animasi tentang bahaya rokok. Uji Wilcoxon menunjukkan nilai signifikan ( $p = 0,001 < 0,05$ ). Dengan demikian, dapat disimpulkan bahwa adanya pengaruh yang signifikan pemberian edukasi melalui video animasi bahaya rokok terhadap pengetahuan dan sikap remaja di SMP Negeri 5 Lirung..

*Kata Kunci: Video Animasi, Bahaya Rokok, Pengetahuan, Sikap, Remaja*

## INTRODUCTION

Adolescence is a time of emotional and psychological instability, where young people search for their identity. This search for identity often ignores the health risks of the harmful effects of smoking. According to research by Andan Firmansyah (2019), smoking causes one in ten deaths, which is 5.4 million people. Factors that contribute to adolescent smoking include parenting, cigarette advertising, peer influence, the need for self-actualization, and peer pressure not to smoke. The World Health Organization (WHO) states that nearly 6 million deaths each year are caused by tobacco use, and this figure is expected to increase to more than 8 million deaths by 2030. Indonesia ranks fourth in the world with the highest number of active smokers, at around 65.2 million. Every year, about 225,700 people in Indonesia die from smoking or other tobacco-related diseases (WHO, 2020).

Data from the 2023 Indonesian Health Survey (IHS) showed that active smokers reached 70 million, with 7.4% of smokers aged 10-18. Children and adolescents are the groups with the most significant increase in the number of smokers. Based on data from the Global Youth Tobacco Survey (GYTS) in 2019, the prevalence of smoking among school children aged 13-15 years rose from 18.3% (2016) to 19.2% (2019). Meanwhile, SKI 2023 data shows that the 15-19 age group is the largest group of smokers (56.5%), followed by 10-14 years old (18.4%).

Based on data from the Central Bureau of Statistics in North Sulawesi, the percentage of adolescents aged  $\geq 15$  years who smoked in 2021 was 27.87%, in 2022 by 25.29%, and in 2023 by 26.96%. In Talaud Islands Regency, the percentage of people aged 5 years and over who smoked every day was 18.40% in 2021, and those who smoked not every day were 3.63% in 2021. From the initial survey conducted by the author, conducting direct interviews with 10 students of SMP Negeri 5 Lirung, the author obtained information that 5 out of 10 students questioned admitted to having smoked, with the excuse of trying out and following friends. They have minimal knowledge about smoking, only knowing that smoking is not suitable for health, and do not have broader knowledge about the dangers of smoking.

Cigarettes have a considerable impact on health, such as cancer (which attacks the lungs, mouth, and other organs), heart disease, chronic breathing, and pregnancy abnormalities. In addition, smoking also hurts the nutritional status of children which has the potential to increase the risk of undernutrition and malnutrition which then contributes to an increased risk of death by 14% in urban slums and 24% in rural areas contributing to the death of 32,400 children, to reduce the incidence of smoking it is necessary to conduct health education about the dangers of smoking, so that the community or individuals understand the impact of smoking.

Animated video is a medium that combines video and visual aspects so that the content display is varied (Oka, 2017). The advantages of animated videos chosen as media are that the learning process becomes clearer and more interesting. Animated videos can display information through sound, images, movement, and color, both naturally and manipulated. The lesson material packaged through this animated video program will be more precise, complete, and attract students' interest. With this media, the presentation material can arouse the curiosity of students and stimulate students to react physically and emotionally (Fatmawati, 2020).

The use of animated media in this study is expected to influence attitudes towards smoking behavior. Previous research states that there is a significant effect on the use of animated media (video) regarding smoking hazard intentions after intervention (Fitrika, 2018).

In Aspiawati's research (2018), animated videos are excellent for teaching and learning because they are easier to understand. Moreover, animated videos are not dull and monotonous with the material alone. However, they can be modified so that the material or lesson is more interesting to learn so that it does not cause boredom even though it is studied many times, with the results before being given knowledge where 13 respondents (13.7%) were categorized as good, enough 29 people (30.5%) and less, people (30.5%) and less as many as 53 people (55.8%) and after being given health education

through video media, the category of sufficient 12 people (12.6%), and good was 83 people (87.4%).

Animated video media is more effective than PowerPoint media in increasing knowledge and attitudes about preventing sexual violence in children. The statistical test results obtained the mean rank of respondents' knowledge in the animated video media group is 31.74, while in the PowerPoint media group is 15.26. This shows that the average increase in respondents' knowledge scores in the animated video media group is higher than the PowerPoint group (Pratiwi, 2020)

## METHODS

This type of research is quantitative; the research design used in this study is experimental with the Pre-Experiment method (one group pre-test and post-test). The population in this study was students at SMP Negeri 5 Lirung, as many as 100 students. The sampling technique used in this research is purposive sampling. The number of samples in this study was 70. According to Sugiyono (2016: 80), the sample is part of the number and characteristics possessed by the population, while the sampling technique is called sampling.

The sampling technique in this study was purposive sampling, in which the researcher selects subjects intentionally based on specific criteria per the research objectives. Inclusion criteria: Students of SMP Negeri 5 Lirung aged 13-15 years, students who are willing to become respondents by signing Informed Consent, physically healthy students (not sick), exclusion: absent students (absent from school) during the implementation of the study and students who are not willing to participate in the implementation of the study or suddenly stop being sampled in the middle of the study. The location of this research was SMP Negeri 5 Lirung, Talaud Islands Regency, and the research was held in August 2024.

The data collection technique in this study is primary data obtained directly from respondents by conducting interviews with respondents using a questionnaire that has been available to obtain the identity of adolescents, as well as measuring the level of knowledge and attitudes of adolescents about smoking. That secondary data is obtained or collected from existing sources. data can be collected through various sources such as books, journals, articles, and other related topics. Acquisition of data by using the internet and retrieving other data relevant to the objectives of the research concerned

## RESULTS AND DISCUSSION

### A. RESULTS

#### 1. Characteristics of Respondents

Table 1: Frequency Distribution of Respondents by Age

Age	Frequency (n)	Percent (%)
13 years old	23	32.9
14 Years	26	37.1
15 Years	21	30.0
Total	70	100.0

Based on Table 1, most of the respondents at SMP Negeri 5 Lirung, 37.1%, were 14 years old.

Table 2: Frequency distribution of respondents based on gender

Gender	Frequency	
	(n)	%
Male	40	43,8
Female	30	56,3
Total	70	100

Table 2 shows that most of the respondents at SMP Negeri 5 Lirung were male students, with a percentage of 57.1%

Table 3: Distribution of Respondents Based on Knowledge Before and After being given an animated video on the dangers of smoking.

Category	Knowledge			
	Before		After	
	f	%	F	%
Good	33	47.1	53	75.7
Enough	37	52.9	17	24.3
Total	70	100	70	100

Table 3 illustrates that before being given an animated video there was a large proportion of moderate knowledge about the dangers of smoking with a presentation of 52.9% and good knowledge of 47.1. While after being given an animated video, most respondents had good knowledge about the dangers of smoking with a presentation of 75.7% and respondents with sufficient knowledge were 24.3%.

Table 4 Distribution of Respondents Based on Attitudes Before and After at SMP Negeri 5 Lirung

Category	Attitude			
	Before		After	
	f	%	F	%
Good	22	31.4	43	61.4
Enough	48	68.6	27	38.6
Total	70	100	70	100

Table 4 shows that of the 70 respondents, before being given an animated video, most of had sufficient attitudes about the dangers of smoking, with a presentation of 68.6% and a good attitude of 31.4%. Whereas after being given animated video media, most respondents had a good attitude about the dangers of smoking, with a presentation of 61.4% and a sufficient attitude of 38.6%.

## 2. Bivariate Analysis

### a. The effect of animation video on knowledge about the dangers of smoking

The results of the analysis of the effect of animated videos on knowledge about the dangers of smoking in SMP N 5.

Table 5: Wilcoxon Signed Rank Test of the Effect of Video Animation on Knowledge about the Dangers of Cigarettes

Knowledge	Mean	SD	Minimum	Maximum	P value
Pre-Test	30.94	1.817	28	36	<0.001
Post-Test	33.21	1.307	30	36	

Table 5 shows a difference in the Pre-test and Post-test values of the level of knowledge of the dangers of smoking. The results of the Wilcoxon Signed Rank Test obtained a p value <0.001 ( $p < 0.05$ ), so it can be concluded that animated videos have an effect on knowledge about the dangers of smoking.

### b. The effect of video animation on attitudes about the dangers of smoking

The results of the analysis of the effect of video animation on attitudes about the dangers of smoking in SMP N 5

Table 6: Wilcoxon Signed Rank Test Effect of Video Animation on Attitudes about Cigarette Hazards

Attitude	Mean	SD	Minimum	Maximum	P value
Pre-Test	56.56	39.37	49	66	<0.001
Post-Test	61.30	3887	51	68	

Table 6 shows a difference in the Pre-test and Post-test values of attitudes about the dangers of smoking. The results of the Wilcoxon Signed Rank Test obtained a p value <0.001 ( $p < 0.05$ ), so it can be concluded that there is an effect of animated video on attitudes about the dangers of smoking.

## DISCUSSION

### 1. Characteristics of respondents based on age

The research results on 70 respondents at SMP Negeri 5 Lirung showed that respondents aged 14 years dominated as samples, compared to respondents aged 13 and 15. Overall, the respondents in this study were adolescents. Soetiningsih (2010) states that adolescence is a period of childhood and adulthood, which begins at the time of sexual maturity, between the ages of 11 and 20.

According to Erik Erikson in the theory of psychosocial development, adolescence is when individuals face identity and role crises. At this stage, adolescents are trying to find their identity, and are often influenced by peer groups, including in terms of smoking habits (Erikson, 1968). Adolescents at this age are also more likely to experiment with various new behaviors, including smoking, which can lead to the adoption of the habit.

Previous research shows that adolescence is a period that is vulnerable to negative influences, such as smoking. According to Puspitawati and Anas (2020), adolescents aged between 13 and 15 years have a higher risk of trying smoking compared to younger or older ages. This is due to increased social interaction and the search for identity that encourages them to follow group behavior.

Research by Ariani et al. (2022) found that adolescents aged 14 tend to be more interested in

cigarette advertisements and promotions, which can influence their attitudes and behaviors. Thus, understanding of the dangers of smoking needs to be improved in this age group so that they can make better decisions regarding their health.

Therefore, interventions through educational media such as animated videos about the dangers of smoking are critical to be conducted at SMP Negeri 5 Lirung, considering that the age of 14 is a critical moment in the formation of adolescents' attitudes and knowledge about the dangers of smoking critical moment in shaping adolescents' attitudes and knowledge about health. The use of engaging media can help attract adolescents' attention and increase their understanding of the negative impacts of smoking.

## 2. Analyzing characteristics respondents based on gender

In the study at SMP Negeri 5 Lirung, it was identified that more respondents were male than female, with approximately 57.1% of the total respondents being male, while the remaining 42.9% were female. The predominance of male students in this study can be attributed to several social and cultural factors that influence their behavior and attitudes, including attitudes towards smoking.

According to the Gender Theory developed by Albert Bandura's Social Learning Theory, individuals learn behavior through observation and imitation of models, including smoking behavior (Bandura, 1977). Males are often in environments that are more open to smoking behavior, both in interactions with peers and media influences. This may cause male students to be more likely to engage in smoking behavior compared to female students. Research by Putra and Aryani (2021) shows that boys are more likely to engage in smoking behavior than girls. More likely to try smoking than girls, especially in adolescence, where they often seek recognition from peers. This is reinforced by the results of another study by Sukmawati and Anwar (2020), which found that male students are more likely to try smoking than female students. They are more vulnerable to environmental influences and smoking habits in their peer group.

## 3. Knowledge about the dangers of smoking before and after being given the animated video

The results of this study showed significant changes in respondents' knowledge about the dangers of smoking before and after being given the animated video. Before being given the animated video, most respondents had sufficient knowledge about the dangers of smoking (52.9%), while 47.1% had good knowledge. After the animated video, the proportion of respondents with good knowledge increased to 75.7%, while those with fair knowledge decreased to 24.3%.

This increase in knowledge shows that animated videos as educational media positively influence adolescents' understanding of the dangers of smoking. Multimedia Learning Theory suggests that using different types of media, such as animated videos, can increase students' attractiveness and understanding of the material (Mayer, 2001). Attractive visual media can help students to absorb information more easily and strengthen their memory of the material taught.

Several studies support the effectiveness of educational videos in improving adolescent knowledge. Research by Yunita and Sari (2019) found that using animated videos in health education can significantly increase students' knowledge about the adverse effects of smoking. Another study by Hapsari and Indriani (2021) showed that students who were given educational material through animated videos showed a higher increase in knowledge than those who only received material verbally. The increase in knowledge is significant, especially considering that adolescents are a group that is vulnerable to the influence of smoking behavior. According to the World Health Organization (WHO), increased knowledge about the dangers of smoking can help adolescents make better decisions regarding their health. Their health (WHO, 2020). With better knowledge, it is expected that adolescents' attitudes and behaviors towards smoking will also change to be more positive towards health.



#### 4. Attitude about the dangers of smoking before and after being given an animated video

The research results at SMP N 5 Lirung showed that the attitude variable after being given a video animation in the good category increased significantly compared to before being given the video animation, with an increase of 61.4% from 31.4%.

This is in line with the research that changes in this attitude show that animated video media is effective in influencing adolescents' attitudes about the dangers of smoking. Although there was a decrease in the percentage of attitudes after the intervention, the increase in the proportion of respondents showing a fair attitude reflects that the animated video has successfully provided a better understanding of the dangers of smoking.

Leon Festinger's Theory of Attitude Change, known as cognitive dissonance theory, explains that when individuals are exposed to new information that conflicts with their existing beliefs or attitudes, they will experience discomfort and tend to change their attitudes to be consistent with the new information (Festinger, 1957). In this context, animated videos about the dangers of smoking provide new information that can trigger attitude change among adolescents.

Previous research also supports using educational videos to influence adolescents' attitudes. A study by Ismail and Sari (2020) showed that using animated videos can increase students' awareness and positive attitude towards health, including the dangers of smoking. Another study by Utami and Sigit (2021) found that audiovisual educational materials were more effective in changing adolescents' attitudes than conventional methods.

#### 5. Analyzed

Based on the results of the Wilcoxon Signed Rank Test, a p-value of  $<0.001$  ( $p < 0.05$ ) was obtained, which means that there is a statistically significant difference between the level of knowledge of respondents before and after being given an intervention in the form of an animated video about the dangers of smoking. This shows that animated videos have a significant influence in increasing adolescents' knowledge related to the dangers of smoking.

The Cognitive Theory of Learning developed by Jean Piaget emphasizes the importance of active experience in the learning process, which is linked to animated videos as visual media that can provide information interactively and attract attention. This aligns with research findings, which show that visual media such as animated videos can improve student understanding because they involve strong visual perception and memory (Piaget, 1970).

Richard Mayer's (2001) Multimedia Learning Theory also supports these findings, where Mayer emphasizes that multimedia - a combination of images and text - can improve understanding and retention of information. Animated videos can provide a more engaging and informative representation, which can improve students' understanding of the adverse health effects of smoking.

Previous research supports these results. A study by Rahmawati and Anggraini (2020) showed that using educational animated videos in secondary schools significantly improved students' knowledge about the dangers of smoking. Another study by Putri and Lestari (2019) also found that students who were given information through video media had a higher increase in knowledge than those who used the method conventional learning method.

#### 6. Analyzing the effect of animated videos on attitudes about the dangers of smoking

Based on the results of the Wilcoxon Signed Rank Test, the p-value  $< 0.001$  ( $p < 0.05$ ) was obtained, indicating a significant difference between respondents' attitudes before and after being given an intervention in the form of an animated video about the dangers of smoking. This result confirms that animated videos have a significant influence in changing adolescents' attitudes towards the dangers of smoking.

The Theory of Attitude Change, as expressed by Fishbein and Ajzen (1975) in the Basic Theory of

Behavior, explains that a person's attitude is influenced by their beliefs about the consequences of a behavior and their evaluation of these consequences. Animated videos provide clear and engaging information about the dangers of smoking, which can help students develop positive beliefs towards anti-smoking attitudes. Previous research also supports the effectiveness of using video media in influencing attitudes. A study by Nuraeni and Rahardjo (2021) found that animated videos can increase students' positive attitudes towards health and smoking prevention. Another study by Sari and Prabowo (2020) showed that students who were exposed to educational materials in the form of videos showed a greater increase in positive attitudes compared to students who received the material in a conventional way

## CONCLUSION

Based on the results and discussion of the research on the effect of animated video media on the dangers of smoking on the knowledge and attitudes of adolescents at SMP Negeri 5 Lirung, it can be concluded as follows:

1. Most of the characteristics of adolescents in SMP Negeri 5 Lirung are 14-year-old male.
2. There is increased knowledge after being given an animated video at SMP N 5 Lirung before treatment.
3. There was an increase in attitude after being given an animated video at SMP N 5 Lirung before treatment.
4. There was a significant effect of animated video media on knowledge and attitude before and after treatment.

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