

ORIGINAL ARTICLE

## THE EFFECT OF AUDIO-VISUAL MEDIA ON ADOLESCENTS' KNOWLEDGE AND ATTITUDE TOWARD SMOKING DANGEROUS AT SECONDARY HIGH SCHOOL 2 HALONGONAN SUBDISTRICT, INDONESIA

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### Abstract

Smoking is a bad behavior which can cause danger to health. Today, it becomes a habit for adolescents. It can be prevented by promoting health education by using audiovisual media, which provides information and education for increasing good knowledge and attitude toward the prevention of smoking. The research problem was how about the influence of audiovisual media on adolescents' knowledge and attitude. The objective of the research was to analyze the impact of audiovisual media on adolescents' knowledge and attitude toward the danger of smoking at SMP Negeri 2 Halongonan Timur Subdistrict. The study used a quasi-experimental method with pretest-posttest design. It was conducted at SMP Negeri 2 Halongonan Timur Subdistrict, Padang Lawas Utara Regency. Eighty-four samples were selected and allocated to the intervention group and the control group. The data were gathered using questionnaires. The hypothesis was tested by using paired t-test and independent t-test. The result of the research showed that there was a significant influence of audiovisual media ( $p < 0.05$ ) on adolescents' knowledge and attitude after they had been given intervention. The conclusion was that audiovisual media was more effective in increasing adolescents' knowledge and attitude toward the danger of smoking. It is recommended that parents not smoke in front of their children. The school management needs to collaborate with the parents for discussing the academic development and students' behavior, and health care providers should increase health education program about the danger of smoking.

**Keywords:** audiovisual media, knowledge, attitude, the danger of smoking

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### 1. Introduction

Smoking is one of the habits which is found in everyday life. Lifestyle is interesting as a health problem. The results of the study show that heavy smokers have started this habit since their teens, and almost no heavy smokers are just starting to smoke in

adulthood. Therefore, adolescence is often considered a critical period that determines whether to become a smoker or not (1). Based on Basic Health Research (Riskesdas 2013), the number of smokers in the province of North Sumatra reached 29.7%, for the national prevalence of male smokers by 54.1% while current smokers in North Sumatra according to Riskesdas 35.7%. The average number of cigarettes smoked per day by more than half (52.3%) of smokers is 1-10 cigarettes. In Medan, 34.9% of junior high school students smoke (2). In the youth group, 49% of male students have consumed cigarettes.

Smoking is a significant factor causing vascular and cardiovascular diseases. Smoking behavior will have an impact on health in the short and long term, which will be borne not only by smokers themselves but also others (3). In terms of reducing cigarette addiction in adolescents can be done through promotive and preventive, one of the efforts is to conduct health education to provide information and education that aims to improve knowledge and foster a positive attitude toward the prevention of smoking (4). The use of audiovisual media is generated through mechanical and electronic processes by conveying audio or visual messages or information providing eye stimuli (sight) and ear (hearing) (5).

Based on the results of research conducted Nugroho et al, the influence of health education using audiovisuals to increase motivation to stop smoking is more significant because it attracts one's attention so as to arouse the enthusiasm of someone to obtain information and also more easily accepted than using print media, the average score of motivation that gets counseling using audiovisual media is higher than the print media (6).

Based on the initial survey that the authors do by conducting interviews directly to 15 teenagers in the state of SMP Negeri 2 Halongonan Timur Subdistrict, the authors get information that the students know about smoking and among them there are five students do not smoke, and ten students smoked by reason of trial and follow. Their cigarette knowledge is minimal, just knowing that cigarettes are not suitable for health, do not have a comprehensive understanding of the dangers of cigarettes, also said they have never received health education with audiovisual media, in their opinion health education with audiovisual media is very interesting because generally health education with lecturer method that resulted quickly bored and monotonous.

## **2. Objectives**

The study aimed to examine the effect of audiovisual media intervention on improving the knowledge and attitude among adolescents at SMP negeri 2 Halongonan timur.

## **3. Method**

The purpose of this research is to analyze the influence of audiovisual media to the level of knowledge and attitude of adolescent about the danger of smoking in the State SMP Negeri 2 Halongonan Timur Subdistrict Padang Lawas Utara Regency This research uses quasi-experiment method, with the research design used is pre-test and post-test group design with control group without randomization. This design was used to compare the

results of measurements before and after treatment in both groups, on-field or community research, in which the researcher was unable or challenging to control entirely as in true experimental design.<sup>7</sup> The study population was all male students in the State of SMP Negeri 2 Halongonan Timur Subdistrict Padang Lawas Utara Regency by using purposive sampling method as much as 42 respondents for each group (42 groups of intervention with audiovisual media and Intervention with audio-visual media was done 1 time on group intervention after 2 weeks then post-test done. The data were collected before and after the intervention, directly from respondents based on knowledge and attitude questionnaires. Data analysis using univariate analysis, bivariate analysis with Paired T-test, and Independent T-test.

## 4.Result

### 4.1. Frequency Distribution of Respondents at SMP Negeri 2 Halongonan Timur Subdistrict Padang Lawas Utara Regency

Table 1. Frequency Distribution of Respondents at SMP Negeri 2 Halongonan Timur Subdistrict Padang Lawas Utara Regency

Characteristics	Intervention group		Control group	
	f	%	f	%
Age(Year)				
12	19	45,2	25	59,5
13	21	50,0	15	35,7
14	2	4,8	2	4,8
Tribe				
Batak	18	42,9	17	40,4
Melayu	3	7,0	1	2,4
Aceh	1	2,4	1	2,4
Minang	2	4,8	2	4,8
Jawa	18	42,9	21	50
Father Education Level				
Junior High School	9	21,4	7	16,7
Senior High School	31	73,8	31	73,8
University	2	4,8	4	9,5
Mother Education Level				
Primary School	2	4,8	2	4,8
Junior High School	12	28,6	12	28,6
Senior High	27	64,2	27	64,2
University	1	2,4	1	2,4
Father Occupation				
Farmer	5	11,9	4	9,5
Private employees	21	50,1	24	57,1
Entrepreneur	9	21,4	9	21,5

Government employees	3	7,1	4	9,5
Army/Police	4	9,5	1	2,4
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Mother Occupation				
Farmer	6	14,3	4	9,5
Private employees	9	21,4	9	21,4
Entrepreneur	9	21,4	9	21,4
Government employees	1	2,4	1	2,4
Housewife	17	40,5	19	45,3
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Who smokes inside the house				
Father	22	52,4	25	59,5
Brother/ Sister	7	16,6	6	14,3
There is no	13	31,0	11	26,2
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Ever Smoked				
Yes	7	16,7	5	11,9
No	35	83,3	37	88,1
<hr/>				
how many cigarettes in one day				
1-2	7	100,0	5	
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where to get cigarettes				
Friends	3	42,9	3	60
Buy	4	57,1	2	40

#### 4.2. Mean score of knowledge and attitude among Intervention group before and after receiving the program

Table 2 showed the mean scores difference among intervention group before and after receiving the program. The results showed that there are positive effects on knowledge ( $p < 0.05$ ) and attitude ( $p < 0.05$ ) of patients after receiving the intervention.

Table 2. Mean score of knowledge and attitude among Intervention group before and after receiving the program

Variable	Before		After		Mean difference	p-value
	Mean	SD	Mean	SD		
Knowledge of intervention group	33,83	8,151	37,64	6,484	-3,810	0,001
Attitude of intervention group	43,52	7,306	47,45	8,937	-3,930	0,04

### 4.3. Mean score of knowledge and attitude among control group before and after receiving the program

Table 3 showed the average score of knowledge and attitude among adolescent in the control group before and after receiving the program. The results showed that there is no statistically significant difference on knowledge ( $p > 0.05$ ) and attitude ( $p > 0.05$ ) before and after receiving the intervention.

Table 3. Mean score of knowledge and attitude among control group before and after receiving the program

Variable	Before		After		Mean difference	p-value
	Mean	SD	Mean	SD		
Knowledge of control group	33,57	7,586	35,10	4,247	-1,524	0,227
Attitude of control group	43,19	7,546	46,69	9,314	-3,500	0,060

## 5. Discussion

Table 1 illustrated the level of knowledge of adolescents before and after the intervention with Paired T-Test result is  $p$ -value = 0.001 ( $p < 0.05$ ). The results of this study are similar to the effects of Primavera research, states health education using audiovisual media proved to change the knowledge of class XI students on the learning outcome of the concept of elasticity (8). Because Audio-visual media is a medium that is able to stimulate the sense of sight and the sense of hearing together, because this media has elements of sound and image elements (9), measurement of adolescent attitudes occurs a significant difference with the magnitude of difference (mean difference) of 3,930. The results of his study are similar to Shamsideen's research, which uses audio-visual media to influence learning attitudes in Nigeria.<sup>10</sup> Factors that may affect the success of health promotion programs or health education include facilitator factors, materials, participant conditions, organizational processes, methods, and media used. Increased adolescent attitudes about the dangers of smoking are also influenced by the health education process itself (11). This is consistent with Skinner's theory in Notoatmodjo, stating that behavioral change is essentially the same as the learning process, stimulus (stimulus) that has received attention from the individual (accepted), then will process the stimulus so that there is willingness to act for the sake of stimulus which he has received (behave) (12). Finally, with the support of facilities such as media and encouragement from the environment, the stimulus has an effect on the actions of the individual (behavior change).

Based on the results of the analysis in table 2. that the knowledge of adolescents about the dangers of smoking in the control group did not occur significantly difference with the magnitude of difference (mean difference) of 1.524, with Paired T-Test results obtained p-value = 0.227 ( $p > 0.05$ ).

The results of this study were similar to the Primavera study, stated that in the control group who did not do health education using audio-visual media there is no change of knowledge of class XI students on the learning outcome of the concept of elasticity (8). Based on the results of the study, the researchers concluded that the control group that did not do health education using audio-visual media did not change the knowledge, information about the dangers of smoking from print media, electronics, banners or pictures obtained by adolescents from the environment proved less attention from teenagers so less increase the knowledge of the teenager. While in the attitude does not occur a significant difference with the magnitude of difference (mean difference) of 2.060.

The results of this study are similar to Shamsideen's study; the control group who did not use audio-visual media had no effect on the attitude of study in Nigeria (10). Based on the result of the research, the researcher concludes that the control group that did not do health education using audiovisual media did not change attitude, information about the dangers of smoking from printed, electronic, banner or pictures obtained by teenagers from the environment proved less attention from teenagers so less increase adolescent knowledge, it affects the no increase in good attitude to the adolescent.

The statistical analysis showed there is a significant difference in adolescent knowledge about the dangers of tobacco. Knowledge of the intervention group and the control group based on the results of the Independent T-Test statistics of each group obtained p-value = 0,879 and 0,879 ( $p > 0,05$ ). This means that there is no significant difference.

Knowledge after the intervention, there was a change of knowledge scores both in the intervention group. The intervention group, the adolescent knowledge scores about the dangers of smoking changed to 37.64, and the control group of 35.10. Independent T-Test statistical results obtained p-value = 0,036 ( $p < 0,05$ ) which indicate there is a difference of significant increase of knowledge. Adolescents in the intervention group used audio-visual media experienced a higher knowledge increase when compared to the control group.

The results of this study are in line with the results of research conducted by Ode, shows the group of junior high school students in Makurdi who get health education using audiovisual media more influential on the increase of knowledge than the group who did not receive health education using audiovisual media (13)

Researchers assume health education by using audio-visual media can increase the level of adolescent knowledge about the dangers of smoking. Increased knowledge of adolescents in the intervention group using audio-visual media and control groups was influenced by the learning process, but the media used gave different effects for

adolescents. Audiovisual media can give a clearer effect because the two senses are stimulated hearing and sight (14). While in the attitude with Independent T-test statistic test result in both groups obtained p-value = 0,838 ( $p > 0,05$ ). This means that there is no significant difference in attitude between the two groups.

The result of post-intervention attitude measurement using audiovisual media showed the change of attitude score in the intervention group to 47.45 and the control group of 45.25. Independent T-Test statistical results obtained p-value = 0,045 ( $p < 0,05$ ) which shows there is significant difference attitude between both groups after intervention using audiovisual media. Increased attitudes are likely due to increased knowledge of both intervention and control groups. This is consistent with the opinions of Simons-Morton, McLeroy, and Wendel, stating that knowledge will stimulate the change of attitudes and actions of a person. According to Green (1980), the behavior is determined by the knowledge, attitudes, beliefs, traditions of the person or society concerned (15).

The results of this study in accordance with research Shamsideen, states that the group that gets the learning process using audiovisual media more influence on improving learning attitudes than the group with only a bright learning process in Nigeria (10).

Researchers assume that the increase in adolescent attitudes about the dangers of smoking in both groups due to the stimulus or stimulation of information distribution with good teens is through the hearing and vision are the five senses that play an important role for humans in understanding something that raises the attention or focuses on the topic being discussed. Based on the results of this study, researchers assume that knowledge is good will make someone behave better. Teenagers will behave well if they already have good knowledge about the dangers of smoking, so do not want to dabble cigarettes, let alone become active smokers.

## 6. Conclusions

**In conclusion, showed that the** audiovisual media was a positive effect on improving the knowledge and attitude of smoking dangerous among teenager. Further study needed to consider this strategy for increasing the knowledge and attitude on smoking prevention.

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