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Effectiveness of Video Education in Preventing Electric Smoking Behavior in Students

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ABSTRACT

Electronic cigarettes have experienced very rapid development, recently many people have been seen using electronic cigarettes, In Indonesia, as many as 2.1 million who use electronic cigarettes are students. Control of electronic cigarettes is carried out by providing education to change the knowledge and attitudes of adolescents. In the digital era, innovation is possible in delivering messages for prevention through audiovisual media such as short videos. This study aims to determine the effectiveness of video media on knowledge, attitudes and actions of electronic smoking behavior in adolescents at SMK Istiqomah Muhammadiyah 4 Samarinda. This study was conducted using an Experimental research method with a pre and post design approach. This study involved two research groups, namely the experimental group and the control group. Data were obtained using a questionnaire on knowledge, attitudes and actions of electronic smoking. The research sample was 234 students. The sampling technique that will be used in this study is Simple Random Sampling. Statistical Wilcoxon Signed Rank Test. The results of the study were that after education using video there was an increase in knowledge of 5 points and attitudes of 2 points. The results of the statistical test showed that there was an effect of video education on knowledge and attitudes with a P Value of 0.000. The conclusion of this study is that video education about the dangers of electronic cigarettes can increase knowledge and attitudes towards preventing electronic smoking behavior.

Keywords: Electronic Cigarettes, Video Education, Teenagers.

INTRODUCTION

Electronic cigarettes have experienced very rapid development, recently many people have been seen using electronic cigarettes, the majority of electronic cigarette users in Indonesia consider it useful to increase the popularity and trend of the globalization era. (Purba & Permatasari, 2021). Based on the 2018 Basic Health Research (Riskesdas), the number of e-cigarette users under the age of 10 years was 2.8%, at the age of 10-14 years was 10.6%, this age group was the largest user of e-cigarettes and at the age of 20-24 years was 7% (Kemenkes, 2018). The use of e-cigarettes among adolescents has increased over the years, surpassing the habit of smoking tobacco. In Indonesia, as many as 2.1 million who use e-cigarettes are students. This is due to the conflicting information given to adolescents without adequate knowledge about the dangers of e-cigarettes which has led to an increase in e-cigarette users among adolescents (Dewi et al., 2020).

Various types of electronic cigarette control are carried out by providing education, one of the efforts is through Health education to change the knowledge and attitudes of adolescents. In the digital era, innovation is possible in delivering messages for prevention through audiovisual media such as short videos (Prasetya et al., 2021). Video media is used to increase knowledge because video media can add information by stimulating the five senses of hearing and sight (Feriyanti et al., 2020). Providing information in the form of videos can increase students' knowledge and have a positive impact on the attitudes formed. Attitudes that are based on knowledge will last longer than attitudes that are not based on knowledge (Adnani et al., 2021).

The results of a preliminary survey conducted by interviewing teachers and students showed that an average of 51% of male students did not know the contents of e-cigarettes and 34% did not think that e-cigarettes were dangerous. During the raid at the school, several types of cigarettes were found to be used and the most were e-cigarettes. The sanctions given to students who bring cigarettes are confiscation of cigarettes.

RESEARCH METHODS

This study was conducted using an Experimental research method with a pre and post test design approach, with two research groups, namely the experimental group and the control group. The experimental group was given treatment by providing videos and the control class was not given treatment in the form of providing videos. The population in this study were students of SMK Istiqomah Muhammadiyah 4 Samarinda in grades 10 and 11 totaling 279 students with an age range of 16-18 years. Using a simple random sampling approach, the number of samples was 234, divided into 2, namely the experimental group 117 and the control group 117. The knowledge and attitude questionnaire, earlier research made use of research conducted by Hanan (Aghar et al., 2020). The questionnaire on knowledge, attitudes, and e-smoking behaviour was subjected to a validity test, specifically a validity test that was carried out using expert validity. This refers to a validity test that was carried out by requesting advice from health promotion specialists on the questionnaire (Chifdillah & Rahayu, 2022). The validity test was carried out on video media with Expert Judgment, the reliability test was carried out with the results of knowledge 0.734 then the attitude questionnaire 0.748 and action 0.802. No. Ethical test No.014 / KEPK-UMKT / 1/2023.

RESULTS AND DISCUSSION

In Indonesia, the demographic landscape shows significant gender differences among adolescents, with a higher number of boys compared to girls. This trend is evident in various studies focusing on adolescent behavior and health. The total number of adolescents in Indonesia is around 46 million, with a predominance of boys (Febriani, 2022) . Data shows that in the 15-19 age group, the number of boys is also greater than girls, for the 15-19 age group, there are 11,432,945 male adolescents and 10,730,583 female adolescents. Overall, this trend reflects the dominance of the number of male adolescents in the current Indonesian population (BPS, 2022).

Table 1
Distribution by Gender in Experimental and Control Groups

Characteristics	Group			
	Experiment		Control	
	n=117	%	n=117	%
Gender				
Man	90	76.9%	94	80.3%
Woman	27	23.1%	23	19.7%

Source: Processed Primary Data, 2023

Table 2
Knowledge, Attitude and Action in the Control Group

	Pre-Test	Post-Test
Knowledge		
Mean	6.69	6.75
Median	7.00	7.00
Attitude		
Mean	4.95	5.02
Median	5.00	5.00
Action		
Mean	1.69	1.69
Median	2.00	2.00

Source: Processed Primary Data, 2023

Table 2 shows that in the control group that was not given education about electronic smoking behavior, there was no difference in knowledge of 0.6, attitudes of 0.7 and actions were still the same with no increase in value. Control groups in studies assessing e-smoking behavior consistently show no significant changes in knowledge, attitudes, or practices (Sunarti et al. , 2024). Similarly, a randomized controlled experiment in Iran found that while educational treatments enhanced knowledge and intention to stop smoking, the control group did not exhibit any significant improvements in smoking habit or related variables (Ghasemian et al., 2024).

Table 3
Knowledge, Attitude and Action Values in the Experimental Group

	Pre-Test	Post-Test
Knowledge		
Mean	8.15	9.65
Median	9.00	10.00
Attitude		
Mean	6.05	7.92
Median	6.00	8.00
Action		
Mean	.53	.40
Median	.00	.00

Source: Processed Primary Data, 2023

Table 3 shows that after being treated with video media about the dangers of electronic cigarettes, the mean difference in pre-test and post-test knowledge was 1.5. Attitude 1.87 and Action 0.13. Using videos in education significantly increases adolescents' knowledge of the harmful effects of electronic cigarettes, as evidenced by an increase in the average score of 0.88 ± 1.499 (Albarracin et al., 2018). Online education using videos significantly increases adolescents' knowledge of the harmful effects of electronic cigarettes, with an increase in the average score of 0.88 (Dewi et al., 2020). This study focuses on smoking, not electric smoking; it shows that audiovisual media significantly increases adolescents' knowledge and attitudes towards the dangers of smoking (Siregar et al., 2019). Video game increased knowledge and perceived risk of e-cigarettes, potentially influencing youth attitudes towards electronic smoking and reducing willingness to use them (Xu et al., 2020). All in all, video-based education can be a potent instrument for influencing the attitudes and knowledge of young people regarding e-cigarettes, particularly in environments where traditional education is less accessible.

Nevertheless, the efficacy of these educational endeavours may be compromised by the fact that certain adolescents continue to harbour misconceptions about e-cigarettes, despite the positive effects of video education (Shilco et al., 2022). Adolescents' attitudes and knowledge regarding electronic cigarettes are substantially affected by video education. Research suggests that both virtual and in-person educational formats are effective in improving students' comprehension of the risks, perceived addictiveness, and intent to use of e-cigarettes. For example, a study discovered that virtual education enhanced participants' knowledge and decreased their intention to experiment with e-cigarettes, in a manner comparable to in-person sessions (Gaiha et al., 2022).

Table 4
The Influence of Video Media on Knowledge, Attitudes and Actions in the Experimental and Control Groups

	Experiment	Control
Knowledge	0.00	0.66
Attitude	0.00	0.157
Action	0.00	1.00

Source: Processed Primary Data, 2023

From table 4 it can be explained that the P Value of knowledge is 0.00 , this indicates that there is an educational influence with videos about e-cigarette behavior. Providing education through videos can significantly increase knowledge, this socialization provides new information and understanding. Online socialization about the dangers of e-cigarettes using short videos and text can increase adolescent knowledge (Dewi et al., 2020). Educational videos featuring experts significantly increase perceptions of the dangers of e-cigarettes and increase the likelihood of trying e-cigarettes among smokers, showing a positive influence on smoking behavior (Svenson et al., 2021). Messages about the dangers of e-cigarettes effectively increase perceived risk, support for control, and reduce intentions to use e-cigarettes, indicating that educational videos can also influence behavior (Owusu et al., 2020) .

Videos about e-cigarettes on YouTube led to more positive attitudes toward e-cigarettes among viewers, suggesting a potential educational effect that could influence future tobacco use behavior (Albarracin et al., 2018). Another study showed that video education effectively improved students' attitudes toward smoking, with significant changes in mean attitude scores before and after the intervention (Kosasih and Solehati, 2020). This study shows that audiovisual media, especially animated videos, significantly improve adolescents' attitudes towards cigarette advertising compared to traditional lecture methods (Prasetya et al., 2021). Virtual e-cigarette education similarly improved knowledge, increased perceived addictiveness, and lowered willingness to attempt e-cigarettes among adolescents, demonstrating favourable influence from video educational material (Gaiha et al., 2022). Video educational media significantly improved adolescents' knowledge and perceptions about e-cigarettes, leading to a reduction in their willingness to smoke, as evidenced by the study's finding (Yunita et al., 2022).

CONCLUSION

The use of video education media on electronic smoking behavior can change knowledge for the better, increase positive attitudes, but education that is carried out briefly cannot change electronic smoking behavior. Significant changes after being given education with videos with a P-value of 0.000 and significant changes in attitudes with a P-value of 0.000.

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