



Article

The Effect of Health Education on The Dangers of Smoking in Students of SMK Negeri 4 Yogyakarta

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ABSTRACT

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Smoking is the activity of smoking tobacco rolls wrapped in paper or nipa leaves and then burning and producing smoke. In the survey results of the Ministry of Health of the Republic of Indonesia, the risk of smoking behavior in junior and senior high school students in Indonesia in 2015 was 32.82% in male students. Smoking habits lead to health risk for cardiovascular and respiratory diseases and many types of cancer. Smokers have moderate knowledge about tobacco. The study aim is to examine the effect of health education on knowledge of the dangers of smoking in students of SMK Negeri 4 Yogyakarta. This study utilized a pre-experimental design method with One-Group Pretest-Posttest design approach. The study sample consisted of 127 students who met inclusion and exclusion criteria in class X students of SMK Negeri 4 Yogyakarta. The pretest and posttest scores varied from 22 to 29 with increased scores of the posttest's trend. Statistical analysis using *chi-square* test analysis showed a *p-value* of 0.000 (<0.05). These results suggest that there is an influence between health education on knowledge of the dangers of smoking in students of SMK Negeri 4 Yogyakarta.

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INTRODUCTION

Smoking is the activity of smoking tobacco rolls wrapped in paper or nipa leaves which are then burned and produce smoke. Indonesia is the country that consumes the most cigarettes in ASEAN with a percentage of 46.16%. In the survey results of the Ministry of Health of the Republic of Indonesia for junior and senior high school of Indonesian students in 2015, it was

found that 32.82% of male students tried to smoke for the first time at the age of <13 years. Based on WHO data in 2018, 6.5% of adolescents smoke at the age of 13-15 years and 4% of them are women. Several factors can influence adolescents to carry out smoking activities, such as environmental factors (48%), seeing friends who smoke (24%), seeing parental behavior (10.7%), and also seeing siblings (6.6%). The factor that plays the role of causing smoking behavior in early adolescence (11-15 years) is wanting to know the taste of cigarettes, while in middle adolescence (15-18 years) is seeing their friends smoking^{1,2}. The prevalence of smokers in the Special Region of Yogyakarta is 23.9%. According to the Basic Health Research in 2013, the Special Region of Yogyakarta (DIY) for the population aged ≥ 10 years was exposed to cigarette smoke in the house as much as 66.9% and increased in 2018 as much as 68.6%³.

According to WHO, the consequences of someone who smokes can cause fatal health problems and become one of the causes of death with approximately 6 million cases a year⁴. Smoking has harmful effects or impacts on human health. These effects are not only harmful to the person doing the smoking activity, but also harmful to the surrounding community. The content contained in cigarettes can cause damage and several diseases, such as esophageal disease, bronchial disease and lung disease⁵. In addition, cigarettes are a carcinogen and can cause DNA damage⁶.

The study in Chinese stated that the prevalence of smoking remained high in Chinese adults with poor knowledge about smoking hazards. Another study in Portugal clarified that respondents who had ceased smoking had a significantly higher knowledge score of tobacco use than those who still smoked and those who had never smoked. One of the strategies to change healthy behavior in adolescents is to provide additional health knowledge so that adolescents can make decisions related to their health appropriately. Health education is one way to help broaden adolescents' knowledge or convey health messages to them to gain good knowledge about health⁵. Health education can be provided in various ways, one of which is with learning videos. Learning videos present information audio and visually so that messages can be received evenly, more interesting, varied, and fun^{7,8}. This study aims to determine the effect of health education on knowledge of the dangers of smoking in students of SMK Negeri 4 Yogyakarta.

METHODS

This study is a quantitative study using a pre-experimental approach method with a one-group pretest-posttest design. This research obtained permission from the Ahmad Dahlan University Research Ethics Committee (KEP) with the number 012307152. The research was conducted on 29th and 30th of May 2023 with subjects consisting of 127 students of class X SMK Negeri 4 Yogyakarta who met the inclusion and exclusion criteria.

The sample size was calculated using Slovin methods. The inclusion criteria in this study were class X students of SMK Negeri 4 Yogyakarta who were willing to participate in the study and signed an informed consent sheet. The exclusion criteria in this study were students who were not present during the study. In this study, health material about the dangers of smoking was delivered through videos and discussions after the video was shown. Students filled out questionnaires before the material was delivered and after the discussion was completed.

RESULTS

Based on the results of the research conducted, Table 1 describes the characteristics of age and gender. In the age variable, the results showed that there were 127 respondents. The majority of the Respondent's age was 16 years old (94 people) and most of them were female (61.4%).

Table 1. Frequency Distribution of Characteristics of Research Subjects at SMK Negeri 4 Yogyakarta

Variable	Total (n)	Percent (%)
Age		
15	12	9.4
16	94	74.0
17	20	15.7
18	1	8
Gender		
Male	49	38.6
Female	78	61.4
Total	127	100

Table 2. Frequency Distribution of Pretest and Posttest Score Categories at SMK Negeri 4 Yogyakarta

Value	Pretest			Posttest		
	n	%	mean	n	%	mean
22	7	5.5		2	1.6	
23	2	1.6		3	2.4	
24	15	11.8		5	3.9	
25	19	15.0		9	7.1	
26	27	21.3		19	15.0	
27	19	15.0	26.14	24	18.9	27.17
28	32	25.2		38	29.9	
29	6	4.7		24	18.9	
30	-	-		3	2.4	
Total	127	100		127	100	

Table 2 shows the results of the pre-test and post-test. The mean result of the pretest was 26.14 and the mean of the posttest scores was 27.17.

Table 3, shows the level of knowledge before and after counseling. There was an increasing number of respondents that have good knowledge after counseling.

Table 3. Frequency Tabulation of Knowledge Categories Before and After Counseling on the Dangers of Smoking

Variable	Categories	Before counseling		After counseling	
		n	%	n	%
Knowledge	Good (≥26)	8	66.14	10	85.0
		4		8	
	Poor (<26)	4	33.9	19	15.0
		3			

Statistical analysis using the chi square test between health education and the level of knowledge has a p-value <0.05 (p=000), it can be concluded that there is a relationship between health education and the level of knowledge of students of SMK Negeri 4 Yogyakarta.

DISCUSSION

According to Kurt Lewin's theory, smoking behavior is influenced by a combination of environmental factors and individual factors, which suggests that smoking habits are not solely influenced by internal factors within adolescents, but are also influenced by the surrounding environment¹⁸. Health education aims to change unhealthy behavior into healthy behavior, both physically and mentally. By providing adolescents with an understanding of the health risks of smoking, tobacco control strategies among adolescents can be developed^{19,20}. Knowledge is the result of a person's sensing of objects using their five senses. Knowledge has stages: knowing, understanding, application, analysis, synthesis, and evaluation. A person's knowledge cannot be obtained quickly. Several factors that affect the level of knowledge are age, education level, occupation, experience, and also the source of information. Knowledge can be improved by a person's interest in obtaining information^{9,10}. Indirectly, a person's knowledge can influence their actions because knowledge can influence a person's attitude and behavior. Lack of knowledge about the effects of smoking can play a role in the increasing prevalence of smoking among adolescents. Ignorance about the effects of smoking can lead to an increase in the number of smokers among adolescents. In addition, everyone can gain knowledge through counseling¹¹.

A person's level of knowledge about smoking affects their ability to control their health. Knowledge plays an important role in changing people's mindsets, and this change must be based on good knowledge to be sustainable¹². Although everyone is aware of the dangers posed by smoking, this habit has never diminished and seems to be accepted by society. One way to overcome smoking in adolescents is to provide counseling programs in schools regarding the dangers of smoking^{9,10}. The improvement of the outcome after intervention (health education) in

the harm of smoking was similar to the research conducted by Hadi. Studies conducted on medical students confirm that knowledge is not only one factor that affects smoking habits, but also social and environmental factors.

The results of this study are in line with research conducted by Makalalag (2021)¹³, which states that the use of videos as learning aids has a positive impact on student learning achievement. The use of videos in the learning process creates an interesting and not boring atmosphere for students, attracting their attention to videos that contain information about learning materials. Educational media, such as videos, have the potential to improve students' knowledge levels. Health education through video media has the advantage of providing clear visualization, which facilitates better understanding of knowledge^{13,14}. This audio-visual media approach can improve learning outcomes, such as remembering, recognizing, recalling and connecting facts and concepts. This media has better capabilities by combining auditory (hearing) and visual (vision) elements. In addition, moving objects can be depicted with interesting sounds and can convey messages in a way that is easy to understand, comprehend, and the information received can be remembered longer^{13,15-17}. The limitations of the studies are the condition of the counseling session and the frequency of counseling sessions. Respondents do their pre test and post test together in one room and it was possible to cheat the answer to other respondents. Besides, the exposure to education about smoking's harm is only one time that may influence the retention of the information.

CONCLUSION

Health education has a good influence on the level of student knowledge related to the effects of smoking. The increase in the students' knowledge of smoking is expected to reduce the incidence of smoking. In this study, it was found that there was a significant effect on the level of student knowledge before and after being given health education. Further research that can be done is to assess the incidence of smoking in high school students, and the relationship about knowledge and attitude about smoking.

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