




The Overview of Adolescents Knowledge Level About The Dangers of Electronic Cigarettes for Healthy at Bhinneka Karya Surakarta Vocational High School

Ganis Dina Fihudha^{1*}, Irma Mustika Sari²

¹ Faculty of Health Sciences, University of 'Aisyiyah Surakarta, Indonesia

² Department of Nursing, Faculty of Health Sciences, University of 'Aisyiyah Surakarta, Indonesia


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ABSTRACT

Smoking has become a familiar habit, especially among teenagers. Youths are more likely to use cigarettes at a young age without regard for the potential consequences and their lack of self-awareness and therefore pay no attention to the dangers of their use. Early on in an attempt to reduce the tobacco epidemic. Knowledge of the dangers of electronic cigarettes is little known to young people, and the lack of exposure to teenagers on electronic cigarettes can cause it. This research aims to get an overview of the level of adolescent knowledge about the dangers of electronic cigarettes in health in Bhinneka Karya Surakarta Vocational High School. In the study, the method used is quantitative descriptive with a total of 75 respondents and stratified random sampling sampling taken. The instruments used were questionnaires. The results of 75 teenagers fall largely in the adequately known category of the dangers of electronic cigarettes: 42 (56.0%), 30 (40.0%) fall in the less category, and only 3 (4.0%) in the good category. It could be concluded that the level of teen knowledge about the dangers of electronic cigarettes in Bhinneka Karya Surakarta Vocational High School is adequate.

Keywords: Adolescents, Electronic cigarettes, Knowledge

Corresponding Author:

Ganis Dina Fihudha

Faculty of Health Sciences, University of 'Aisyiyah Surakarta, Indonesia

Jl. Ki Hajar Dewantara No.10, Kec. Jebres, Kota Surakarta, Jawa Tengah 57146

Email: ganisfihudha04@gmail.com

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I. INTRODUCTION

Cigarettes are a primary risk factor in some chronic diseases that can cause death. The death toll from smoking is up to 30%, or the equivalent of 17.3 million people. The death toll is estimated to continue to rise until 2030, with 23.3 million people (Nurhayatiur, 2022). Health Organization

(WHO) estimates the world's 1.1 billion smokers aged 15 years and up to one-third of the world's total population. Indonesia ranks first in the ASEAN country at 46.16%. It is well known that the trend in the age of smoking increases in adolescence, in 10-14 and 15-19 years of age (Irianty & Hayati, 2019).

To reduce the tobacco epidemic, one is working on various strategies that include substituting tobacco users with electric or conventional cigarettes using ends, vaping, delivery, or e-suggestions that will enable active smokers to break from smoking. An electric cigarette is designed to generate nicotine vapor without burning tobacco by still giving the sensation of smoking (Agina et al., 2019).

In recent years, electronic cigarettes have become an alternative smoking device that claims to help smokers quit smoking. Electronic cigarettes were first introduced to the market in 2003 and promoted as an alternative to reducing tobacco consumption. However, the evidence supporting the use of electronic cigarettes as an effective strategy to help smokers quit is lacking (Pratama et al., 2022). Significant increase in the use of electronic cigarettes in Indonesia. In 2017 a national social economic survey showed that the number of people using electronic cigarettes in Indonesia was 4,419,622 by 10 areas. The first place is West Java with 934,680 people, the second place is East Java with 824,374, the third place is Central Java with 579,945 and the last place in Papua is 88,720 people who use e-cigarettes. (Sihaloho et al., 2020).

The proportion of electronic cigarettes smoked by the population less

than 10 years of age in Indonesia by 2.8%, with the majority of electricians in 10-14 years at 106%, with a 15-19 - year group at 10.5%, and a 20-24 - year - old at 7%. Meanwhile, based on work, the highest was found in the school group at 12.1%. Riskesdas also noted that the proportion of electric cigarettes smoked by residents aged 10 years in Indonesia for men and women tends to be not much different, namely 2.8% for men and 2.75 for women. Urban areas are 3.8% higher than rural areas by 1.6% for the proportion of e-cigarettes smoked by residents aged 10 years (Riskesdas, 2018).

Many people think that electric cigarettes are safer than conventional cigarettes. E-cigarettes are as dangerous as conventional cigarettes. Recent infographic data reveals that smoking electronic cigarettes can cause the same feeling from a cottonmouth as conventional smokers with symptoms such as itchy throat and coughing. Electronic cigarettes can cause complications to the lungs. Smoking using electronic cigarettes (Vaping) can cause serious damage to these organs (Bagus & Cahyaningrum, 2023).

Based on the results of research on electric cigarettes, show that cigarette smoke contains nicotine which can trigger the release of fibronectin which causes fibrosis in the lung parenchyma and carbon

monoxide can inhibit fibroblast proliferation and damage elastin tissue in the lungs, causing alveolar dilation. E-cigarette smoke contains propylene glycol, diethyl glycol and glycerin which do not affect alveolar damage. However, e-cigarette smoke contains N-nitrosamine which is carcinogenic just like tar in conventional cigarettes. (Rohmani et al., 2018).

The use of e-cigarettes among adolescents is very widespread, most e-cigarette users come from smokers who have migrated to become fans of e-cigarettes. Some people say that electric cigarettes can disappear a smoker's addiction, and the risks are less than tobacco cigarettes. But apart from being believed to have fewer risks, teenagers who use e-cigarettes can show that they are always keeping up with the changing times. Apart from being practical to take anywhere, e-cigarettes offer a variety of flavors that make teenagers interested in trying them (Zahratul et al., 2021).

3. RESULTS

Table 1 Frequency distribution of knowledge levels about the hazards of e-cigarettes (N=75)

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Knowledge level	Frequency (N)	Percentage (%)
Knowledge of the definition of e-cigarettes		
Good	66	88,0%
Enough	0	0%
Less	9	12,0%

2. METHODS

The kind of research used was quantitative work with a descriptive analysis. The research design used was sectionals. Bhinneka Karya Surakarta Vocational High School carried out the research location in June 2023. The population in this study are male students of Bhinneka by Surakarta class X and XI which number 303 students. Then the sample from this study was obtained by calculating the Slovin formula and obtained 75 results. The sampling technique used stratified random sampling, namely selecting samples based on strata and the results obtained for class X were 40 students and class XI were 35 students.

The variable of this research is the level of knowledge about the dangers of electric cigarettes for health. The instrument in this study was to use a knowledge questionnaire on the dangers of electric cigarettes for health, which totaled 19 questions that had been tested for validity and reliability.

Knowledge level	Frequency (N)	Percentage (%)
Knowledge of the parts of an e-cigarette		
Good	50	66,7%
Enough	0	0%
Less	25	33,3,0%
Knowledge of e-cigarette content		
Good	31	41,3%
Enough	29	38,7%
Not enough	15	20,0%
Knowledge of the difference between e-cigarettes and conventional cigarettes		
Good	8	10,7%
Enough	0	0%
Less	67	89,3%
Knowledge of the dangers of e-cigarettes for health		
Good	12	16,0%
Enough	24	32,0%
Less	39	52,0%
Adolescent knowledge about the dangers of electronic cigarettes		
Good	3	4,0%
Enough	42	56,0%
Less	30	40,0%

Based on Table 1, adolescent knowledge about the definition of e-cigarettes for 75 respondents showed that 66 adolescents had good knowledge (88.0%), and 9 adolescents (12.0%) had less knowledge, adolescent knowledge about the parts the share of electric cigarettes to 75 respondents obtained the results of teenagers who had good knowledge as many as 50 people (66.7%), and teenagers who had less knowledge as many as 25 people (33.3%), adolescent knowledge about electrical content for 75 respondents showed that 31 adolescents (41.3%) had good knowledge, 29 adolescents (38.7%) had sufficient knowledge and 15 adolescents had insufficient knowledge

(20.0%), the knowledge of adolescents about the differences between electric cigarettes and conventional cigarettes 75 respondents obtained the results of adolescents who had good knowledge as many as 8 people (10.7%) and teenagers who had less knowledge as many as 67 people (89.3%), Adolescent knowledge about the dangers of electric cigarettes to health for 75 respondents showed that 12 adolescents had good knowledge (16.0%), 24 adolescents (32.0%) had sufficient knowledge and 39 adolescents had insufficient knowledge. people (52.0%).

Based on Table 1, the level of knowledge of adolescents about the dangers of electric cigarettes for health at

Bhinneka Karya Surakarta Vocational School for 75 respondents showed that 3 adolescents had good knowledge (4.0%), 42 adolescents had sufficient knowledge (56, 0%) and teenagers who have less knowledge as many as 30 people (40.0%).

4. DISCUSSIONS

Smoking is a familiar habit, especially among teenagers. Teenagers use cigarettes more at a young age without paying attention to the consequences that will be caused and lack of awareness of themselves so they don't pay attention to the dangers of using these cigarettes. The results of observations on the reasons for smoking among adolescents include trial and error, joining in, curiosity, just wanting to feel, lonely, to look stylish, imitating parents, for fun, relieving tension, so as not to be called a sissy, a symbol of maturity, looking for inspiration. Other reasons are stress relievers, boredom busters, prestige, environmental influences, anti-acid mouth, desserts, enjoyment (Purwanti et al., 2021).

Knowledge about the dangers of e-cigarettes is still minimal among teenagers, not only that e-cigarettes can also be detrimental to body health. The higher knowledge in adolescents will affect their mindset about the effects of the dangers of electric cigarettes.(Putu et al., 2021). The results of this study are not much different

from previous research in 2018 by Alfiyyah and Yuliastati at MAN 1 Bogor City. The results of their research showed that, out of 73 adolescents, the majority, namely 35 (48.0%), were in the category of sufficient knowledge of the dangers of electric cigarettes.

This research is also in line with Hisan (2022) entitled "Knowledge Overview of the Dangers of Electric Cigarettes to Health in the Cireundeu Vaporizer Community" From 101 respondents the results showed that electric cigarette users had low knowledge of 13 people (12.9%), electric cigarette users 22 respondents (21.8%) had good knowledge and 66 respondents (65.3%) had adequate knowledge of electric cigarette users. However, this research differs from previous research by Wahyuni, Choiruna, and Diani (2019) at SMKN 2 Banjarbaru and SMK-PPN Banjarbaru. Their research showed that, in general, knowledge about the dangers of adolescent e-cigarettes was included in the less category, namely 61 (50.7%), and the remaining 59 (49.3%) were in the category of sufficient knowledge.

Based on the results of the research that has been done, it was found that 42 students were in the sufficient category, namely the majority of class XI with a total of 27 students and class X totaling 15

students. Then for the less category as many as 30 students with the majority of class X, namely 23 students and class XI only 7 students. For the good category, there were only 3 students, namely 2 students in class X and 1 in class XI. The researcher argues that the level of education influences knowledge, that is, the majority of class X has insufficient knowledge and the majority of class XI has sufficient knowledge. Research conducted by Putri & Oktavia (2021) states that the lower a person's education level, the lower a person's level of knowledge, then the higher the level of education, the higher a person's level of knowledge.

Based on the results of the research that has been done, it was found that 42 students were in the sufficient category, namely the majority of class XI. Researchers also argue that some adolescents are in the category of sufficient and insufficient knowledge about the dangers of electric cigarettes because of the lack of information about the dangers of electric cigarettes. Researchers also obtained information from the school that so far there has been no socialization from health workers at schools regarding the dangers of electric and conventional smoking. The school stated that, sometimes it had discussed and reminded teenagers through teachers and also BK (counseling guidance)

about the dangers of smoking. This is what is likely to be one of the reasons that adolescents at the Vocational High School have sufficient knowledge about the dangers of electric smoking. Febriyanti & Pujiastuti (2020) Everyone's way of absorbing information is different either through sight (visual), listening and speaking (auditory) or practicing it (kinesthetic). Absorption of information from each different individual causes a person's way of thinking to be different. Different ways of thinking cause a person to have different knowledge.

The results of previous research by Wahyuni, Choiruna, and Diani (2019) at SMKN 2 Banjarbaru and SMK-PPN Banjarbaru found that out of 200 teenagers, only 5 (2.5%) stated that they obtained information from print media about e-cigarettes, 43 (21.5%) stated that they obtained information from electronic media, 8 adolescents stated that they obtained information from teachers, 7 adolescents stated that they obtained information from health workers, then 2 (1.0%) stated that they obtained information about e-cigarettes from the government.

Information is one very important factor to influence one's knowledge. Riyanto and Budiman (2013) stated that information is something that can be

known. Some say it is a transfer of knowledge. Thus it can be said that information obtained from the mass media, electronic media and so on about the dangers of e-cigarettes will shape one's knowledge about the dangers of e-cigarettes so that they know about the dangers of e-cigarettes and in the end can have the behavior not to smoke because of their knowledge of the dangers of e-cigarettes. Wahyuni, Choiruna, and Diani (2019) stated that the more knowledge smokers have about the dangers of smoking, the higher the desire to quit smoking because smoking has many bad effects both for themselves and those around smokers, this will be a consideration. a large role in a smoker to quit smoking behavior, little by little smokers will reduce their smoking activity with the help of other factors that affect motivation to quit smoking.

5. CONCLUSIONS

The conclusion that can be drawn from this study is that most adolescents' knowledge about the dangers of electric cigarettes at Bhinneka Karya Surakarta Vocational School is mostly in the sufficient category. The teacher's role is very decisive in shaping students' knowledge at school by educating students about the dangers of electronic cigarettes

for health, thus increasing students' knowledge, in time teenagers gain good knowledge so students can avoid abstinence from smoking. In addition, the role of health workers is needed to provide health promotion in increasing student knowledge.

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AUTHOR CONTRIBUTIONS

Substantial contributions to conception, data collection, and analysis: Ganis Dina Fihudha and Irma Mustika Sari. Writing manuscript and revisions: Ganis Dina Fihudha.

CONFLICT OF INTEREST

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

DATA AVAILABILITY STATEMENT

The data are not publicly available due to privacy or ethical restrictions.

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