Awareness Of The Risks Associated With Smoking Can Decrease E-Smoking Behavior In The City Of Jambi

Adinda Salsa Egidea[1], M. Ridwan[2], Vinna Rahayu Ningsih[3]
[1,2,3]Faculty of Medicine and Health Sciences, University of Jambi, Indonesia

Article Info	ABSTRACT
Keywords: Cigarettes, E-cigarettes, Smoking behavior.	Smokers Switch to E-Cigarettes in Jambi City in 2024, namely there is a relationship between the variables of friend influence, advertising and social media support, as well as the behavioral knowledge of tobacco smokers switching to e-cigarettes in Jambi City. Indonesia occupies the fifth position as a producer of tobacco leaves and the third position globally in cigarette consumption. The level of distribution of cigarettes across the country has reached. Technological developments have brought a new phenomenon in the form of tobacco cigarette replacements, such as vapor, vape and e-cigarettes, which are considered an effort to help smokers quit smoking habits, especially in the Jambi city area. This study aims to be Factors Related to the Behavior of Conventional Smokers Who Switch to E-Cigarettes in Jambi City in 2024. The type of research used is a cross sectional approach. The sample for this study was 96 people. The sampling technique used is Accidental Sampling. The population in this study is all individuals who use electronic cigarettes (vapes). The results of this study found that there was a relationship between the influence of friends and the behavior of tobacco smokers to e-cigarettes (p-value: 0.001), the relationship between advertising support and social media, the behavior of tobacco smokers to e-cigarettes (p-value: 0.001), and the relationship of knowledge with the behavior of tobacco smokers to e-cigarettes (p-value: 0.026) in Jambi City. Factors related to conventional behavior
	Corresponding authors: M. Ridwan Public Health Science Study Program, Faculty Medicine and Health Sciences, University of Jambi, Indonesia. fkm.ridwan@unja.ac.id

INTRODUCTION

The World Health Organization states that tobacco smoke kills more than 5 million people each year and is estimated to kill 10 million people by 2020. The WHO estimates that there are an estimated 1.1 billion smokers worldwide aged 15 and over, or one-third of the world's total population, and that number is estimated to come from developing countries, where the majority of smokers are men, especially in the Asian region[1]. Cigarette consumption in Indonesia ranks third in the world, after India and China. The number of people sick from cigarette consumption is expected to reach 10 million by 2030, with 70% of them coming from developing countries.

Awareness Of The Risks Associated With Smoking Can Decrease E-Smoking Behavior In The City Of Jambi—Adinda Salsa Egidea et.al

1556 | P a g e

Data from 2018 shows that 28.8% of current smokers smoke daily; The percentage of men who smoke daily is 62.9% higher than that of women[2]. Worldwide, there are an estimated 1.3 billion people who smoke. Every year, about 225,700 people in Indonesia die from diseases related to smoking or tobacco[3]. People who smoke e-cigarettes believe that they are healthier than tobacco cigarettes because they do not contain carbon monoxide and tar like tobacco cigarettes[4]. According to the Deputy Minister of Health, the use of e-cigarettes by adolescents is another factor that causes the high prevalence of e-cigarettes in Indonesia[5]. If analyzed by region, Jambi Province has the highest proportion of e-cigarette consumers, which is around 3.27%. E-cigarette consumers can also be found in several other regions such as West Java, Riau, East Java, Bangka Belitung Islands, West Sulawesi, Riau Islands, Banten, South Kalimantan, and Bengkulu[6].

The use of electronic cigarettes carries significant risks. The nicotine content in electronic cigarette aerosols has the potential to interfere with the brain development of children and adolescents and cause irritation to the lungs and airways[7]. Both human activities and activities that can be seen directly or indirectly are called behaviors[8]. E-cigarette users are a status that describes individuals as e-smokers[9]. The intensity, place, time, and function of smoking in daily life are the determining factors of a person's smoking behavior, known as smoking behavior[10]. Cigarettes began to be popular around the world in the 19th century[11]. The biggest danger of tobacco cigarettes is their smoke; E-cigarettes do not burn tobacco, so they only produce water vapor instead of smoke[12]. Friends who smoke affect friends who don't smoke because they are easily influenced by friends who smoke[13].

Knowledge Factors in Smoking: According to Pratiwi's research (2020), the senses of hearing (ears) and eyes produce most of a person's knowledge[14]. Advertising as a source of information also affects the use of e-cigarettes. Other factors that influence smoking behavior are peer exposure and exposure to cigarette advertisements. The aim of this research is to identify the factors influencing the transition from conventional smoking to electronic cigarettes. The findings will contribute to efforts aimed at reducing e-smoking practices.

METHOD

The research employed a quantitative methodology, specifically utilizing a cross-sectional design where sample measurements were conducted once at a specific point in time. The study took place at a vape shop located in Jambi City, with the sample comprising visitors from vape shops across 11 sub-districts within the city. The population for this study encompasses all individuals in Jambi City who use electronic cigarettes (vapes). Accidental Sampling was employed as the sampling technique, resulting in a sample size of 96 respondents, determined based on the lack of existing data regarding the number of electronic cigarette users in Jambi City. Data analysis involved both Univariate and Bivariate methods.

Awareness Of The Risks Associated With Smoking Can Decrease E-Smoking Behavior In The City Of Jambi—Adinda Salsa Egidea et.al

1557 | P a g e

Characteristics of Respondents

Table of Respondent Characteristics

Variable		Frequency (n)	Percentage (%)
Gender	Legal Law	79	82,3
	Woman	17	17,7
Age	18 years	2	2,1
	19 years	4	4,2
	20 years	9	9,4
	21 years	16	16,7
	22 years	20	20,8
	23 years	9	9,4
	24 years	11	11,5
	25 years	9	9,4
	26 years	8	7,3
	27 years	5	5,2
	29 years	2	2,1
	31 years	2	2,1
Education Level	SMA	27	28,1
	PT	69	71,9
Working Status	Work	74	77,1
	Not Working	22	22,9
Income	<1 million	3	3,1
	>1 million	21	21,9
	>3 million	50	52,1

Source: processed primary data (2024)

RESULTS AND DISCUSSION

Result
Univariate Analysis

Table 4.3 Distribution of Behavior of Conventional Smokers to E-Cigarettes

Conventional smokers' behavior switching to E-cigarettes	Frequency	
	N	%
Who Switched	48	50%
Haven't Switched	48	50%
Sum	96	100%

Source: processed primary data (2024)

Based on table 4.3 above the distribution of behavior of conventional smokers towards e-cigarettes, it shows that as many as 48 (50%) people with behavior have changed, while 48 (50%) other people with behavior have not changed.

Awareness Of The Risks Associated With Smoking Can Decrease E-Smoking Behavior In The City Of Jambi—Adinda Salsa Egidea et.al

1558 | P a g e

Table 4.7 Ad Distribution and Social Media Support

Ad and Social Media Support	Frequency	
	N	%
Support	61	63,5%
Not Supported	35	36,5%
Sum	96	100%

Source: processed primary data (2024)

Based on table 4.7 above ad distribution and social media support, it shows that as many as 61 (63.5%) people have a support category, while 35 (36.5%) other people have a support category.

Table 4.8 Distribution of Knowledge Levels

Level of Knowledge	Frequency	
	N	%
Less	38	39,6%
Good	58	60,4%
Sum	96	100%

Source: processed primary data (2024)

Based on table 4.8 of the distribution of knowledge levels above, it shows that as many as 38 (39.6%) people have less knowledge, while 58 (60.4%) people have good knowledge.

Bivariate Analysis

Bivariate Results Between Advertising and Social Media Support Variables and the Shift in Tobacco Smoker Behavior to E-Cigarettes

Ad and Social Media Support	Tobacco Smokers' Behavior Switches to E-Cigarettes				PR (95% CI)		P value
	Who moved	%	Not yet moving	%			
Support	40	65,6 %	21	34,4%	2,869	(1,520-	0,001
Not Supported	8	22,9%	27	77,1%	5,415)		

Source: processed primary data (2024)

Based on table 4.9 above, the proportion of respondents with the behavior of switching tobacco smokers to e-cigarettes that switched more often occurred in respondents with supportive advertising and social media support, which was 65.6% (40 people) compared to respondents with non-supportive advertising and social media support of 22.9% (8 people). The Prevalence Ratio value was 2.869, which means that respondents with supportive ads and social media support were 2.869 times more likely to switch from tobacco smokers to e-smokers than respondents with unsupportive ads and social media support. The results of *the chi-square analysis* obtained *P-Value: 0.001 < 0.05,* meaning that there was a significant relationship between advertising and social media support and tobacco smokers' behavior towards e-cigarettes in Jambi City. Sitinjak & Research Susihar (2020) also found that there

Awareness Of The Risks Associated With Smoking Can Decrease E-Smoking Behavior In The City Of Jambi–Adinda Salsa Egidea et.al

1559 | P a g e

was a relationship between media that influenced respondents to use e-cigarettes, where the results showed that the factor that influenced 11th grade students of SI SMAN 15 Jakut to consume e-cigarettes next was due to the internet

Table 4.10 Bivariate Results Between Variables of Knowledge Level and Behavior of Tobacco Smokers Switching to E-Cigarettes

Level of Knowledge	Tobacco Smokers' Behavior Switches to E-Cigarettes				PR (95% CI)	P value
	Who moved	%	Not yet moving	%		
Less	27	71,1 %	11	28,9%	1,962 (1,319 - 2,920)	0,002
Good	21	36,2%	37	63,8%		

Source: processed primary data (2024)

Based on table 4.10 above, the proportion of respondents with the behavior of moving tobacco smokers to e-cigarettes who moved more was found in respondents with less knowledge, which was 71.1% (27 people) compared to respondents with good knowledge of 36.2% (21 people). The Prevalence Ratio value was 1.962, which means that respondents with less knowledge were 1.962 times more likely to switch from tobacco smokers to e-smokers than respondents with good knowledge. The results of *the chi-square analysis* obtained *P-Value: 0.002 < 0.05,* meaning that there is a significant relationship between knowledge and tobacco smokers' behavior towards e-cigarettes in Jambi City. The results of this finding are in line with research conducted by Devi which found a relationship between knowledge and the use of *sisha* and *vape* in students of the Nursing and Pharmacy Study Program of STIKES Sari Mulia with *a p-value* of 0.000.

Based on this study, the results of the study were obtained that there was a statistically significant relationship between the influence of friends and tobacco smokers' behavior to switch to e-cigarettes with *a p-value* of 0.001 <0.05, with the proportion of supportive friends who switched to e-cigarettes by 72.5% greater than the proportion of non-supportive friends who switched to e-cigarettes, which was 24.4%. This study produced the finding that there was a relationship between advertising and social media support and tobacco smokers' behavior to switch to e-cigarettes which proved to be statistically significant with *a p-value* of 0.001 < 0.05.

Discussion

The relationship between social media ad support and smoker behavior

This study produced the finding that there was a relationship between advertising support and social media with the behavior of conventional smokers who switched to e-cigarettes which was statistically significant with a value of *P-value* 0.001 < 0.05[16]. In addition, Sitinjak & Susihar (2020) also found that there was a relationship between media that influenced respondents to use e-cigarettes, where the results of the study showed that the factor that influenced grade 11 students of SI SMAN 15 Jakut to consume e-cigarettes next was due to the internet[13]. E-cigarette advertising has become a major factor influencing

Awareness Of The Risks Associated With Smoking Can Decrease E-Smoking Behavior In The City Of Jambi—Adinda Salsa Egidea et.al

1560 | P a g e

e-cigarette use by teenagers[17].The evidence collected shows that exposure to e-cigarette advertising through social media can lead to a decrease in risk perception about e-cigarettes among re. However, the results of this study are not in line with the research conducted by Wiga et al. which found that there was no effect of exposure to e-cigarette advertising on the use of e-cigarettes in adolescents in Sambelia Regency, East Lombok with *a p-value* of 0.621 > 0.05.

The Relationship Between Smokers' Knowledge and Behavior

This study produced the findings that there was a statistically significant relationship between the knowledge and behavior of conventional smokers who switched to e-cigarettes with the value of *P-value* 0.002 < 0.05[18]. A study in China found that only 21.6% of college students believe that e-cigarettes contain carcinogens and are less addictive than conventional cigarettes[19]. In addition, Lilik et al.'s research also found that there was a relationship between adolescent e-smoking knowledge and behavior and *P-value* 0.02 <0.05[20].However, the findings of this study are not in line with the research conducted by Avelintina et al. which found that there was no relationship between knowledge and use of e-cigarettes in the West Pontianak Regency area and the value of e-cigarettes in the West Pontianak Regency area. *P-value* 0,650[21].

CONCLUSION

Factors influencing the shift from conventional smoking to electronic cigarettes in Jambi City include advertising support via social media and knowledge. The government should enhance educational campaigns on social media and implement smoke-free area policies in Jambi City.

REFERENCE

1. WHO. Statement: World No Tobacco Day 2020. *May 30* https://www.who.int/indonesia/news/detail/30-05-2020-pernyataan-hari-tanpa-tembakau-sedunia-2020 (2020).
2. Ministry of Health, R. *Indonesia's Health Profile in 2019*. *Brief Textbook of Preventive and Social Medicine* (2020). DOI:10.5005/jp/book/11257_5.
3. IAKMI. *Tobacco Facts INDONESIA 2020 Empirical Data for Tobacco Control*. *Indonesian Association of Public Health Experts* (2020).
4. Mustaqimah, H. & Hamdan, S. R. Health Belief in E-Cigarette Users. *Pros. Psychol.* **0**, 387–394 (2019).
5. CDC Foundation. Indonesia Comparative Fact Sheet 2011 &; 2021. *Glob. Adult tob. Surfing.* 1–2 (2021).
6. World Health Organization. *WHO Report on the Global Tobacco Epidemic, 2023: Protect People from Tobacco Smoke. MPOWER Package* (2023).
7. My Country, S. HTTS 2019: Don't Let Cigarettes Take Our Breath. *July 17* (2019).
8. Notoadmojo, S. *Health Promotion and Behavioral Sciences*. (Jakarta: Rineka Cipta, 2012).
9. Almaidah, F. *et al.* Survey of Factors Causing Adolescent Smokers to Maintain Smoking

Behavior. *J. Farm. Community* **8**, 20 (2020).

10. Halking, R., Murdiana, S., Nur, M. & Nurdin, H. Self-image of Female Smokers. *J. Psychol. Talent. Mhs.* **1**, 121–132 (2022).

11. Ulya. History of Cigarettes. 23–36 (2019).

12. FKUI, I. S. Symptoms of Evali Disease, Lung Infection Due to E-Cigarettes. *January 23* https://fk.ui.ac.id/infosehat/gejala-penyakit-evali-infeksi-paru-akibat-rokok-elektrik/ (2020).

13. Karuniawati, A. Factors Affecting the Use of Electronic Cigarettes (Vapes) in State Junior High School Students in Rambang District, Purbalingga Regency. *Fak Thesis. Educator Science. Semarang State University* 29–30 (2019).

14. Syapitri, H., Amila, N. & Aritonang, J. *Textbook on Health Research Methodology.* (2010).

15. Arikunto. Research Procedure A Practice Approach. *Research Procedures A Practice-Revised Approach to X* (2010).

16. Irawan, W. I. Analysis of Factors Influencing Adolescents Using Electronic Cigarettes (Vape) in Bengkulu CityA. *Angew. Chemie Int. ed. 6(11), 951–952.* **2**, 1–5 (2021).

17. PubMed. Exposure and engagement with social media related to tobacco and e-cigarettes. *September 6* https://pubmed.ncbi.nlm.nih.gov/28669801/ (2017).

18. PubMed. Vaping, Smartphones, and Social Media Use Among Young Adults: Snapchat Is The Platform Of Choice For Young Adult Vapers. *January* https://pubmed.ncbi.nlm.nih.gov/32768796/ (2021).

19. Kharismawati, D. The Relationship between Knowledge and Attitudes about the Use of Shisha and Vape in Students of the Nursing and Pharmacy Study Program Stikes Sari Mulia. *Sekol. Higher Health Sciences. Sari Mulia Banjarmasin* 18–20 (2018).

20. Wang, W., Lu, M., Cai, Y. & Feng, N. Awareness and use of e-cigarettes among university students in Shanghai, China. *September 8* https://pubmed.ncbi.nlm.nih.gov/32994762/ (2020).

21. Relica, C. & Mariyati. Application of the 5A model by dentists in smoking cessation counseling. *J. Ilm. Permas J. Ilm. STIKES Kendal* **14**, 75–82 (2024).