

Understanding the dangers of E-Cigarettes through information services

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Abstract: An electronic cigarette is a device designed to deliver nicotine without tobacco acid by heating a solution of nicotine, flavoring, propylene glycol and glycerin. This research is motivated by the fact that there are still many students at junior high schools (MTsN 3 North Lampung) who have a low understanding of the dangers of electronic cigarettes because lack of provision of information services. This research aims to determine the effect of information services in increasing understanding of the dangers of e-cigarettes among students at junior high schools (MTsN 3 North Lampung). The research method used is a quasi-experimental method with a Non-equivalent Control Group Design. The instrument used is a questionnaire or questionnaire. The population in this study was 60 students, namely class VIII. The research results show that there is a significant influence on information services to increase understanding of the dangers of e-cigarettes among students at MTsN 3 North Lampung.

Keywords: Dangers of Electric Cigarettes; Extension; Information Services; Understands

Introduction

Information services according to Prayitno and Amti (Handayani & Hidayat, 2018) intend to provide understanding to interested individuals about various things needed to carry out a task or activity, or to determine the direction of a desired goal or plan. Information services are activities that provide understanding to interested individuals about various things needed to carry out a task or activity, or to determine the direction of a desired goal or plan. Thus, information services are first of all an embodiment of the understanding function in guidance and counseling. Information services regarding e-cigarettes already exist, this information is in the form of print media, social media and even various e-cigarette companies have also conveyed information about the dangers of e-cigarettes and their use. However, information services regarding the use of e-cigarettes among junior high school and equivalent schools, especially junior high schools, are still lacking in campaigning for the health and dangers of e-cigarettes, especially in early teens and there are minimal sanctions. Even e-cigarette companies dare to claim that e-cigarettes are safer because they do not contain tar, but still contain nicotine and other dangerous substances.

There are three main reasons why providing information needs to be held, namely (Lestari, 2015): to equip individuals with various knowledge about the environment needed to solve problems faced regarding the surrounding environment, education, position, and socio-culture; allows individuals to determine the direction of their life (where they will go); and Every individual is unique, this uniqueness brings different decision-making patterns adapted to aspects of each individual's personality.

The aim of information services is to equip students with knowledge and understanding about their living environment and the development process of young people. Apart from that, the aim of information services is to equip students with knowledge about data and facts in school education, work and personal-social fields, so that they learn about their living environment, and are better able to organize and plan their own lives. Fitri et al., (2016) that the aim of information services in general is to master certain information, while specifically it is related to the function of understanding (understanding the information provided) and utilizing information in solving problems. Information services make individuals independent, namely understanding and accepting themselves and the environment in a positive, objective

and dynamic way, able to make decisions, able to direct themselves according to their needs and ultimately able to actualize themselves.

An electronic cigarette is a device designed to deliver nicotine without tobacco acid by heating a solution of nicotine, flavoring, propylene glycol and glycerin. An electronic cigarette is a device that uses battery power to provide an inhaled dose of nicotine and provides the same effect as a cigarette (Fani, 2020). Electronic cigarettes are generally made in China and are now rapidly spreading throughout the world with various brands such as NJOY, EPuffer, blu cigs, green smoke, smoking everywhere, and others. Generally, an electronic cigarette consists of 3 parts, namely: battery (the part that contains the battery), atomizer (the part that will heat and evaporate the nicotine solution) and cartridge (contains the nicotine solution) (Rohmani et al., 2018).

According to the Food and Drug Supervisory Agency (BPOM) (Rohmani et al., 2018) In the Republic of Indonesia, there are a number of dangerous compounds contained in and produced by electronic cigarettes, namely: tobacco-Specific Nitrosamine (TSAS), which is toxic; diethylene Glycol (DEG), a known carcinogen; metal, in the form of tin, silver, nickel, aluminum and chromium particles in electrical vapor with a very small size so that it very easily enters the respiratory tract in the lungs; carbonyls, namely potential carcinogens in the form of formaldehyde, acetaldehyde, acrolein and volatile organic compounds such as toluene and p-m-xylene; coumarin, Tadalafil, Rimonabant, silica fiber which can be toxic and does not meet safety requirements; diacetyl, a substance that appears as residue from e-cigarettes which can damage the lungs; benzene, a toxic substance commonly found in motor vehicle exhaust and heavy metals; Nicotine, is a chemical commonly found in various tobacco products.

Nicotine can cause an increased risk of flu, sweaty skin, nausea and vomiting, confusion and dizziness and diarrhea (Ayudhita & Tjuatja, 2012). Nicotine also stimulates the release of epinephrine, a hormone that causes rapid autonomic activity including increased heart rate, and the release of sugar reserves in the blood. Various studies have also looked at the effects of nicotine on the brain, which can cause addiction and cancer; Propylene Glycol, is a chemical compound that is permitted to be used as a food additive (Clapp & Jaspers, 2017). It's just that its use must be in accordance with acceptable daily intake rules. According to Healthline, propylene glycol has low toxicity levels, therefore it is widely used in food and cosmetics (Qonita, 2021).

Based on the results of the pre-research questionnaire given to 60 students, it is known that there are 49 students in the low category in terms of understanding the dangers of e-cigarettes, with none in the high category, and in the medium category in terms of understanding the dangers of e-cigarettes are 11 students. Based on the results of interviews conducted with Guidance and Counseling teachers at the school, it was discovered that there were students who were caught using e-cigarettes in the school environment, apart from that the provision of information services by the school regarding the dangers of e-cigarettes was not optimal.

Method

This method is called quantitative because the research data is in the form of numbers and analysis uses statistics. The method used in this research is a quasi-experimental method, namely there is a control group and an experimental group. The population in this study consisted of 60 class VIII students at junior high schools 3 North Lampung, while the sample in this study consisted of 30 experimental class students and 30 control class students. The sampling technique that the researcher used was a simple random sampling technique, namely taking samples from a population randomly without paying attention to the strata in the population.

Results and Discussion

Information services are considered to have an effect on increasing students' understanding, supported by research stating that information services are effective in increasing students' understanding regarding smoking (Mazab, 2018). This research aims to determine the effect of information services in increasing understanding of the dangers of e-cigarettes among students at MTsN 3 North Lampung. Students' understanding of smoking is important, because by having an understanding students can know the dangers of smoking and not do it (Seko et al., 2020). Before providing information services, researchers distributed instruments to students to determine which students would be the samples in this research. The research instruments were distributed to students in classes VIII B and VIII E at MTsN 3 North Lampung. The results of instrument distribution can be seen in Table 1 as follows.

Table 1. Problem Data Regarding Understanding the Dangers of Electric Cigarettes at MTsN 3 North Lampung among Students

No	Understanding	Score Range	Amount	Persentase
1.	Tall	$\geq 47,67 - 64,99$	0	0%
2.	Currently	$\geq 30,34 - 47,66$	11	18%
3.	Low	13 - 30,33	49	82%
	Total		60	100%

The pretest was carried out with the aim of finding out the initial conditions of understanding the dangers of e-cigarettes among students before being provided with information services. The pretest was given to all students in classes VIII B and VIII E at MTsN 3 North Lampung so that the following results were obtained.

Tabel 2. General Description of Understanding of the Dangers of Electric Cigarettes in Experimental Class at MTsN 3 North Lampung

No	Understanding	Score Range	Amount	Persentase
1.	Tall	$\geq 47,67 - 64,99$	0	0%
2.	Currently	$\geq 30,34 - 47,66$	6	20%
3.	Low	13 - 30,33	24	80%
	Total		30	100%

Based on table 2, it is known that out of 30 students, there are 24 students who have a low level of understanding and 6 students who have moderate understanding, then in the control class the following data is obtained.

Table 3. General description of understanding of the dangers of electronic cigarettes in control class at MTsN 3 North Lampung

No	Understanding	Score Range	Amount	Persentase
1.	Tall	$\geq 47,67 - 64,99$	0	0%

2.	Currently	≥ 30,34 - 47,66	5	17%
3.	Low	13 - 30,33	25	83%
	Total		30	100%

Based on table 3, it is known that out of 30 students, there are 25 students who have a low level of understanding and 5 students who have moderate understanding. However, even so, the 11 students who had moderate understanding in the control and experimental classes were still used as samples in this study so that these 11 students could have a high understanding of the dangers of e-cigarettes. It is important for students to understand the dangers of smoking because smoking habits among students are often triggered by a lack of information and wrong understanding, influenced by advertising, or tempted by friends' invitations (Dewi, 2022).

This research was carried out on July 26 2023 at MTsN 3 North Lampung, by carrying out activities in the form of providing information services to the control class and experimental class. The implementation of information services was carried out in the experimental class and control class, each with 30 students per class. The following is the process of implementing information services to increase understanding of the dangers of e-cigarettes among students at MTsN 3 North Lampung.

a. Experimental group

1) Meeting 1

Filling out a pretest questionnaire using a questionnaire on understanding the dangers of e-cigarettes to respondents before being given information services to increase understanding of the dangers of e-cigarettes.

2) Meeting 2

When implementing information services, the author begins the activity by saying hello and asking how the respondent is doing that day. Before starting, the author invites respondents to pray together so that the activities carried out can run smoothly and provide benefits. The author opened the activity by introducing himself first. Researchers invited respondents to play a little game, to build a good relationship with respondents. Then the author explains a little about the information service activities that will be carried out and the objectives of the activities carried out.

Next, after ensuring that all respondents were ready to enter the core stage, the author then showed a video about the dangers of vaping or e-cigarettes for the body. After the video is finished, the author explains a little about the contents of the video shown. Then the author gives respondents the opportunity to ask questions. At the end of the activity, the author provides conclusions from today's activities and discusses the next meeting. This activity ends with reading a prayer and saying greetings.

3) Meeting 3

At the beginning of the activity, the author opened the activity by saying hello and praying. Then the writer asked how the respondent was doing. Before explaining the material, the author asks again about the material from the previous meeting.

Next, after ensuring that all respondents were ready to enter the core stage, the author then showed a video about electronic cigarettes. Then after the video display was finished the author asked respondents to divide the class into several groups, the author gave assignments related to the video that had been shown to be discussed and then presented to the future. After the entire group had finished their presentation, the author gave respondents the opportunity to ask questions. At the end of the activity, the

author invited respondents to draw conclusions at today's meeting, then the author conveyed information service material for the upcoming meeting. The activity ended with prayer and greetings.

4) Meeting 4

At this fourth meeting, the activity was opened by saying greetings and prayers, the author asked about news and gave encouragement. The author also explained that this activity was the last meeting. At this meeting the author provided information services using video displays. In the final stage, respondents provided conclusions on this activity, regarding information services to increase understanding of the dangers of e-cigarettes. Then the activity ends with both reading prayers and saying greetings.

5) Meeting 5

Post-test using a questionnaire on understanding the dangers of e-cigarettes after being given treatment in the form of information services using audio-visual media in the form of videos. At this meeting the author observed the final results of the respondents after carrying out information services several times to produce valid data.

b. Control Group

1) Meeting 1

Fill out a pretest questionnaire using a questionnaire on understanding the dangers of e-cigarettes to respondents before being given information services to increase understanding of the dangers of e-cigarettes.

2) Meeting 2

When implementing information services, the author begins the activity by saying hello and asking how the respondent is doing that day. Before starting, the author invites respondents to pray together so that the activities carried out can run smoothly and provide benefits. The author opened the activity by introducing himself first. The author invites respondents to play a little game, to build a good relationship with the respondent. Next, the author provides an explanation of the information that will be implemented in this activity, namely the definition of electronic cigarettes, the contents contained in the liquid and vapor of electronic cigarettes and the dangers of electronic cigarettes for the body.

Next, the author gives respondents the opportunity to ask questions. At the end of the activity, the author provides conclusions from today's activities and discusses the next meeting. This activity ends with reading a prayer and saying greetings.

3) Meeting 3

At the beginning of the activity, the researcher opened the activity. Before explaining the material, the researcher asked again about the material from the previous meeting. Next, the researcher provides an explanation regarding the information that will be carried out in this activity, namely how e-cigarettes work, the main components of e-cigarettes, and the dangers posed by e-cigarettes.

Next, the author asked respondents to divide the class into several groups. The researcher gave assignments related to the video that had been shown to be discussed and then presented to the future. After all groups had finished their presentations, the researcher gave respondents the opportunity to ask questions. At the end of the activity, the researcher provided conclusions from today's activities and discussed the next meeting. This activity ends with reading a prayer and saying greetings.

4) Meeting 4

At this fourth meeting, the activity was opened by saying greetings and prayers, the author asked about news and gave encouragement. The researcher also explained that this activity was the last meeting. Next, the researcher provides an explanation regarding

the information that will be carried out in this activity, namely the differences between conventional cigarettes and e-cigarettes, the liquid content contained in e-cigarettes and their impact, the risk of disease that can be experienced by smoking e-cigarettes, the impact of e-cigarette smoke on passive smokers and easy ways to stop smoking e-cigarettes. At the end of the activity, the researcher provided conclusions from today's activities and discussed the next meeting. This activity ends with reading a prayer and saying greetings.

5) Meeting 5

Post-test using a questionnaire regarding understanding of the dangers of electronic cigarettes after being given treatment in the form of information services using the customized method. At this meeting the author observed the final results of the respondents after carrying out information services several times to produce valid data.

The level of success of using information services to increase understanding of the dangers of e-cigarettes among students can be seen from the results of the comparison between the pretest and posttest scores from the control class and the experimental class, whether the effect is significant or not.

Based on the explanation above, it can be seen that information services have an influence in increasing understanding about the dangers of electronic cigarettes. WHO also emphasizes that not only does burning cigarettes harm the smoker, the cigarette smoke produced also harms the people around them as passive smokers or second-hand smokers. (Tanuwihardja & Susanto, 2012). The habit of smoking usually occurs at a young age (teenagers), this is because adolescence is a time when an individual experiences a transition from one stage to the next and experiences changes in both emotions, body, interests and behavioral patterns (Jannah, 2017). So that education about smoking can increase teenagers' awareness regarding the dangers of smoking (Purwanti et al., 2021).

Conclusions and Suggestions

Based on the results of research that has been conducted, it can be concluded that information services have a significant influence in increasing understanding of the dangers of e-cigarettes among students at MTsN 3 North Lampung. This has been proven by the results of the pretest and posttest which were carried out before and after providing information services based on data analysis using the Wilcoxon test.

For Guidance and Counseling teachers to be able to provide information services according to students' needs, and always socialize guidance and counseling activities in schools by providing information services using audio-visual media to help students increase their understanding of the dangers of e-cigarettes. Then, for future researchers, it is hoped that they can research more widely about the dangers of e-cigarettes and are expected to be able to use other media such as pamphlets or school media.

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