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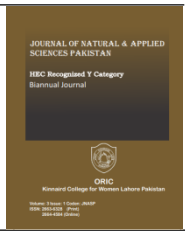

THE EFFECTIVENESS OF THE EMO DEMO METHOD TO THE KNOWLEDGE AND BEHAVIOR OF CIGARETTES

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Abstract

Indonesia is one of the third largest developing countries with the largest number of smokers after China and India from the top ten of the world smokers. Research aims to analyze the effectiveness of the educational education of the EMO Demo method in increasing students' knowledge and behavior about the dangers of smoking. Types of quantitative research using pre -experimental design with one group pretest posttest population design of 1259 people, simple random sampling 200 students. Measuring tools for the Pretest and Posttest Questionnaire Knowledge and Behavior, as well as the Practice Media Emo Demo, Cigarettes, Lighters, Bottles, Cotton, Tissu and for Laptop Presentation, LCD. The results of respondents' knowledge before the EMO demo intervention showed a majority of less than 127 categories (68.5%) but after the EMO demo intervention changed to a good category of 163 (81.5%). Respondent behavior before EMO Demo intervention showed a majority of enough categories as much as 100 (50%) but after the EMO demo intervention changed to a good category of 175 (87.5%). Implementation of PTM using the EMO Demo Method on the dangers of smoking effectively increases knowledge and behavior in students in SMA N 5 Jambi City with P-Value value <0.05. Emo education is effective in increasing the knowledge and behavior of smoking prevention among high school students in Jambi City.

Keywords
knowledge, Behavior, Emo Demonstration, PTM, Smoking

1. Introduction

Addressing Non Communicable Disease (NCDs) is integral to the 2030 Agenda for Sustainable Development (United Nation, 2015). Sustainable Development Goal (SDG) target 3.4 calls for a one-third reduction in premature mortality from NCDs by 2030. Many other SDG 3 targets are important for NCDs. Achieving the NCD-related SDG 3 targets can deliver shared gains across the development agenda, given the multidirectional relationship between NCDs, poverty, inequalities, economic growth, climate action and other SDG goals and targets (World Health Organization (WHO), 2019). Globally, non-communicable diseases, including cardiovascular disease, accounted for greater than 70% of all deaths in 2017 (Martinez et al., 2020). Non-Communicable Disease (NCD) is a catastrophic disease with the highest cause of death in Indonesia (Maryani *et al.*, 2021; Yarmaliza & Zakiyuddin, 2019). The National Health Research and Development Agency shows an increase in the development of NCDs in Indonesia due to the NCD trend followed by a shift in disease patterns (Kemenkes, 2018).

An unhealthy lifestyle causes the high prevalence of NCD in Indonesia. The shift in the condition of NCD disease is expected to have a significant impact on Indonesia's human resources and economy in 2030-2040. Indonesia will face a demographic bonus where the productive age is much higher than the non-productive age group (Kesehatan, 2021). A 2018 National Basic Health Research (Riskesdas) results show that 95.5% of Indonesians consume fewer vegetables and fruit. 33.5% of people lack physical activity, 29.3% of people of productive age smoke every day, 31% have central obesity, and 21.8% are obese adults (Kemenkes RI. 2018). Lifestyle changes should be made as early as possible as an investment in future health. Controlling risk factors must also be done as early as possible. People must have health awareness to know their body condition to make it easier to treat before too late (Kemenkes Republik Indonesia, 2020). The prevalence of smoking in adolescents aged 10-18 years has increased from 2013 (7.20%) to 2018 (9.10% or 3.2 million children). This figure is still very far from the RPJMN target, the government in suppressing the prevalence of children and adolescent smokers from 9.4 fell to 8.8-8.9% in 202, and in 2024 to 8.7%. While smoker data aged> 10 years in Jambi Province in 2021 is 21.48 % and specifically Jambi City 17.91 %, this data shows that Jambi exceeds the RPJMN target (Kemenkes, 2018). Many factors encourage adolescents to smoke, including environmental factors consisting of the family environment and the peer environment, psychological satisfaction and the influence of information (Duncan *et al.*, 2018; Joung *et al*., 2016; Kim & Chun, 2018). Adolescent knowledge about the dangers of smoking for health is needed and is expected to make adolescents who have not smoked still not smoking and smokers who have already been able to stop this very dangerous habit (Kristianto *et al*., 2019; Schuler *et al*., 2019). In order to increase the success of health promotion, the health education method used must be adjusted to the target characteristics. Other alternatives need

to be studied that are more interesting and liked by targets because educational methods and media will be better and more easily accepted if the health promotion media is well known and liked by the target (Bilgiç & Günay, 2018; Haugtvedt *et al*., 2018). One of the media that has not been widely used in changes in the hazard of smoking is the emotional method of demonstration is used because it is interesting and simple because participants are involved in the pratik of the demonstration and demonstrate the process directly and are involved. Compared to media booklets are effective media for health education for children because with booklets it is likely to be often obtained and when given booklets students immediately save it (Lila & Sudakov, 2018). Emo Demo Method is a form of learning while playing by applying communication strategies interactive behavior change between individuals, groups in developing communication strategies achieve positive behavior changes. So this method is expected to be in demand by adolescents, especially to learn to prevent smoking behavior (Birawida *et al.,* 2019). This study aims to analyze the effectiveness of the educational education of the EMO Demo method in increasing student knowledge and behavior about the dangers of smoking.

1. Method

2.1. Trial design

This type of research is quasi experiment using the design one group design pretest-posttest.

2.2. Participants

This research was conducted at SMAN 5 Jambi City in March-November 2022 involving 200 participants chosen randomly with the following sample criteria all students of class X, XI, XII, have never received counseling using the EMO Demo method on PTM. The independent variable (independent variable) in this study is the EMO Demo method and the dependent variable dependent variable is the variable knowledge and behavior about the dangers of smoking.

2.3. Intervention

The research variables are students' knowledge and behavior. Before the intervention was given, the researcher first measured the level of knowledge and behavior of the students/participants (pre-test). After being given the intervention, the researcher again measured the level of knowledge and behavior of the students/participants (post-test). In this study, the intervention model given is the emotional demonstration learning model (emo demo) which is carried out once with a duration of 1 hour, which is 45 minutes of material delivery and 15 minutes of discussion). In this study, the researchers provided an explanation of non-communicable diseases to participants, accompanied by games about pictures and stickers of people with non-communicable diseases. the next step is for participants to try to explain about the pictures and stickers they get. The knowledge and behaviors questionnaire consists of 22 questions with right and wrong answer choices. If the student answers correctly, he is given a score of 1, and if the answer is wrong, he is given a score of 0. The range of scores obtained is between 0-22. Both questionnaires use the Guttmann scale. Meanwhile, students' behaviors were measured

using a questionnaire consisting of 10 questions with right and wrong answer choices. If the mother answered correctly, she was given a score of 1, and if the answer was wrong, she was given a score of 0. The range of scores obtained was between 0-10. Both questionnaires use the Guttmann scale. The Guttmann scale has an important characteristic, which is that it is a cumulative scale and measures only one dimension of a multi-dimensional variable, so that this scale has a unidimensional nature. The data obtained are in the form of interval data or dichotomy ratios (two alternatives) (Sugiyono, 2016). Researchers have worked as lecturers and researchers between 10-15 years and have academic degrees Masterly Degree and Doctorate. Researchers have done much research in the health sector and have compiled many questionnaires, so the researchers have prepared the questionnaires in this study. Before the research was conducted, the questionnaire was piloted on ten students, and the results showed that two questions had to be replaced because they were invalid. The knowledge questionnaire contains the respondent's understanding of non-communicable diseases ranging from understanding, to overcoming them, while the behaviors questionnaire contains activities carried out in detecting and preventing non-communicable diseases.

2.4. Outcomes

This study compares the knowledge and behavior of students in preventing the incidence of non-communicable diseases (smoking) after being given an intervention in the form of an emo demo.

Sample size. This study involved 200 participants who were taken randomly using simple random sampling technique and sourced from three high school classes, namely grades Fourth, Fifth, and Lower Sixth.

2.5. Ethical Consideration

No economic incentives were offered or provided for participation in this study. In this study, because the subject was still a minor so the researcher had asked for and obtained parental consent so that their child could participate in the study. The study was performed in accordance with the ethical considerations of the Helsinki Declaration. This study obtained ethical feasibility under the Health Research Ethics Commission of the Ministry of Health, Jambi, and registration number: LB.02.06/2/61/2022.

2.6. Statistical analysis

Data are presented as numbers and percentages for categorical variables. Continuous data were expressed as mean ± standard deviation (SD) or median with Interquartile Range (IQR). Then proceed with bivariate analysis using the Wilcoxon test. The Wilcoxon test was used to determine the effect of the emo demo intervention on knowledge and behaviors. All tests with p-value (p)<0.05 were considered significant. Statistical analysis was performed using the SPSS version 16.0 application.

2. Results

The characteristics of respondents in this study include age, gender and class level. The following

is the frequency distribution of the respondents' characteristics in this study.

Table 1: Frequency Distribution of Respondents Characteristics

Characteristics	Number	Percentage
Age (Years)		
[13, 14]	72	36.0
[14, 15]	66	33.0
[15, 16]	50	25.0
[16, 17]	12	6.0
Gender		
Male	84	42.0
Female	116	58.0
Class		
Fourth	72	36.0
Fifth	66	33.0
Lower Sixth	62	31.0

In Table 1 it is known that respondents in this study were female dominant as much as 58.0%, the most age was 13, 14 years as much as 36.0% and the students came from class Fourth dominant.

Table 2: Distribution of knowledge before and after the implementation of PTM was given using the EMO Demo method

Knowledge	Pre	Post
Less	127 (63.5%)	0 (0,0%)
Sufficient	70 (35%)	37 (18.5%)
Good	3 (1.5%)	163 (81.5%)

Respondents' knowledge before the EMO Demo intervention showed a majority of less than 127 categories (68.5%) but after the EMO demo intervention changed to a good category of 163 (81.5%).

Tabel 3: Behavior distribution before and after the implementation of PTM using the EMO Demo method

Behavior	Pre	Post
Less	98 (49%)	(0.0%)
Sufficient	100 (50%)	25 (12.5%)
Good	2 (1%)	175 (87.5%)

Respondent behavior before EMO intervention demonstrated showed a majority of enough categories as much as 100 (50%) but after the EMO intervention the demo changed to a good category of 175 (87.5%).

Table 4: Normality Test Results of Knowledge and Behaviors pretest and posttest Emo Demo

Variable	***Kolmogorov Smirnov***		
	Statistic	**df**	**Sig.**
Knowledge before Emo Demo	.142	200	.000
Knowledge after Emo Demo	.216	200	.000
Behavior before Emo Demo	.204	200	.000
Behavior after Emo Demo	.222	200	.000

Information * Significant at > 0,05**.**

Table 4 shows that the Kolmogorov Smirnov statistical test results obtained a significant value of knowledge and behaviors both at the pre-test and post-test Emo Demo, each less than 0.05. The knowledge and skills data at the pre-test and post-test Emo Demo are not normally distributed. Therefore, the statistical difference test was tested using Wilcoxon.

Table 5. Average Knowledge and Behaviors Pretest and Posttest Emo Demo

Variable	Mean±SD	Median IQR (Q1-Q3)	P-value
Knowledge			0.001
Pre-test	50.10±12.994	50 (40-60)	
Post-test	86.75±11.472	90 (80-100)	
Behavior			0.001
Pre-test	51.75±16.271	60 (40-70)	
Post-test	89.10±11.306	90 (80-100)	

Table 5 shows that there are different mean values between pretest and posttest knowledge and behaviours, meaning that mathematically indicates there are differences in knowledge and behaviours before and after Emo Demo.

3. Discussion

Smoking habits among teenagers are getting worse. This can be associated with the supervision of parents and teachers who are declining, coupled with cigarette advertisements that are increasingly widespread and interesting. So it needs attention from all parties and the university is no exception. This research was conducted with the aim of analyzing the effectiveness of the EMO Demo method of education in increasing students' knowledge and behavior about the dangers of smoking so that students are expected to take precautions about the dangers of smoking for health. The results of this study reported that respondents' knowledge before the EMO Demo intervention showed a majority of less than 127 categories (68.5%) but after the EMO demo intervention changed to a good category of 163 (81.5%). This shows that the counseling method using EMO Demo is very effective in increasing knowledge. Strengthened with the results of the statistical test in a study showing the p-value value <0.05. The purpose of the emo demo approach is to try to include psychological elements as innovation to change individual behavior. The merging of science and creativity in the preparation of messages, allows this method to transfer messages to change behavioral changes that are more easily accepted (Dahlia Amareta, 2018). Emo Demo Method is a demonstration activity using emotional power that can increase the capacity of students in communicating and delivering health messages practically so that it can be applied in various community service activities (Birawida *et al*., 2019). Assumptions of researchers due to education using the emo of respondents' demonstrations play more and demonstrations than only given information with lectures. Another thing that can affect the level of knowledge is the school environment that has been given poster posters to be attached along the school, as well as a joint commitment declaration for not smoking from teachers and students. Respondent behavior before EMO Demo intervention showed a majority of enough categories as much as 100 (50%) but after the EMO demo intervention changed to a good category of 175 (87.5%). Similar to knowledge, the EMO Demo counseling method is also effectively descriptively increase student behavior in preventing smoking habits. This is also reinforced by the results of the statistical test in this study which shows P-value <0.05. These findings reinforce the findings beforehand that there are differences in knowledge, attitudes and actions before and after education using the EMO Demo method on hypertension (Hasma, 2021). Also strengthened by the findings in research of Amareta & Ardianto (2017) reported that prior to the intervention, most of them lacked knowledge and practice (78.8% and 85.1%) and no students had good knowledge and practice of CTPS. After the intervention was done by providing counseling, small group demonstration, and provision of

handwashing facilities, most students had moderate knowledge (76.6%) while students with good knowledge were 8.5%. The subjects of CTPS practice were mostly in good category (76.6%) while subjects with less than 1 person (2.1%) training ability. The conclusion of this study is that there is significant difference of knowledge before and after intervention (p = 0,000), there is significant difference in practice before and after intervention (p = 0,000). In the future, education using the emotional demonstration approach (EMO Demo) is highly expected to be applied by the teacher when teaching and health workers in delivering their learning materials and also more socialized to all components of health workers about the effectiveness of Emo Demo education, especially in changing knowledge and behavior somebody.

4. Conclusion

The Demonstration Emotional Method learning model is effective in increasing students' knowledge and behaviors about preventing non-communicable diseases.

Limitation

The limitations of this study include the minimal number of samples, and this study only involved one country, namely Indonesia, so the results may be different when comparing the effects of emo demos and intervention videos on students in other countries or even in the European countries.

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Conflict of Interest

The authors report no conflict of interest.

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Author Contributions

WT and EV were responsible for the study conception and design; EV performed the data collection; LOR and PU performed the data analysis; WT, EV, and LOR were responsible for the drafting of the manuscript; WT and PU made critical revisions to the paper for important intellectual content.

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