



## The Influence of Health Education on Community Knowledge about the Dangers of Smoking in the Working Area of the Paal Merah I Community Health Center, Jambi City in 2024

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### ABSTRACT

Smoking is a bad habits that can have a bad impact on your own health and that of others. Cigarettes are wrapped tobacco products that come from plants such as *Nicotiana tabacum* and *Nicotiana rustica*, or they can also be synthetic products containing nicotine and tar, with or without the addition of other ingredients. This research aims to determine the effect of health education on public knowledge about the dangers of smoking in the Paal Merah I Community Health Center Working Area, Jambi City in 2024. This research uses the Wilcoxon test which shows that there is a significant difference between before and after the education was implemented. These findings confirm that health education is effective in increasing public knowledge about the dangers of smoking. Using a semi-experimental method, this research involved a pretest and posttest on 19 respondents selected from three areas that had the highest smoking rates, namely RT.11, RT. 25, and RT.35 Paal Merah Village. The results of the normality test showed that the data was not normally distributed, which means there was a correlation between before the counseling was carried out and after the counseling was carried out. Thus, health education efforts have the potential to change smoking behavior and contribute to efforts to prevent tobacco-related diseases. It is hoped that the intervention steps taken will help reduce the prevalence of smoking at the household level and improve overall public health in the area.

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### 1. Introduction

Humans have a variety of habits, including exercising, reading, writing, and more. However, among all these habits, there is one that is very detrimental: smoking. Smoking is a bad habit that can have a negative impact on the health of yourself and others. Cigarettes are wrapped tobacco products, originating from plants such as *Nicotiana tabacum* and *Nicotiana rustica*, or can also be synthetic ones containing nicotine and tar, with or without the addition of other ingredients (Dinaria et al., 2023).

Cigarettes are a single-use consumer product that is in demand by several segments of society. Some people sometimes consider this item to be so important that it is made a priority, even above basic human needs such as eating and drinking. Some individuals even think that cigarettes can replace

these basic needs, so they choose to have cigarettes instead of buying food or drinks. Physically, cigarettes are rolls of paper measuring 70-120 mm long, with a diameter of 10 mm and depending on the country. Cigarettes are filled with chopped tobacco leaves. The cigarette is lit at one end and left to burn, so that the smoke is inhaled through the other end. The history of smoking begins with Indian tribes in America who used cigarettes in ritual ceremonies to summon the spirits of their ancestors according to their beliefs (Tristanti, 2016).

When European explorers came to America and tried smoking, this activity was then brought to Europe and became a recreational activity. Cigarettes began to become popular and spread throughout the world when they reached mainland Türkiye. Compared to its original purpose among Indian tribes, smoking in European society was considered mere entertainment. From Turkey, this smoking habit then spread throughout the world (Salsabila et al., 2022).

The quantity of smokers throughout the world continues to increase, reaching 1.14 billion people in 2019. In developed countries today, the number of smokers tends to decrease. Apart from public awareness of the dangers of smoking and the urgency of maintaining good health. People in developed countries avoid cigarettes, because the price is very expensive compared to the price of cigarettes in developing countries. This situation is in contrast to conditions in developing countries, where the number of smokers tends to continue to increase every year (Salsabila et al., 2022).

Indonesia, as an example of a developing country, also faces a similar problem with the smoking rate increasing every year, reaching . According to the World Health Organization (WHO), Indonesia is now ranked third in the countries with the highest cigarette consumption in the world after China and India (Johnson Simanjuntak, 2021). Based on WHO reports, in 2022, the prevalence of tobacco users in the Indonesian population aged over 15 years will reach 36.5 percent. This means that around one in three adults in Indonesia is involved in the smoking habit. Meanwhile, the Central Statistics Agency (BPS) also revealed that the prevalence of smoking among the Indonesian population aged over 15 years has tended to be stable in recent years.

In 2021, this figure is 28.96 percent, while in 2022 and 2023, the figures are 28.26 percent and 28.62 percent respectively (Arif, 2024). Likewise, according to the Central Statistics Agency (BPS) report, cigarettes are still one of the main consumption items among the Indonesian population. Data released shows that in March 2021, average spending on cigarettes and tobacco reached IDR 76,583 per capita per month. Comparison with data from March 2020 shows an increase in cigarette consumption of 4.3%, from IDR 73,442 per capita per month. This fact indicates that even though there have been efforts to reduce cigarette consumption, consumption rates continue to increase from year to year. In addition, expenditure on cigarettes ranks second highest among other expenditure groups, indicating that cigarettes remain one of the expenditure priorities for most people. This illustrates the strength and dominance of the cigarette industry in the Indonesian consumption market (Jayani, 2021).

Jambi Province is in second place as the province with the highest level of cigarette consumption, reaching 18 cigarettes per person per day (Muhamad, 2023). Jambi City itself is one of the cities in Jambi Province. Data on weekly per capita consumption according to cigarette and tobacco groups in Jambi City illustrates an interesting trend in recent years. In 2021, consumption of filtered clove cigarettes reached its peak at 13,648 units per capita per week, followed by unfiltered clove cigarettes at 11,549 units and white cigarettes at 11,441 units. Meanwhile, tobacco consumption in the same year reached 1,163 units per capita per week. In 2022, there will be a significant decline in cigarette and tobacco consumption, with consumption rates for all types of cigarettes significantly decreasing. However, in 2023, there were slight fluctuations in some types of cigarettes. Even though it has decreased from 2021 to 2023, the number of smokers in Jambi City is still large compared to smokers nationally (BPS, 2024).

Paal Merah I Community Health Center itself is one of the Community Health Centers in Jambi City. Based on the results of research in the field, researchers found that the problem of community smoking is still a priority problem that must be addressed at the Paal Merah I Community Health Center, Jambi City. In determining priority health problems in the area, MUA (Multiple Criteria Utility Assessment) was used, and four main problems were identified based on the largest percentage:

smoking, not participating in the Family Planning (KB) program, not being a member of the National Health Insurance (JKN), and hypertension. From the MCUA analysis, smoking behavior is the main problem with the highest score, indicating an urgent need to increase public understanding of the dangers of smoking and reduce smoking rates in the region. Therefore, intervention steps need to be taken to increase awareness of the risks of smoking and reduce the prevalence of smoking behavior at the household level in the Paal Merah 1 Community Health Center working area.

Health education is: In overcoming the problem of smoking behavior which is the main priority in the Paal Merah 1 Community Health Center Working Area, the step that can be taken is to carry out intensive health education. Health education will be an effective solution to increase public understanding about the dangers of smoking and change tobacco consumption behavior. Educational programs can cover various aspects, ranging from information about the negative impacts of smoking on health, the benefits of quitting smoking, to strategies for managing smoking habits. Apart from that, counseling can also involve demonstrations, interactive discussions, and providing educational materials that are easy for the public to understand. By involving various parties, such as health workers, community leaders and volunteers, health education can create an environment that supports behavior change towards a healthier and smoke-free lifestyle. It is hoped that this effort can reduce the prevalence of smoking at the household level and improve overall public health in the area.

This research focuses on the influence of health education on public knowledge about the dangers of smoking in the working area of the Paal Merah I Community Health Center, Jambi City in 2024. It is hoped that the findings of this research will provide a substantial contribution both theoretically and practically in efforts to reduce smoking behavior in the community. From a theoretical perspective, this research will contribute to enriching the literature regarding the effectiveness of health education interventions. Currently, there are many studies that discuss the impact of health education on smoking behavior, but research that specifically examines increasing knowledge as an initial impact of education is still limited. This research will fill this gap by providing empirical evidence about the relationship between the intensity and type of health education and increasing public knowledge about the dangers of smoking. Apart from that, this research also has the potential to reveal factors that influence the effectiveness of counseling, such as the characteristics of the counseling participants, the method of delivering the message, and the material delivered. These findings can be used to develop theories about changing public health behavior through outreach interventions.

Practically, this research will provide direct benefits for health workers at the Paal Merah I Community Health Center, Jambi City and other community health centers. By knowing the effectiveness of various types of health education, officials can plan and implement education programs that are more effective in increasing public knowledge about the dangers of smoking. This research can also help in allocating resources more appropriately, for example by focusing on more effective extension methods and developing extension materials that suit the needs of local communities.

The broader impact of this research is increasing public awareness about the dangers of smoking. Good knowledge about the impact of smoking on health can be a driving factor in changing behavior towards a healthier lifestyle. Apart from that, this research can also support policy advocacy efforts to reduce the prevalence of smoking in society. The results of this research can be used as a basis for developing more effective and comprehensive tobacco control programs. Thus, this research is designed to make a significant contribution to the struggle to reduce smoking behavior in society. By increasing public knowledge about the dangers of smoking through effective health education interventions, it is hoped that a healthier and more productive society can be created.

## 2. Methods

This research is a strategic step to overcome the problem of the high number of smokers in the working area of the Paal Merah I Community Health Center, Jambi City. Using quantitative research methods, this research was designed as a semi-experimental study involving a pretest and posttest. The research was conducted in three RTs which were the main focus, namely RT.11, RT.25, and RT.35, where the researchers' initial observations found that these areas had the highest number of smokers. The

research participants were 19 respondents selected from the RT.11, RT.25, and RT.35 communities to provide an accurate representation of the target population. In this study, 19 responses could represent 3 existing environments, namely rt 11, 25 and 35. The sampling technique used in this research was systematic random sampling. The analysis method uses the Wilcoxon test, which was chosen because the resulting data did not meet the normality assumption.

The counseling in this research was prepared using various interactive and informative media, including leaflets, flyers, PowerPoint presentations and videos. Through these media, information about the dangers of smoking, its negative impact on health, and the benefits of quitting smoking is conveyed to respondents. Apart from that, counseling also provides practical strategies to help individuals overcome the smoking habit. After the counseling was completed, data was collected from respondents through pretest and posttest questionnaires. The results of the analysis were then used to evaluate the effectiveness of education in increasing public knowledge regarding the dangers of smoking and to determine whether there was a significant change in their understanding after the intervention was carried out. Thus, it is hoped that this research will provide a clearer view of the effectiveness of education efforts in changing smoking behavior in society and contribute to efforts to prevent tobacco-related diseases.

### 3. Results and Discussion

Table 1.  
Research Normality Test

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistics	Df	Sig.	Statistics	df	Sig.
Pretest	,324	19	,000	,834	19	,004
Posttest	,430	19	,000	,591	19	,000

Lilliefors Significance Correction

Source: Processed Primary Data, 2024

Based on the normality test results in table 1, it is known that the normality test results for the posttest and pretest questionnaires have a p-value  $< 0.05$ , so the data obtained is known to be not normally distributed. For this reason, based on the assumption that data normality is not met, the Wilcoxon test was carried out on the research data with results as in the table below.

Table 2.  
Wilcoxon test

		N	Mean Rank	Sum of Ranks
Posttest	- Negative Ranks	0a	.00	.00
Pretest	Positive Ranks	9b	5.00	45.00
	Ties	10c		
	Total	19		

a. Posttest < Pretest

b. Posttest > Pretest

c. Posttest = Pretest

Source: Processed Primary Data, 2024

In the table above it can be seen that there are no negative ranks or those indicating no progress, there are 9 people showing positive ranks or progress, while there are 10 people showing ties or no change.

Table 3.  
Hypothesis testing

Test Statistics	
Z	Posttest – Pretest -2.810b
Asymp. Sig. (2-tailed)	,005

a. Wilcoxon Signed Ranks Test  
b. Based on negative ranks.

Source: Processed Primary Data, 2024

Based on the results of the Wilcoxon Signed Rank Test calculation above, a p-value (Asymp Sig 2 tailed) was obtained of 0.005, which means  $<0.05$ , so  $H_0$  is rejected, which means there is a significant difference between before the counseling was carried out (pre-test) and after it was carried out. counseling (post-test)

### Discussion

Behavior smoke No only impact on smokers That themselves, but also in people who are exposed or in a way in general known as smoker passive Responding to these problems, efforts need to be made to increase knowledge in society (Alnur & Veruswati, 2022) . Several risk factors that influence smoking behavior are attitudes, knowledge, beliefs, access to cigarettes, health workers and the environment and many other things. One of the factors that influences smoking behavior is a lack of awareness in the form of negative attitudes and lack of awareness from the public regarding the urgency of the dangers of smoking, both for oneself and the environment, so that efforts are needed to overcome smoking problems (Septira et al., 2023)

One of the efforts that can be made to prevent smoking behavior is by promoting smoking cessation efforts which are part of the program activities implemented by the community health center in the form of health promotion for the community which involves all relevant stakeholders such as program managers, doctors and health promotion personnel at the community health center. . This activity is a form of health promotion that is carried out and usually through health education (Sari et al., 2021) .

Efforts to stop smoking can go well if supported by adequate skills from health workers. Health workers have many roles to play in supporting smoking cessation efforts. Health workers have a role in advising smokers to stop smoking, providing consultations, and prescribing useful medications. Health workers can follow up regularly regarding success in efforts to stop smoking and prevent smoking relapse, for example by providing health education accompanied by educational media (Devi et al., 2023) .

Based on the results of research that has been carried out, it is known that health education carried out with the help of leaflets, PowerPoint presentations and videos can provide a significant increase in public knowledge. There are interactions that occur when counseling is carried out which can attract the target's interest in being active in the extension activities being carried out. This is proven by the results of the Wilcoxon Signed Rank calculation, which obtained a p-value of 0.005, which means  $<0.05$ , so  $H_0$  is rejected, which means there is a correlation between before the counseling was carried out and after the counseling was carried out.

Health education was carried out with the aim of providing health education and outreach related to healthy living without smoking, which was carried out targeting the community in Paal Merah Village, Paal Merah I Community Health Center Working Area, Jambi City, which was carried out by the Internship Team from the Faculty of Medicine and Health Sciences, Jambi University in Saung RT 11, Paal Village. Jambi City Red. It is hoped that this outreach will be able to put emphasis on increasing the quantity of smokers in Indonesia. This increase in the quantity of cigarettes will correlate with an increase in the quantity of people sick from smoking which will also influence an increase in the health burden in a country.

Result of study This appropriate and supported with theory Skinner stimulus that states that the stimulus is given influence response individual and appropriate with limitation the method individual

get knowledge and arrive with level knowledge that's it influences attitude even personalized intervention (Takaheghesang et al., 2019). This research is also in line with research conducted by (Rifqy et al., 2022) the results of the average score of participants on the pretest were 48.24, with an average knowledge score of 49.8. After the presentation of the material, a posttest was carried out with questions the same time was given during the pretest. The participants' average score on the posttest was 80, with an average knowledge score of 83.13. This is evidence that there has been an increase in knowledge about the dangers of smoking using leaflet media.

(Kasman et al., 2020) stated that leaflet media became effective For enhancement related personal knowledge danger smoke with an average increase before and after given education health from group leaflet is 36.67. Related leaflet design danger cigarette given moment counseling become a central medium focus public moment done counseling.

#### 4. Conclusion

Based on the results of the normality test, the research data was not normally distributed with a p-value <0.05 for both pretest and posttest questionnaires. Therefore, a Wilcoxon test was carried out which showed that there was a significant difference between before (pre-test) and after (post-test) the health education. The results of this test confirm that health education is effective in increasing public knowledge about the dangers of smoking in the Paal Merah I Community Health Center Working Area, Jambi City in 2024. There are several limitations in this research, namely the media used by researchers when providing counseling is only leaflets and PowerPoint, this media is not very effective. It is recommended that future researchers use other educational media such as educational videos on the dangers of smoking and posters.

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