



## Analysis of the Effectiveness of Health Warnings Oral Cancer Pictures on Cigarette Pack Pictures

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### ABSTRACT

Smoking behaviour has become a risk factor for many diseases. The government has made various efforts in reducing the number of smokers. One of them issued a policy of embedding pictorial health warnings on cigarette packs. This study aims to determine the effectiveness of pictorial smoking warnings on the desire to quit smoking. This study is a quantitative study with a cross-sectional research design using primary data. This research was conducted in Indonesia in January-August 2021. The research population is all Indonesian people who smoke and do not smoke. The research sample was 463 people. The sampling technique used was random sampling. The research instrument used a questionnaire, with data collection techniques using google form. Analysis of the data used is a univariate analysis to see the frequency distribution of each variable. The results showed that the respondents were afraid after seeing the pictorial health warnings on cigarette packs as many as 366 people (79%) with a strong desire to quit smoking as many as 311 people (67.2%). This means that pictorial health warnings on cigarette packs are more effective than written warnings. It is hoped that the government can enlarge the health warnings on cigarette packs to reduce the number of cigarette consumption in Indonesia.

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## 1. INTRODUCTION

According to The Tobacco Atlas, tobacco is consumed by 57% of the world's population in Asia and Australia, 14% in Eastern Europe and the former Soviet Union, 13% in America, 9% in Western Europe, and 8% in the Middle East and East Asia. Africa. Meanwhile, ASEAN is a region that accounts for 10% of global smokers and 20% of global tobacco-related deaths. Indonesia (46.16 percent), the Philippines (16.62 percent), Vietnam (14.11 percent), Myanmar (8.73 percent), Thailand (7.74 percent), Malaysia (2.90 percent), Cambodia (2.07 percent), Laos (1.23 percent), Singapore (0.39 percent), and Brunei each have a percentage of smokers in its population (0.004 percent) (WHO, 2020).

In Indonesia, the issue of smoking has become a point of discussion. The primary topic mentioned is, of course, the harm caused by smoking, both to the addict's health and quality of life. (2016) (Adiyatama, 2016). According to the 2018 Basic Health Research Data, persons in Indonesia claim to smoke every day at a rate of up to 24.3 percent and occasionally at a rate of up to 4.6 percent. According to the 2018 Basic Health Research data, 52.1 percent of teenagers aged 15-19 years reported smoking for the first time, while 14.8 percent of adolescents aged 20-24 years reported smoking for the first time (Kementerian Kesehatan RI, 2018). According to Salmawati, (2016) research, 31.3 percent of 6,779 junior high school pupils in Palu City did not smoke, 61.7 percent smoked, and 7.7 percent smoked outdoors. Smoking has become a major issue in Indonesia, and even throughout the world.

Smoking can result in a variety of health concerns, including death. These disorders include lung, esophagus, larynx, mouth, and throat cancers, chronic lung disease, emphysema, and bronchitis, as well as stroke, heart attack, and other cardiovascular diseases (WHO, 2006). Smoking is one of the most persistent public health hazards in Indonesia. Until today, smoking has remained a widespread daily habit for certain Indonesians. Even among the majority of Indonesia's ethnic groups, smoking is a cultural requirement, making it extremely difficult to break the habit. Indeed, the majority of these smokers are already aware of and believe in the harmful consequences and risks of smoking on their health (Siregar, 2021; Nasution, 2019). However, the smoking habit continues to be practiced, albeit with growing severity.

To safeguard the public from the harms of smoking, Government Regulation No.19 of 2003 imposed restrictions on restrictions. Additionally, the government established Government Regulation No. 109 of 2012 about the Safety of Materials Containing Addictive Substances in the Form of Tobacco Products for Health, which is the highest regulatory mandate for the government to improve public health. PP No. 109/2012 regulates several aspects aimed at protecting the public from the dangers of smoking, including the requirement to list the nicotine and tar content on cigarette packs, the prohibition of selling or giving cigarettes to children under the age of 18 or pregnant women, and the requirement to include health warnings in the form of images and text printed on the packaging. .

Cigarettes' low and reasonable price is one of the reasons they have become a best-selling product in the Indonesian market. Additionally, Indonesia's legislation governing the distribution and use of cigarettes remain extremely lax and unmonitored, increasing access for smokers. In Indonesia, there are several regulations governing cigarette consumption, most notably PP No.19 of 2003 on Safeguarding Cigarettes for Health, which regulates the content of cigarettes, the conditions for their sale, advertising and promotion requirements, and the establishment of a non-smoking area. Bandung City Regulation No. 11 of 2005 Article 23 declares non-smoking spaces in public places, health facilities, workplaces, and locations particularly allocated for the teaching and learning process, children's exercise

arenas, places of worship, and public transportation. However, cigarettes are still readily available in a variety of locations that should be smoke-free (Hamdan, 2015).

Medan City people smoke 55.2 percent of the time, which is higher than the national average of 54 percent in 2016. This translates to around 55 smokers per 100 home heads; more than half of household heads are smokers. Male smokers are more likely than female smokers to smoke everyday; the average smoker is between the ages of 20 and 35 and has a low level of education. Indonesia's cigarette pandemic is rather alarming, since the country's smoking population continues to expand year after year (Keloko, 2019). Numerous variables affect young people's smoking behavior, one of which is their socioeconomic status (Trisanti, 2016).

The health warning has the following images: mouth cancer, smokers with smoke forming a skull, throat cancer, individuals smoking with a child nearby, and darkened lungs caused by cancer. By viewing this image, it is believed that smokers will get fearful and so help to reduce the growing number of smokers in Indonesia. On the box, the warning about the dangers of smoking is supplemented by images of the effects of smoking, as well as verbal and nonverbal language derived from the cigarette advertisement (Nasution, 2020).

According to Yuliati (2015) research, simply picturing health risks on cigarette packets is enough to transform smokers' attitudes, from heavy smokers to those who are eager to quit. According to Kusumaningtyas (2015) research, pictorial warnings on cigarette packets are helpful at deterring students from smoking. The objective of placing graphic slogans on cigarette cartons is to discourage adolescents from smoking. Adolescent smokers are also expected to be motivated to quit smoking after viewing the frightening images on PHW (Rahmawati, 2018). Exposure to knowledge has the potential to alter an individual's opinions and behavior (Sinaga, 2019).

Makmun (2017) asserts that one of the commercials, specifically cigarette advertisements, contains text, picture, and photo advertisements. The advertising in question is the most recent packed cigarette advertisement with written text. According to Nurlinda (2018), because cigarette packaging is designed to elicit a desire to purchase and try, the government is responsible for educating the people about the dangers of smoking. While health warnings in the form of images on cigarette packages are intended to increase awareness of the dangers of smoking, written warnings and images on cigarette packages depicting a series of health problems associated with smoking have proven ineffective in an environment where the number of cigarette users is increasing among adults and teenagers alike.

The growing use of color descriptors in the aftermath of standardised packaging shows that tobacco businesses may be utilizing brand variant names to communicate product attributes or recall memories of fully-branded packaging. Only one study has evaluated how consumers react to brand names on cigarette packaging in a market where uniform packaging has been imposed (Skaczkowski, 2017). Smokers were randomly allocated to smoke a cigarette from one of two standardised cigarette packs, one bearing a premium brand name and the other bearing a value brand name; both packs contained identical cigarettes (Greenland, 2016).

Additionally, the warnings about smoking's risks have been shortened. "Smoking may cause cancer, heart attacks, impotence, and abnormalities of pregnancy and fetus," reads the original warning statement. The old, lengthy sentences have been phased out, favouring the new, concise sentences present in almost every advertisement and on cigarette packs today, specifically "Smoking kills you." The more fearful someone is of a cigarette pack image message, the more likely they are to want to quit smoking. The degree to which an individual succeeds in his or her efforts to abstain from smoking is governed by the intensity of his or her intention to quit (Siregar, 2020).

## 2. RESEARCH METHODE

This study employs a quantitative technique and a cross-sectional strategy to analyze primary data. The purpose of this study is to ascertain adolescents' perceptions of picture messages on cigarette packs and smoking behavior in the city of Medan. This investigation was conducted in January 2021 in Indonesia. A questionnaire in the form of a google form was used to collect data. The study population includes both smokers and non-smokers in Indonesia. And the sample used in this study is a random sample of 463 smokers and non-smokers.

The image message on the cigarette pack served as the independent variable (free) in this study. While the dependent variable (dependence) is the intention to quit smoking in this study. The researchers conducted interviews with participants using a questionnaire instrument that included demographic information (age, major, semester), daily cigarette consumption, perceptions of graphic messages on cigarette packs, and an intention to quit smoking. The study used secondary data from the Medan City Health Office and the Central Statistics Agency. SPSS 22 was used to analyze the data using descriptive analysis of cross tabulation and then displayed in the form of a frequency distribution table.

## 3. RESULT

**Table 1. Frequency Distribution of Respondents Characteristics**

Variable	N	%
<b>Sex</b>		
Male	298	64
Female	165	36
<b>Total</b>	<b>463</b>	<b>100</b>
<b>Age</b>		
15-25 Years	427	92
26-35 Years	17	3,8
36-45 Years	10	2,2
46-55 Years n	8	1,8
56-65 Years	1	0,2
<b>Total</b>	<b>463</b>	<b>100</b>
<b>Job</b>		
Students	354	76,5
Civil Servants	6	1,3
Private Employee	38	8,2
Housewife	5	1,1
Labor	17	3,7
Police	2	0,4
Army	7	1,5
Other Jobs	34	7,3
<b>Total</b>	<b>463</b>	<b>100</b>

According to table 1, 64% of respondents are male and 36% are female. This demonstrates that the overwhelming majority of respondents are male. Regarding the age variable, 92 percent of respondents are between the ages of 15 and 25. And, in terms of employment, 76.5 percent of respondents hold jobs while they are students.

**Table 2. Distribution of Respondents' Behavior and Knowledge**

Variable	N	%
<b>Sleep under 10 pm</b>		
Yes	64	13,8
No	399	86,2
Total	463	100
<b>Sleep over 10 pm</b>		
Yes	362	78,2
No	101	21,8
Total	463	100
<b>Have You Ever Seen a Picture Message on a Cigarette Pack</b>		
Yes	450	97,2
No	13	2,8
Total	463	100
<b>Knowing about the Inclusion of Picture Messages on Cigarette Packs</b>		
Yes	433	93,5
No	30	6,5
Total	463	100

According to table 2, 86.2 percent of respondents prefer not to sleep before 10 p.m. Meanwhile, 78.2 percent of respondents indicated that they preferred to sleep after 10 p.m. Additionally, Table 2 indicates that 97.2 percent of respondents reported seeing picture messaging on cigarette packs. And 93.5 percent of respondents are aware that cigarette cartons have pictorial health warnings.

**Table 3. Distribution of the Impact of Religious Image Messages on Cigarette Packaging and Smoking Behavior**

Score	Feeling Scared	Feeling Disgusted	Believe in Pictures	Worried	Overloaded Images	Want to swap with others	Want to Quit Smoking
<b>N</b>	463	463	463	463	463	463	463
<b>Mean</b>	7,88	8,10	8,33	8,35	4,54	1,51	8,34
<b>SD</b>	2,80	2,67	2,34	2,33	3,20	0,500	2,54
<b>Min</b>	1,00	1,00	1,00	1,00	1,00	1,00	1,00
<b>Max</b>	10,00	10,00	10,00	10,00	10,00	2,00	10,00

According to the table above, the average (mean) of fear respondents is 7.88. The average (mean) number of responders who describe themselves as disgusted is 8.10. The average (mean) number of responders who believe the image is 8.33. The average (mean) number of responders who report being concerned is 8.35. The average (mean) number of responders who believe the image is unnecessary is 4.54. The average (mean) number of responders desiring to exchange is 1.51. And the average (mean) number of responders desiring to stop is 8.34.

**Table 4. Distribution of the Impact of Financial Picture Messages on Cigarette Packs and Smoking Behavior**

Score	Feeling Scared	Feeling Disgusted	Believe in Pictures	Worried	Overloaded Images	Want to swap with others	Want to Quit Smoking
<b>N</b>	351	351	351	351	351	351	351
<b>Mean</b>	8,34	8,21	8,34	8,21	5,07	1,38	3,21
<b>SD</b>	2,27	2,37	2,15	2,26	3,25	0,48	2,29
<b>Min</b>	1,00	1,00	1,00	1,00	1,00	1,00	1,00
<b>Max</b>	10,00	10,00	10,00	10,00	10,00	2,00	10,00

According to the table above, the average (mean) of fear respondents is 8.34. The average (mean) number of responders who describe themselves as disgusted is 8.21. The average (mean) number of responders who believe the image is 8.34. The average (mean) number of responders who report being concerned is 8.21. The average (mean) number of responders who believe the image is superfluous is 5.07. The average (mean) number of respondents desiring to exchange is 1.38. And the average (mean) number of respondents expressing a desire to stop smoking is 3.21.

**Table 5. Distribution of the Impact of Persuasive Image Messages on Cigarette Packs and Smoking Behavior**

Score	Feeling Scared	Feeling Disgusted	Believe in Pictures	Worried	Overloaded Images	Want to swap with others	Want to Quit Smoking
<b>N</b>	351	351	351	351	351	351	351
<b>Mean</b>	8,53	8,11	8,37	8,16	5,19	1,41	8,23
<b>SD</b>	2,20	2,44	2,02	2,31	3,24	0,493	2,14
<b>Min</b>	1,00	1,00	1,00	1,00	1,00	1,00	1,00
<b>Max</b>	10,00	10,00	10,00	10,00	10,00	2,00	10,00

From the table above, it shows that the mean (mean) of respondents feeling afraid is 8.53. The average respondents feel disgusted is 8.11. The average respondent believes in the picture is 8.37. The average respondent feels worried is 8.16. The average respondent feels that the image is redundant at 5.19. The average respondent who wants to exchange with another is 1.41. And the average respondent wants to quit smoking is 8.23.

**Table 6. Frequency Distribution of Respondents Regarding Fear and Wanting to Quit Smoking**

<b>Cigarette Picture Messages Scare You to Smoke</b>	<b>N</b>	<b>%</b>
Fear	366	79
Not Fear	97	21
<b>Total</b>	<b>463</b>	<b>100</b>
<b>Your Great Desire to Quit Smoking</b>	<b>N</b>	<b>%</b>
1	32	6,9
2	22	4,8
3	57	12,3
4	41	8,9
5	311	67,2
<b>Total</b>	<b>100</b>	<b>100</b>

From the table above, it shows that 79.0% of respondents are afraid to smoke after seeing cigarette picture messages, while 21.0% of respondents do not feel afraid to smoke after seeing cigarette picture messages. Then 67.2% of respondents have great desire to quit smoking.

#### 4. DISCUSS

Giving a warning about the dangers of pictorial cigarettes in this study, including visualizing cautions about the dangers of disease, specifically mouth cancer. Warnings about the dangers of smoking are adverts accompanied by frightening images of disease and loud warning letters designed to deter kids and rookie smokers from consuming and quitting smoking.

The government enacted Government Regulation Number 109 of 2012 concerning the Safety of Materials Containing Addictive Substances in Tobacco Products for Health. Article 17 states that tobacco producers must include a pictorial health warning (PHW) in every packet of cigarettes sold. The necessity to include the PHW was officially enforced on June 24, 2014 with a display space of 40 percent of the PHW on the front and 40 percent on the back of the cigarette packaging. For the first round, through Permenkes No. 28 of 2013, the government has set five images. Then in 2017, it was renewed, and the Minister of Health Decree No. 56 of 2017. The placing of images and writing warnings about the dangers of smoking that must be featured on every cigarette pack is a effort by the government to induce fear to give the idea that the perils of smoking are genuine. It can kill smokers and is hazardous to the environment (Siregar, 2020).

The artwork on the cigarette pack conveys a message about the consequences of smoking. Government-created health warning graphics on cigarette packs comprise nonverbal communication aimed at reducing active smokers in Indonesia and are supposed to influence smokers' values, attitudes, beliefs, motives, and behaviors (Anasti, 2021). The government changed the policy of health warning labels in the form of sentences to visuals to draw smokers' attention to the consequences of smoking and to help smokers better comprehend the consequences of smoking if they continue to do so (Nella, 2019).

Nasution et al., (2020) discovered that respondents who perceived themselves as unafraid of picture messaging on cigarette packs had a higher intention of quitting smoking by 19%. (27.3 percent ). The findings of this study corroborate Hutabarat (2019) assertion that active smokers seeing advertising images warning of the dangers of smoking on cigarette packs on a daily basis will become accustomed to them and will not cause fear, although they

may initially feel fearful of the display of advertising images warning of the dangers of smoking on cigarettes. Repeated exposure to graphics that do not actually cause what is described in active smokers makes them immune to that knowledge and makes them unconcerned about the warning images on cigarette packs about the dangers of smoking. With regards to the intention to quit smoking, it alludes to Ajzen (1980) theory, which claims that intention is a signal of a person's preparedness to exhibit a behavior. Every action, including smoking, starts with an intention. When a person has the purpose (intention) to smoke, he begins to smoke. According to Ajzen (1980), three fundamental behavioral elements influence intentions. To begin, attitude toward behavior (attitude toward behavior) refers to an individual's attitude toward the actualization of behavior in specific contexts. Second, subjective norms, which are social norms that individuals are influenced by and adhere to. Thirdly, the perception of behavior control (perceived behavior control), which refers to an individual's belief in his ability to accomplish a behavior. These three variables also have an effect on the intention to try smoking (Hamdan, 2015).

This research show the average (mean) of fear respondents is 7.88. The average (mean) number of responders who describe themselves as disgusted is 8.10. The average (mean) number of responders who believe the image is 8.33. The average (mean) number of respondents who report being concerned is 8.35. The average (mean) number of responders who believe the image is unnecessary is 4.54. The average (mean) number of respondents desiring to exchange is 1.51 and the average (mean) number of respondents desiring to stop is 8.34.

Results study Zuhrah (2021) show the bulk of responses are between the ages of 16 and 23. The majority of respondents reported smoking between one and ten cigarettes per day. The cigarette image message number four had the maximum reaction value, namely 7-8 respondents chose picture number one with a rating of 5-6 as the image message that enhances their intention to quit smoking.

According to Ana (2016) and Inar (2019), health warning labels on cigarette packaging are critical as a means of communicating with smokers and educating them about the health dangers associated with smoking. By reading and viewing images of health warnings, along with several health warning messages and some of the disease effects of smoking listed on the health warning label on cigarette packs each time you smoke, it is hoped that you will gain a better understanding of the health consequences of smoking and will raise awareness about the health consequences of smoking. intention to quit smoking in order to influence smokers' attitudes.

Image visualization is a type of image that may be used to visually illustrate concepts and can be used to transmit information in lieu of writing. Visualization is used in a variety of fields to make it easier to transmit a message or information and for someone to perceive it. The experiment's visualization consists of a picture of a sickness induced by smoking and writing that conveys the risk message associated with smoking behavior. Thus, the person will comprehend the reality of smoking's risks (Hamdan, 2015).

The reason why visual warnings are preferable than text warnings is that health messages on cigarette packs communicate critical information directly to users. Every time someone smokes, the warning message will be repeated and reinforced. Smokers have a higher level of trust and recall for communications than they would if they were subjected to an education campaign about the dangers of smoking. The price is typically lower for the government to execute, and the printing costs are borne by the cigarette firms. To create an effective warning graphic, both the image and the text must be clear and concise. Warnings



are linked with something that encourages smokers to quit, and warnings can serve as a reminder (Hamdan, 2015).

Warning messages can assist smokers in quitting by educating them about the seriousness of the disease caused by smoking and the likelihood of contracting it. On cigarette packets, warnings about the dangers of smoking can also be linked to their personal experiences, increasing their acceptance and trust of the messaging and motivating them to take steps to maintain their health (Hamdan, 2015).

The impact of picture warnings on cigarette goods in northern India demonstrated that picture warnings on cigarette products are an effective method of communication that can help people quit or minimize smoking. According to research conducted by Reiter et al. (2012) on the perspective of the Ohioan Appalachian population in the United States regarding cigarette warning labels, published in a community health journal, labels depicting real people with tracheal stomas and oral disease on cigarette packaging can provide feedback. According to the majority of responders, positive feedback results in a change in smoking habits (Wibowo, 2018).

When the study's findings are considered, it becomes clear that the employment of image treatment in conjunction with writing does not always result in statistically meaningful data. However, reminding smokers about the dangers of smoking with an image of an illness and new writing has an effect on their intention to quit. According to descriptive data gathered through the completion of research questionnaires, it was also discovered that images of oral cancer have a more persuasive effect on an appraisal of the dangers of smoking.

This research shows that 79.0% of respondents are afraid to smoke after seeing cigarette picture messages, while 21.0% of respondents do not feel afraid to smoke after seeing cigarette picture messages. Then 67.2% of respondents have great desire to quit smoking.

Nurahmi (2018) research demonstrates that reducing the amount of cigarettes smoked and quitting smoking is more beneficial at avoiding oral cancer than increasing respondents' lifespan, and respondents believe they can do both. Nasution (2020) stated the bulk of respondents are between the ages of 19 and 20. The majority of respondents reported smoking between one and five cigarettes each day. Adolescents who expressed no fear of the impact of picture messaging on cigarette packs had a 3.939-fold increased chance of smoking compared to adolescents who expressed fear of the influence of picture messages on cigarette packs.

According to Nurlinda (2018), because cigarette packaging is designed to elicit a desire to purchase and try, the government is responsible for educating the people about the harmful effects of smoking. While health warnings in the form of images on cigarette packages are intended to increase awareness of the dangers of smoking, written warnings and images on cigarette packages depicting a variety of health problems associated with smoking have proven ineffective in an environment where the number of cigarette users is increasing among adults and teenagers.

The government's need to put images and text warning about the risks of smoking on every cigarette pack is an attempt to instill fear (fear arousing) in everyone who sees it, smokers and non-smokers alike. With each pack of cigarettes containing a warning about the dangers of smoking, it is anticipated that those who see it would develop an awareness of how deadly cigarettes are for users (active smokers) and those around them (passive smokers). The psychological effect that warnings about the dangers of smoking are predicted to have (Adiyatama et al., 2016)

According to Nurullah (2020), smokers are aware of and understand the warning warnings on every cigarette packet regarding the consequences of smoking. However, active

smokers are unable to quit because they believe they can quit someday, but not now, when they are experiencing the negative effects of smoking.

The placement of images and writing warnings about the dangers of smoking that must be included on every cigarette pack is an effort by the government to create fear (fear arousing) for everyone who sees it, both smokers and non-smokers. With the warning of the dangers of smoking in each pack of cigarettes, it is hoped that people who see it will grow awareness that cigarettes are very dangerous for users (active smokers) and people around them (passive smokers). The expected psychological impact of warnings about the dangers of smoking (Adiyatama et al., 2016). Santoso (2016) research found that the pictorial warning variable had a positive effect on the intention to quit smoking, with a coefficient of 0.344. This demonstrates that as the pictorial warning variable increases, the desire to quit smoking increases as well.

Cigarette packaging aims to create a desire to buy and try, the government has a responsibility to educate the public about the impact of smoking on health. Health warnings in the form of images on cigarette packages aim to increase understanding of the dangers caused by smoking. However, written warnings and images on cigarette packaging containing a series of health problems caused by smoking have proven ineffective, where the number of cigarette users is increasing both from adults and teenagers.

## 5. CONCLUSION

Based on the results of the research above, it can be concluded that the majority of respondents are male (64%), the average respondent is 15-25 years old (92%), whose majority work as students (76.5%). The majority of respondents were afraid of health warnings with pictures of cigarette packs as many as 366 people (79%) with a strong desire to stop smoking as many as 311 people (67.2%), while there were 6.9% of respondents who did not want to stop smoking after seeing the picture message on cigarettes. This means that the pictorial health warnings effectively give the respondent a fear effect when they see the pictorial health warnings on cigarette packs so that it impacts the respondent's desire to quit smoking. It is hoped that the government can enlarge the health warnings on cigarette packs in order to reduce the number of cigarette consumption in Indonesia.

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