

Original Research

The Effect of Health Promotion on the Level of Community Knowledge on The Risks of Smoking Cause of Physical and Psychological Disorders

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ABSTRACT:

Pandemic corona virus disease -19, is an epidemic that occurs worldwide that has affected all sectors of life in the world. In Indonesia, the government has established health protocols to avoid this deadly disease. One group that is considered susceptible to being infected with the corona virus are smokers, in fact, the malignancy it causes can be twice more at risk of getting covid than non-smokers. The aim of the Virtual Community service programs is to determine the level of public knowledge of the risks of smoking which can cause physical and psychological disorders. The study was conducted using pre-post design on smoker subjects, subjects were given 10 questionnaire about general knowledge of smoking-related diseases before and after health promotion. The average values of the pre-test score prior to and after health promotion were 50% and 90%. The level of knowledge of most of the community regarding physical and psychological disorders due to smoking increases after receiving the health promotion. After counseling, with the hope of giving knowledge to others.

Keywords: Health promotion; risk of smoking; physical and psychological disorders

Received: 22 June, 2021

Accepted: 26 July, 2021

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This article may be cited as: Yohana W. The Effect of Health Promotion on the Level of Community Knowledge on The Risks of Smoking Cause of Physical and Psychological Disorders. J Adv Med Dent Scie Res 2021;9(8):25-28.

INTRODUCTION

Smoking is a problem that still cannot be solved until now. Various studies on the harmful of smoking have been carried out, one of which states that a cigarette contains about 4,000 types of toxic chemical compounds, 200 of which are declared harmful to human health, and 43 of them are carcinogenic.¹ The harmful of smoking have been widely exposed, for example written on cigarette packs, but still many are smoking, and even the number of smokers continues to increase from year to year. According to data from the World Health Organization in 2008 Indonesia was ranked third with the largest number of smokers in the world after China and India.² According to data from the Basic Health Research (Riskesdas) states that there is an increase in the prevalence of smoking in the population of aged 10 years from 28.8% (2013) toward 29.3% (2018). Smoking is not only a problem in adults, but also in children and adolescents. This is evidenced by the increasing prevalence of smoking in the population aged 10-18 years is 1,9% (2013) toward 9.1% (2018).³ Smoking does not only have an impact on active smokers but can also have an impact

on passive smokers.⁴ Cigarette components and their smoke are the main causes of harm caused by cigarettes.¹ Cigarettes produce incomplete combustion and deposition, causing disease in the body. Cigarettes can trigger diseases such as lung cancer, heart attack, hypertension, stroke, respiratory infections, oral health problems and even oral cancer. Physical disorders caused by smoking in the oral cavity are caries, periodontal disease, calculus, tooth loss, gum hyperpigmentation, halitosis (bad breath), discoloration of teeth.⁵ Smoking can even affect the sensitivity of the sense of taste of the tongue, especially taste of sweet and salty.⁶ Smoking can also cause oral cancer, cancer that often occurs in the mouth is tongue cancer.⁷ Another cancer that can occur due to smoking is lung cancer.⁸ In addition psychological disorders can also be caused by smoking habits, one of which is the manifestation of addiction and depression.⁹ This study aims to provide counseling about the harmful of smoking on a person's physical and psychological disorders.

MATERIAL AND METHODS

This research was a descriptive comparative research with cross-sectional methods, conducted in the period of January- February 2021. The population of this study was smokers who have smoked for at least 1 year, minimum age of smoker is 18 years. 60 respondents were given 10 questionnaire regarding risks of smoking cause of physical and psychological disorders before and after health promotion. The Virtual Integrative implementation is entirely through

online because there is a Covid -19 that must implement a health protocol. One hour before the health promotion was held, the subjects were asked to do the pre-test 10 questions through a Google Form. After working on the pre-test questions, the subject enters the Zoom Meeting room. The smoker's knowledge was measured with 10 pre-test and post-test questionnaires. In Table 1. Questionnaire public knowledge of smoking and disease due to smoking

Table 1. Questionnaire public knowledge of smoking and disease due smoking

No	Questionnaire	Answer
1	The main toxic substances contained in cigarettes are nicotine and tar	
2	Nicotine in cigarettes can cause psychological dependence	
3	The harmful of smoking are oral cancer and lung cancer	
4	One of the signs of tongue cancer is a sore on the tongue that is difficult to heal	
5	Smoking can worsen your immune system	
6	Reduction in the taste of salty and sweet tastes can be caused by smoking	
7	Smoking causes easy caries, calculus	
8	Smoking makes a person feel depressed through a decrease in dopamine	
9	Passive smoking does not harm his health	
10	Carbon monoxide in cigarettes will bind Hemoglobine in the blood, so blood pressure will increase and be able to trigger a heart attack	

RESULTS

Table 2 shows the demographic characteristics of the study, of the total 60 smokers who participated in this study, 49 (81,66%) were males and 11 (18,33%) were females.

Table 2. Characteristic of Respondents based on age and gender

Characteristics	Frequency	Percentage (%)
Age (year)		
(17-19)	5	8,33
(20-30)	52	86,66
50-55	3	5
Gender		
Male	49	81,66
Female	11	18,33
Total	60	100

The results showed the smoker's knowledge level regarding harmful of smoking on a person's physical and psychological disorders, as presented in Table 2. The average values of the pre-test score was 50%, while in the post-test score was 90%. The results showed that there was a significant increase of the average values post-test score in groups.

DISCUSSION

In the public education program, knowledge is given about the harmful of smoking to the health of the body, the contents of cigarettes which contain a lot of toxic substances, symptoms and characteristics of diseases caused by smoking. Of the 60 respondents, it turned out that the number of males subjects was 49 people (81.66%) and 11 females (18.33%). This number is slightly smaller than other studies, that in developing countries the number of female smokers is 22%.¹⁰ In this program there are questions that contain 10 questions given to the subject, shown in table 1. The average value of the pre-test score is: 50%, meaning that the subject does not know widely the things related to the effects of smoking, the content of

cigarettes, and the symptoms of the disease it causes. After the health education was carried out, the average value post-test score was 90%, meaning that the subject had understood the harmful of smoking. Thus, health education can improve knowledge and lifestyle. This is in accordance with research that health education can increase the understanding of meaningful health knowledge.¹¹ Smoking is one of the biggest risk factors that can cause many diseases, even death.¹ Smoking can cause many diseases such as respiratory disorders, cardiovascular disease, reproductive system disorders, lung cancer and tongue cancer. Cigarettes contain harmful substances, namely particles (8%) which contain nicotine, tar, benzantracene, benzopyrene, phenol, cadmium,

indole, carbarzol and cresol. Gas (92%) comes from carbon monoxide, carbon dioxide, hydrogen cyanide, ammonia, oxides of nitrogen and hydrocarbon compounds.¹² The oral cavity is the first organ affected by smoking.¹³ The effects of smoking that often occur are dry mouth, cough, headache, respiratory problems. Nicotine in certain levels can be absorbed through the mucous membranes and lungs, then enter the blood circulation, and distributed to the brain and other tissues.¹⁴ The effects of nicotine on the brain can be addictive. Nicotine plays a role in inhibiting the attachment and growth of periodontal ligament fibroblast cells, reducing fibroblast protein, and can damage cell membranes.¹⁵ Nicotine can cause blood vessels to contract so that the tissue will be deprived of nutrients, this condition results in delays of the wound healing process.¹ The tar content of cigarettes can cause the deposition of particles on the teeth then the surface of the rough crown. This environment facilitates easier attachment of bacteria to the teeth then damage to the supporting tissues of the teeth. Plaque causes pockets the gums, which is bacteria accumulate. This situation in a certain time resulted in loose teeth.¹⁶ Tar in cigarettes can irritate & increase the activity of mucosal epithelial cells resulting in thickening of the mucosa of the cheeks and floor of the mouth.¹² The formation of leukoplakia is a pre-malignant lesion that is at risk of developing oral cancer. The incidence of oral cancer in 2016 was the sixth most common cancer in the world. Every year, there are 300 thousand new cases of oral cancer in the world and half of that number die. As many as 50 percent of the incidence was dominated by Asian, with Southeast Asia (including Indonesia) contributing 11%.¹⁷ Basic Health Research (Riskesdas) states oral cancer was 1.4% (2013), then increased to 5, 6% (2018) Currently oral cancer occurs in the productive age group, in accordance with the increase in smokers at a young age, a 2009 study of oral cancer occurred at the age of 22-34 years (19.8%).³ The study results showed that smokers aged 17-19 (8.33%), age 20-30 (86.66%) this may be associated with an increase in oral cancer in the future which is more in the productive age. Cancer that often occurs in the mouth is tongue cancer, the symptoms are pain and difficulty swallowing, sores on the tongue that are difficult to heal. The patient thought that the wound was stomatitis The patient does not know the symptoms of tongue cancer, so it is self-medicated without consulting a doctor, then the patient goes to the doctor in a very severe condition (advanced stage). In terms of gender, the majority of oral cancers are in males, 50% of oral cancer patients die in less than three years.¹⁷ Tongue cancer is generally located in the anterior 2/3 of the tongue, generally occurs on the lateral and ventral sides of the tongue (40-75%), with a poor prognosis.¹⁸ Other cancers related to smoking are lung cancer, lung cancer is the highest case of death from all other cancer diagnoses. According to the Global Cancer

Observatory (GLOBOCAN) in 2020 (WHO), 79% of lung cancer cases died (2020).¹⁹ Lung cancer is the most diagnosed cancer cases in male, and the third most cancer cases in female. Exposure to cigarette smoke will enter the respiratory tract, blood vessels, tar will settle in the alveoli, within a certain period of time the alveoli will be damaged, DNA changes occur in cell repair, excessive and uncontrolled growth occurs, resulting in lung cancer. Basic Health Research (Riskesdas) in 2018 states, the incidence of lung cancer in male is 19.4 per 100,000 population with a mortality rate of 10.9 per 100,000 population. Initial symptoms are somewhat difficult to distinguish from other lung diseases, but in advanced lung cancer conditions there are symptoms: prolonged cough, coughing up blood, shortness of breath, chest pain, hoarseness, wheezing, weight loss. In this study, most of the people were lacking in health, but after health education there was an increase in health knowledge.

CONCLUSION

The health education method is proven to be effective in increasing public knowledge of the harmful of smoking for physical and psychological health. After counseling, with the hope of giving knowledge to others.

ACKNOWLEDGEMENTS

This research was supported by Universitas Padjadjaran, through DRPMI Universitas Padjadjaran and students.

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