

THE ROLE OF HEALTH PROMOTION IN CHANGE TEENAGE SMOKING BEHAVIOR

Levi Anatolia S.M. Exposto^{*}, Cipriano do R. Pacheco, Januario M. Maia, Oscar Seixas da Cruz, Honoria de F. Carvalho, Santiago J. Pereira, Felisbela A.O. de Oliveira


Universidade da Paz, Timor-Leste

**levibebrete@yahoo.co.id*

Abstract

The implementation of health promotion programs is important because it is to increase adolescent knowledge about the dangers of smoking, improve adolescent perceptions of smoking, and change adolescent attitudes about smoking to not smoking anymore. The purpose of writing this article is to know and understand the role of health promotion in changing adolescent smoking behavior. The method used in this paper is a systematic review study. 80 articles (2011-2021) were collected in English based on the database of Google, Google Scholar, PubMed, DOAJ, and Emerald Insight. From the 7 articles analyzed, it can be found that the adverse effects of cigarettes on smokers and people around smokers are diseases; some of these diseases are cancer, chronic obstructive pulmonary disease, asthma, acute respiratory infections (ARI), hypertension, stroke, and various other diseases. This impact cannot be felt when initially consuming cigarettes in the early stages. The bad impact will refer to a decrease in individual productivity and performance. One of the strategic efforts to change smoking behavior is through health promotion interventions to change unhealthy lifestyles into healthy ones. Health promotion is one of the efforts to improve public health that focuses on promotion and preventive efforts to provide knowledge in changing adolescent smoking behavior so that they are able to maintain and improve their health status independently.

Keywords: *Health Promotion, Behavior, Smoking*

Indonesian Journal of Multidisciplinary Science © 2022 by International Journal Labs is licensed under CC BY-SA 4.0 

INTRODUCTION

Smoking behavior is one of the habits that can be found in almost every community. Smoking behavior has been considered a disease, namely a substance-induced addiction. Currently, smoking behavior has also been included in the list of the International Classification of Disorder (ICD) 10 and the Diagnostic and Statistical Manual of Mental Disorder (DSM) (DiFranza & Ursprung, 2010). Cigarettes are objects that are familiar to us. Smoking has become a very common and widespread habit in society. The dangers of smoking to the health of the body have been studied and proven by many people. The adverse effects of smoking are well known (Munafò et al., 2004).

Many studies have found that smoking raises the risk of heart disease and blood vessel disorders, lung cancer, oral cavity cancer, laryngeal cancer, esophageal cancer, bronchitis, high blood pressure, impotence, pregnancy disorders, and birth defects in the fetus (P Saha et al., 2007). This smoking habit is difficult to eliminate and is rarely recognized by the public (Smokers) as a bad habit or endangering their health (Bennett et al., 2017). In addition, people who smoke to divert themselves from stress and emotional stress, are more difficult to break away from this habit than smokers who do not have a background of depression.

Epidemiologically, the tendency of smoking behavior is a worldwide health problem. The World Health Organization (WHO) predicts that by 2020 tobacco-related diseases will become

a major health problem, and cause around 8.4 million deaths every year. In addition, the prevalence of men smoking in countries with lower middle income is still very high, namely 39%, compared to men from countries with upper middle income, which is 35%. Another fact states that on average smokers die 13 to 14 years earlier than nonsmokers. Macroeconomic losses due to smoking if the consumption of cigarettes is 230 billion cigarettes per year, then the total loss is 138 trillion rupiah, and the loss for medical costs due to smoking per year is 1.85 million per year, which is 12 times greater than the price of the cigarette itself (Usman et al., 2014).

The global prevalence of smoking tobacco in 2010 was 22.1% and in terms of gender 36.6% for men and 7.5% for women. The global target of a relative reduction of 30% would require prevalence to be reduced to 15.5% for both sexes, 25.6% for men and 5.3% for women. Requires all countries collectively to achieve an annual reduction between 2010 and 2025 of -0.44% (WHO, 2019). Seeing that the frequency of smoking continues to increase, the WHO Global Action Plan for the Prevention and Control of Non-communicable Diseases (2013–2020) includes a target to reduce the global prevalence of tobacco use (Smoking and smokeless) by 30% in 202 compared to 2010. Although targets to reduce tobacco use are set as global targets, each country is free to set its targets. Every year, more than 8 million deaths worldwide are caused by smoking, 7 million deaths due to direct smoking, and about 1.2 million deaths due to secondhand smoke (WHO, 2019).

Health risks from tobacco use come not only from direct consumption of tobacco but also from exposure to secondhand smoke. Nearly 6 million people die from tobacco use and exposure each year, accounting for 6% of all female deaths and 12% of all male deaths worldwide. Of these deaths, more than 600,000 are due to exposure to secondhand smoke among non-smokers and more than 5 million to direct tobacco use (Smoking and non-smoking) (Öberg et al., 2011). By 2020, annual tobacco-related deaths are projected to increase to 7.5 million (17), accounting for 10% of all deaths that year. Smoking is estimated to cause about 71% of all lung cancer deaths, 42% of chronic respiratory disease, and nearly 10% of cardiovascular disease. Smoking is also an important risk factor for infectious diseases such as tuberculosis and lower respiratory tract infections (Lin et al., 2007).

In the Southeast Asian region, as written in the book “The Tobacco Control Atlas ASEAN Region”, it is stated that 1 in 5 ASEAN residents are active smokers. Indonesia ranks first as a country that has the highest percentage of smokers in ASEAN, which is 36.3% of the total population or reaching more than 65 million people. From these data, it is known that male smokers are 66% while female smokers are 6.7% (Swastika et al., 2021). Timor-Leste based on the National survey for non-communicable disease risk factors and injuries using WHO STEPS approach in 2014 almost half (48.6%) of respondents were smokers with a much higher prevalence among men (69.5% men and 9 .6% women. Most smokers (94.8%) used manufactured cigarettes, which were smoked by more men than women (95.2% versus 89.3%. The survey found that the median age of starting smoking was 16.3 years) for men and 17.6 years for women. However, women in the younger age group started smoking much earlier (16.4 years) compared to the older age group (25 years) (Martins et al., 2015).

Smoking behavior is one of the causes of increased mortality and morbidity rates in the world. Therefore, there is a need for health promotion interventions to change smoking behavior. Health promotion is one of the efforts to improve public health that focuses on

promotion and preventive efforts. This effort aims Health promotion is very important in efforts to reduce the increasing burden of chronic diseases worldwide due to tobacco and smoking in particular (Golechha, 2016). Changes in smoking behavior need motivation from the external environment to instill someone's awareness in making decisions to reduce the smoking volume or quit (Dunsmore & Goodson, 2006).

One strategy for conducting health promotion interventions to change smoking behavior must include the means or efforts to display the message or information that the communicator wants to communicate, whether through print, electronic, or outdoor media. So that the target can change his life behavior, methods used must be adapted to the general or specific conditions or characteristics of the youth who are the targets of health promotion. Interventions can then be designed to target and change these beliefs or the value placed on them. Thereby influencing attitudes, subjective norms, or perceived behavioral control, leading to behavioral change intentions (Tapera et al., 2020).

Among teenagers, smoking is the most important part of their lives. It is attractive, easy to socialize, easy to concentrate, and makes life younger. Smoking behavior occurs because access to cigarettes is easily available and there is no control. The results showed that there was a relationship between the influence of parents with smoking behavior. There is a relationship between family interactions with smoking behavior. Therefore, efforts to change smoking behavior require family intervention in influencing changes in adolescent smoking behavior (Anhar et al., 2021). The formation of awareness for smokers who want to quit is a must if they want to quit. So, after smokers arise awareness of the need for intensity of health promotion to invite them to stop. This as a concrete action that he goes through should get a touch of the affective dimension to strengthen the will to quit, so that the self and events are connected properly, and so that it creates a deep imprint in memory, which in turn reinforces to continue smoking cessation (Golechha, 2016).

According to Laventhal and Cleary, smoking behavior in adolescents generally increases according to the stage of development which is characterized by an increase in the frequency and intensity of smoking and often results in them experiencing nicotine dependence (Leventhal & Cleary, 1980). Therefore, changes in smoking behavior are currently still through a cognitive approach such as providing information about the dangers and impacts of smoking.

In achieving the goal of behavioral change, health promotion interventions alone do not have a significant impact, there is a need for compelling reinforcing factors, such as laws. The written warnings on cigarette packs seem to have not a significant impact on reducing the number of smokers. Presumably, warnings about the dangers of smoking in writing only did not cause fear for smokers and quit smoking. Perhaps most smokers did not pay attention to the written text on cigarette packs. With the issuance of regulations, warnings about the dangers of smoking on cigarette packs must be equipped with pictures/illustrations of the dangers of disease caused by smoking. For example, packs of cigarettes that we can see selling in markets or supermarkets in Indonesia and Timor-Leste. Each pack of cigarettes is equipped with pictures/illustrations of the dangers of disease, it is hoped that cigarette addicts will be aware of the dangers of smoking, which can result in diseases that can cause death.

From the description of the problem of smoking behavior above, the purpose of writing this systematic review is to find out and understand the role of health promotion in changing smoking behavior.

METHOD

The method used in this paper is a systematic review study. A systematic review is a systematic, explicit and reproducible method for identifying, evaluating, and synthesizing research works and ideas that have been produced by researchers and practitioners. A systematic review aims to analyze and synthesize existing knowledge related to relevant topics (Jain & Sharma, 2016). The library sources used in the preparation of this systematic review are through the International Website sourced from the Google, Google Scholar, PubMed, DOAJ, Emerald Insight databases. Search article search in the period 2011-2021.

Frameworks Used

The strategy used in the search for articles (Journals) uses the PICOS framework.

- 1) Population/problem, the problem to be analyzed or population.
- 2) Intervention, action management of individual cases, and presentation of management.
- 3) Comparison, another treatment used as a comparison.
- 4) The outcome, the results, or outcomes obtained in the research.
- 5) Study design, research design used by the journal to be reviewed

Keywords

Journal search uses keywords and boolean operators (*AND, OR NOT or AND NOT*) which are used to expand or specify the search, making it easier to determine which journal to use. The keywords used in the journal search were "health promotion and smoking behavior".

Databases (Search Engines)

The articles used in writing this article were sourced from databases from Google, Google Scholar, PubMed, DOAJ, Emerald Insight, and these articles were published in English-language international journals, such as the International Journal of Health Planning and Management, India Journal Medical Research, Health Education Research, and others.

Inclusion and exclusion criteria

Table 1. Inclusion and exclusion criteria

Criteria	Inclusion	Exclusion
Population/problem	International articles dealing with the role of health promotion in changing adolescent smoking behavior	International articles unrelated to the role of health promotion in changing adolescent smoking behavior
Intervention	Do not use intervention	Do not use intervention
comparison	There is no	There is no
Outcome	Changes in smoking behavior	Continue to maintain smoking behavior

Study design	All types of research designs	There is no
	Publication type: open access	
	research article	
Publication Year	2011-2021	Before 2011
Language	English	other than English

Study Selection and Quality Assessment

Based on the results of a literature search via Google, Google Scholar, PubMed, DOAJ, according to these keywords. After the articles were collected and screened, 80 articles were excluded because they were published in 2011 and below. The journal's feasibility assessment according to the title amounted to 50 journals. Then the journals were selected based on 4 eligibility criteria (Inclusion and exclusion) obtained 20 journals. Furthermore, 7 articles are eligible for further analysis according to the problem formulation and objectives which are then reviewed.

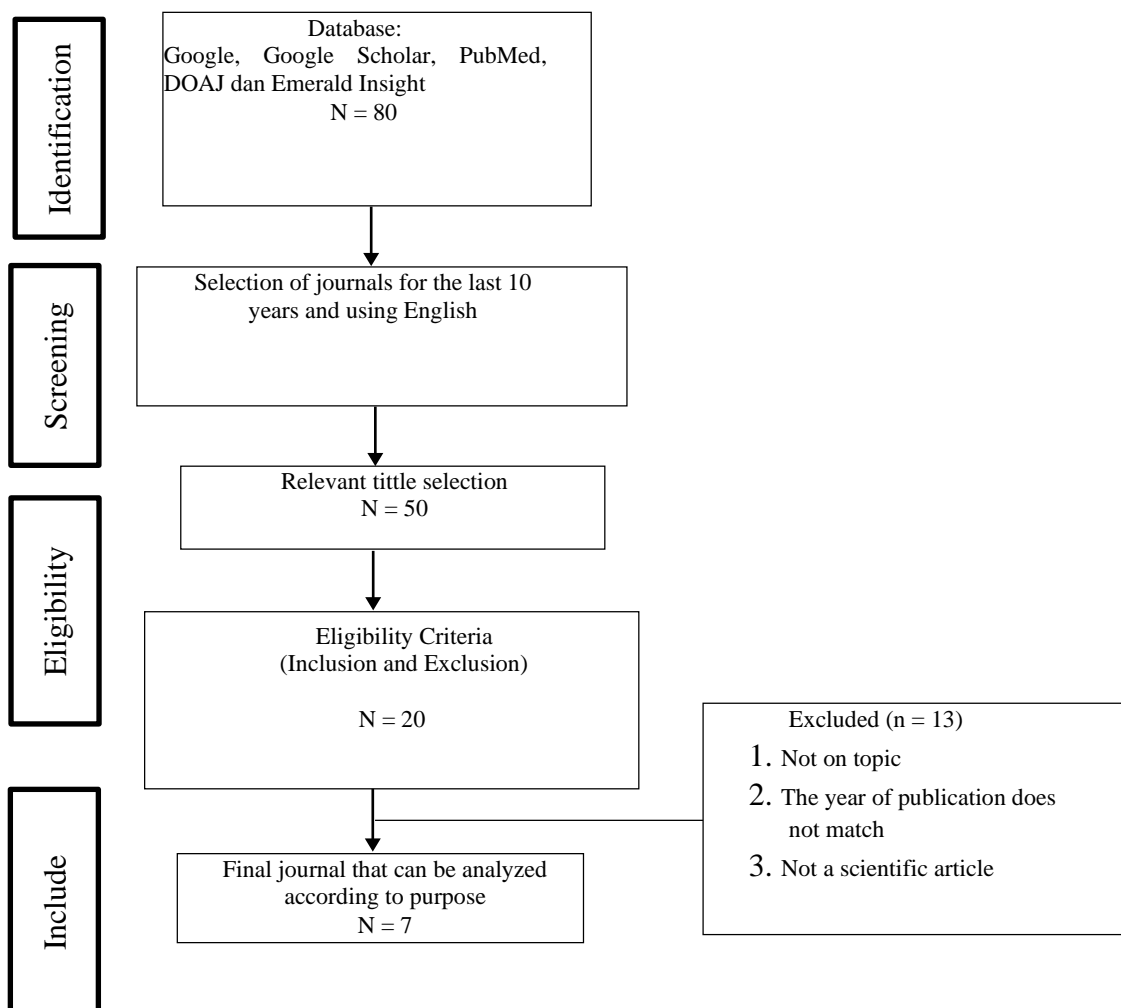


Chart 1. PRISMA Framework, Document Selection

RESULTS AND DISCUSSION

The results of the search process and inclusion and exclusion criteria are that only 7 articles are taken that meet the criteria. Those are journal papers published in the 2011-2021 period and have discussions related to "the role of health promotion in changing adolescent smoking lifestyles". Grouped into several types of journals. The following are the types of journals that have been successfully obtained.

Table 2. Types of Journals

No.	Journal	Year	Amount
1.	Journal of clinical oncology	2012	1
2.	Global health action	2018	1
3.	Hindawi Publishing Corporation Advances in Public Health	2014	1
4.	BioMed Central	2011, 2017	2
5.	The American Journal of Drug and Alcohol Abuse	2016	1
6.	PLoS One	2017, 2020	2
7.	Journal of Health Promotion and Behavior	2017	1
8.	International Journal of Preventive Medicine	2016	2
9.	International Journal of Environmental Research and Public Health	2011, 2017, 2021	3
10.	International Archives of Nursing and Health Care	2019	1

Article Search Strategy

The literature search strategy is very important in writing a systematic review, so that it understands the steps of writing and selecting articles, analyzing and drawing conclusions. The steps are as follows:

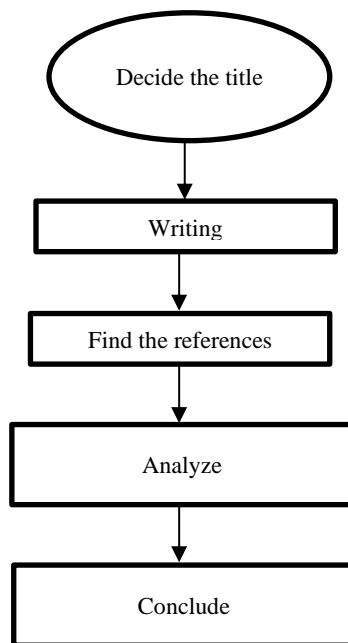


Figure 2. Article Search

Place of Research

From the 7 articles taken and analyzed, it can be found that these articles are the result of research conducted by researchers in various countries, such as the following:

Table 3. Research Places

No.	Country	Year	Amount
1.	America	2016	1
2.	Indonesia	2014	1
3.	Canada	2013	1
4.	America	2016	1
5.	English	2016	1
6.	Korea	2021	1
7.	Australia	2019	1

Data Extraction

In this *Systematic Review*, data extraction is carried out by looking at the entire journal publication in the appropriate 10-year period then writing down the important findings of the article including the name and year, title, journal, method, analysis technique, and results. Furthermore, the data is entered in the data extraction form and will be displayed in tabular form.

Table 4. Data Extraction

No.	Author and Year	Title	Method	Analysis	Results
-----	-----------------	-------	--------	----------	---------

1.	Nurul Kodriati, Lisa Pursell a and Elli Nur Hayati (2018)	A scoping review of men, masculinities, and smoking behavior: The importance of settings.	A scoping review	Five databases (PubMed, Medline Ovid, Embase, CINAHL, and PsychINFO Ovid) and Google Scholar (up to April 2016) were searched using keywords derived from three concepts: men, smoking, and health.	Regions with a high prevalence of smoking among men, such as South East Asia and the Western Pacific, had a disproportionate number of studies on masculinity and smoking, with less exploration of masculinity as a protective factor, especially for young people, and men-specific settings to support non-smoking behavior.
2.	Vina Yulia Anhar, Syamsul Arifin, Nur Laily2, Fauzie Rahman, Agus Muhammad Ridwan, Bohari Bohari. (2021)	Analysis of Smoking Behavior Risk Factors in Adolescents through Health Belief Model Approaches.	This study is observational using a cross-sectional approach	Univariate analysis and Bivariate analysis	Frequency distribution, 139 (89.1%) respondents do not smoke, 81 (51.9%) respondents were female, 147 (5.8%) respondents are well-informed, and 141 (90.4%) respondents have a positive attitude, the number of respondents who are not affected by the smoking behavior of the elderly is 142 people (91%). The number of respondents who are not affected by peer smoking behaviors is 150 people (96.2%) and 144 people (92.3%) of the respondents were exposed to cigarette

advertisements in the high category. Statistical tests show that the variables that have a significant relationship with smoking behavior are gender ($p = 0.000$), attitude ($p = 0.000$), parental influence ($p = 0.000$), and cigarette advertising ($p = 0.000$).

3.	Mahaveer Golechha (2016)	Health Promotion Methods for Smoking Prevention and Cessation: A Comprehensive Review of Effectiveness and the Way Forward	Article review	analysis database using PubMed, MEDLINE, Ovid, Karger, ProQuest, Sage Journals, Science Direct, Springer, Taylor and Francis, EMBASE, CINAHL, and Cochrane and Wiley Online Library	Health promotional interventions for the prevention and cessation of smoking are thought to involve a three-tiered approach. Reaching the mass public by social marketing and mass media interventions, reaching the individual by MI, peer education, whilst approaching the community via community mobilization and changing the environment by media advocacy and setting based intervention seems to be an extremely effective method of inducing smoking prevention and cessation
4.	Roy TaperaID1, Bontle Mbongwe, Magen Mhaka-Mutepfa, Andrew Lord, Nthabiseng A. Phaladze, Nicola M. Zetola (2020)	The theory of planned behavior as a behavior change model for tobacco control strategies among adolescents in Botswana	Cross-sectional study	IBM SPSS version 25	There was a strong association between having a parent or guardian, caregiver, or close friend who smoked ($p < 0.001$) and being a smoker. The majority of students (57%) conveyed that adults talked to them about the harmful effects of cigarette smoking and

50% had discussed smoking concerns with their friends. Students who had positive attitudes towards smoking like "smoking makes you confident" were more likely to be current smokers (OR: 1.63, 95% CI: 1.03–2.59). The feeling or conviction that they could refuse a cigarette if offered impeded smoking (OR: 0.18, 95% CI: 0.13–0.26).

5.	Dita Primanda Arum Swastika, Zahroh Shaluhayah, Syamsulhuda Budi Musthofa. (2021)	The Effect on Education of Cigarette's Danger Through Instagram on the Knowledge, Attitudes, and Practices of Female Student Smokers	A quasi-experimental study	data analyzed by Mc Nemar, Wilcoxon, and Mann-Whitney tests	There is an influence of health education using Instagram to increase the knowledge $p < 0.05$, attitudes $p < 0.05$, and practices $p < 0.05$ of Diponegoro University students in the smoking behavior control.
6.	Ejiofor augustine ezika. (2014)	An Exploration of Smoking Behavior of African Male Immigrants Living in Glasgow	Qualitative methodology	Data analyzed thematically	The participants' smoking habits were influenced by the cold weather environment as well as societal norms that appear to make the smoking habit more acceptable in Glasgow than in Africa. It appears the more educated the participants were, the fewer cigarettes they smoked. However, there was only a slight difference in the number of cigarettes smoked between participants with

						a degree and those with a postgraduate degree.
7.	Susan Michie, Maartje M van Stralen and Robert West	The behavior change wheel: A new method for characterizing and designing behavior change interventions	Systematic literature review	The analysis was carried out on 8 articles that met the inclusion criteria	Nineteen frameworks were identified covering nine intervention functions and seven policy categories that could enable those interventions. None of the frameworks reviewed covered the full range of intervention functions or policies, and only a minority met the criteria of coherence or linkage to a model of behavior. At the center of a proposed new framework is a 'behavior system' involving three essential conditions: capability, opportunity, and motivation (what we term the 'COM-B system').	

Data Synthesis

This Systematic Review was synthesized using a narrative method by grouping similar extracted data according to the measured results to answer the objectives. The data that has been collected is then looked for similarities and differences and then discussed to conclude.

Discussion

The Role of Health Promotion

Health promotion is about improving the health status of individuals and communities. Promotion in the context of health means improving, advancing, supporting, encouraging, and placing health above private and public agendas (Davies & Macdowall, 2006). WHO gives the understanding that health promotion is a process of seeking individuals and communities to increase their ability to control factors that affect health, thereby improving the health status. The role of health promotion is very important in providing information to the public regarding all matters aimed at improving the quality of health; both individual and public health (Kumar & Preetha, 2012).

The health promotion method is used as an intervention to change smoking behavior. Health promotion is very important to reduce the increasing burden of chronic disease worldwide due to tobacco and smoking in particular increase knowledge about the dangers of smoking and

induce smoking cessation intentions (Golechha, 2016). Before doing health promotion, it is necessary to know a person's smoking behavior as a whole, which can be seen from the number of cigarettes he smokes. How much a person smokes can be known through his smoking intention. Smoking intention can be interpreted as a magnitude or strength for a behavior. This is called Improved practice of evidence-based practice and the health of smokers depends on changing their life behavior (Michie et al., 2011).

Reducing smoking reduces the risk of disease. Therefore, the selection of the right method in the implementation of health promotion about smoking to adolescents is one of the main determinants of the success of health promotion activities. According to Kalkhoran S (Kalkhoran et al., 2018), those who successfully quit smoking reduce the mortality rate by 15% to 61%. The method used must be adapted to the general or specific conditions or characteristics of the youth who are the targets of the health promotion program. Guidelines for using media that are appropriate to the situation of the recipient of the information make the selection of methods for health promotions dynamic and flexible. In addition, a new strategy to embed standard health promotion interventions in tobacco cessation is offered through a state-funded cessation pathway (McClure et al., 2018). Health promotion is very effective in reducing the likelihood of individuals trying cigarettes and providing motivation to those with tobacco use disorder to quit smoking.

Health promotion strategies have proven successful time and time again. More than 30 years of experience in governance innovation means the health promotion 'sector' is well prepared for the specific challenges of SDGs (Sustainable Development Goals) 16 and 17: Promoting peaceful and inclusive societies for sustainable development (McDonough & Engel, 2011). Health promotion is directed towards action on the determinants or causes of Health and requires close collaboration of sectors outside of Health Services, reflecting the diversity of conditions affecting the health of both individuals and communities. Health promotion efforts in developing countries have not had a significant impact on changes in smoking behavior. According to Abdullah ASM (Abdullah, 2004), important barriers to smoking cessation promotion in developing countries include:

1. Economic factors
2. lack of awareness of health policymakers, the consequences and costs of tobacco.
3. The low-risk perception among the public;
4. Weak policymakers that encourage termination.
5. The smoking behavior of service providers is due to their lack of knowledge or awareness.
6. Poor health system
7. Lack of infrastructure
8. Industrial intervention (Abdullah, 2004)

Looking at the issues mentioned above, the Ottawa Charter identifies three basic strategies for health promotion. It is advocacy for health to create the conditions essential for health mentioned above; enabling everyone to reach their full health potential and mediating between the various interests in society. These strategies are supported by five priority areas of action as outlined in the Ottawa Charter for health promotion:

1. Building healthy public policies
2. Create a supportive environment for health

3. Strengthen community action for health
4. Develop personal skills, and
5. Reorientation of health services (Kumar & Preetha, 2012).

The role of health promotion is not only seeking behavior change, but also environmental changes that facilitate these behavior changes. Besides that, health promotion emphasizes increasing the ability to live healthy, not just healthy behavior. Health promotion aims to create a condition, namely behavior and an environment that is conducive to health. The impact is that if there is no health promotion about adolescent smoking, adolescents do not know that the content in cigarettes is very harmful to the body so adolescents will make bad habits for their health.

Smoking Behavior

The causes of smoking behavior are several factors, both within the individual and in the social environment around the individual. Human behavior is a reflection of various psychological tendencies based on external stimuli, whether intentional or unintentional, having positive responses or negative responses. Behavior has three domains that can be measured, namely knowledge, attitude, and practice. Knowledge and attitudes are passive responses, while practice is an active response (Usman et al., 2014). So, smoking behavior is an activity of smoking cigarettes (Rolls of dry tobacco leaves) that is carried out by someone.

Several research results prove that there is a relationship between the influence of parents with smoking behavior. There is a relationship between family interactions with smoking behavior in adolescents, the values that have been formed in the family environment remain attached even though new values from peers enter the soul. Parents remain role models for adolescent normative behavior. Moreover, if the exposure to parental behavior has long been in line with the development of adolescents in the family, the patterns remain strong (Anhar et al., 2021). Smoking behavior has penetrated the joints of adolescent life through the intermediary of adult models. Teenagers watch their teachers demonstrate how to smoke. On another occasion, adolescents witnessed adults using smoking as a medium to reduce the tension they felt. Because of that, teenagers are tempted to imitate the behavior of adults, regardless of the negative effects caused by smoking. In changing behavior, behavior change intervention can be defined as a series of coordinated activities designed to change certain behavior patterns (Michie et al., 2011).

Influencing behavior change to achieve a healthy life, one theory or concept called Theory Planned Behavior (PHB) provides a framework for identifying key, normative, and controlling behaviors that influence behavior. Interventions can then be designed to target and change the beliefs or values placed on them, thereby influencing attitudes, subjective norms, or perceived behavioral control, leading to changes in intentions and behavior (Tapera et al., 2020). Prevention strategies can be adjusted if parental and peer factors (subjective norms) influence adolescents' behavior and attitudes toward tobacco smoking and intentions are also expected to capture the motivational elements that influence behavior.

Currently, smoking behavior is increasingly prevalent, not only in the behavior of adults but also has become a lifestyle for teenagers. Smokers do not seem to care those smoking cigarettes is a habit that is very detrimental to health for both smokers and those around them, smoking habits are very difficult to stop because of the dependence effects caused by nicotine, besides

the consequences in the form of diseases caused by smoking occur in the human body. the period that is long enough, so that it often causes failure in efforts to prevent not smoking (Brewer et al., 2016).

According to Social Cognitive Theory (SCT) environment, individual, and behavior interact and influence each other in shaping one's behavior. Smoking habits are not only influenced by their own will but also by social environmental factors such as family and supportive peers. PRECEDE model of behavior change Behavior is influenced by 3 main factors, namely: Predisposing factors, supporting factors, and reinforcing factors (Pandayu et al., 2017). Some of the difficulties in predicting behavior change are as follows: persuasive messages, and consequently identify messages that may have the greatest impact on changes in human behavior and smoking (Falk et al., 2011). Several health promotion methods are being used for smoking prevention and cessation. Evaluation of health promotion intervention studies has shown a positive impact on reducing smoking prevalence (Golechha, 2016).

According to Tomkins (in Dariyo, 2008) states that the reasons individuals engage in smoking behavior include:

- 1) Influence by positive feelings: Individuals smoke because they get positive benefits from smoking. For example, being calm, happy, and comfortable.
- 2) Influenced by negative feelings: Individuals smoke because cigarettes can relieve the negative emotions they face. For example, when someone is anxiously waiting for the birth of their child, that person smokes so that his physical condition becomes relaxed and calm (No longer anxious).
- 3) Habitual (Physiological dependence): The condition in which an individual smoke becomes a habit (Lifestyle). Physically the individual feels addicted and cannot avoid or refuse requests that come from within his body.
- 4) Psychological dependence: The condition is when the individual feels, thinks about, and decides to smoke continuously. Under any circumstances and like what, the individual always smokes.

Interventions to change smoking behavior are not easy, it is necessary to increase health promotion efforts about the dangers of smoking continuously so that it can lead to awareness to reduce the smoking volume or stop.

Effects of Smoking

Tobacco use, in any form, can be described as a behavioral process that creates a psychologically and physiologically addictive atmosphere among users. Nicotine, the active ingredient in tobacco, is highly addictive, leading to continued tobacco use. Tobacco use is divided into flammable and non-flammable (Onor et al., 2017). Smoking has harmful effects, such as cancer (Mouth cancer, throat cancer, stomach cancer, lung cancer), heart disease, and chronic respiratory disorders. Some of these diseases are attacked because of the content or elements of cigarettes, namely in the form of carbon monoxide, tar, and nicotine (Ezika, 2014).

Cigarettes are widely known to the public as one of the leading causes of death in the world. Cigarettes also not only have negative effects for people who consume them but can also be harmful and have negative effects for people around smokers. Cigarettes have several effects on smokers, one of which is lowering the immune system. Decreased immunity is

characterized by a lack of the body's ability to fight germs that cause an infection that enter through smoked cigarettes (Brewer et al., 2016). The nature of cigarettes causes addiction (addictive) permanently, which causes the smoking habit to be very difficult to get rid of.

When a person smokes, without realizing it, the organs and components of the immune system are damaged so they cannot work properly when the body lacks essential intakes such as antioxidants and oxygen. In addition, various studies have proven that there are many dangers of smoking to health, including asthma, lung infections, oral cancer, throat cancer, lung cancer, heart attack, stroke, dementia, erectile dysfunction (Impotence), and so on (Krist et al., 2021). Some of the health risks that can occur if someone starts smoking as a teenager. Parents should not set bad examples such as smoking in front of their children and pay more attention to the environment around their children so that they do not fall into bad associations. Preventing smoking from an early age so that it does not have a severe impact on the child's growth process in the future.

To implement programs to control diseases caused by smoking habits, it is necessary to have cross-sectorial cooperation, such as the government being able to collaborate with international organizations such as the World Health Organization (WHO), the Asia Pacific Association for the Control of Tobacco, and others. The problem of smoking is not an easy problem but all parties must receive complete information about the negative effects of smoking, understand the role, and contribute to overcoming the effects of smoking.

CONCLUSION

Health promotion is not only a process of public awareness in terms of providing and increasing knowledge in the health sector but also as an effort that can bridge changes in the behavior of smokers to prevent themselves from smoking-related diseases such as lung disorders, oral cancer, stomach disorders, skin disorders and fertility rates.

REFERENCES

- Abdullah, A. S. M. (2004). Promotion of smoking cessation in developing countries: a framework for urgent public health interventions. *Thorax*, *59*(7), 623–630. <https://doi.org/10.1136/thx.2003.018820>
- Anhar, V. Y., Arifin, S., Rahman, F., Ridwan, A. M., & Bohari, B. (2021). Analysis of Smoking Behavior Risk Factors in Adolescent through Health Belief Model Approaches. *Open Access Macedonian Journal of Medical Sciences*, *9*(E), 192–197. <https://doi.org/10.3889/oamjms.2021.5685>
- Bennett, B. L., Deiner, M., & Pokhrel, P. (2017). College anti-smoking policies and student smoking behavior: a review of the literature. *Tobacco Induced Diseases*, *15*(1), 11. <https://doi.org/10.1186/s12971-017-0117-z>
- Brewer, N. T., Hall, M. G., Noar, S. M., Parada, H., Stein-Seroussi, A., Bach, L. E., Hanley, S., & Ribisl, K. M. (2016). Effect of Pictorial Cigarette Pack Warnings on Changes in Smoking Behavior. *JAMA Internal Medicine*, *176*(7), 905. <https://doi.org/10.1001/jamainternmed.2016.2621>
- Dariyo, A. (2008). *Psikologi Perkemb Dewasa Muda (CB)*. Grasindo.
- Davies, M., & Macdowall, W. (2006). *Health Promotion Theory*.

- DiFranza, J., & Ursprung, W. W. S. (2010). A systematic review of the International Classification of Diseases criteria for the diagnosis of tobacco dependence. *Addictive Behaviors*, 35(9), 805–810. <https://doi.org/10.1016/j.addbeh.2010.04.002>
- Dunsmore, S., & Goodson, P. (2006). Motivation for Healthy Behavior. *American Journal of Health Education*, 37(3), 170–183. <https://doi.org/10.1080/19325037.2006.10598897>
- Ezika, E. A. (2014). An Exploration of Smoking Behavior of African Male Immigrants Living in Glasgow. *Tobacco Use Insights*, 7, TUI.S13262. <https://doi.org/10.4137/TUI.S13262>
- Falk, E. B., Berkman, E. T., Whalen, D., & Lieberman, M. D. (2011). Neural activity during health messaging predicts reductions in smoking above and beyond self-report. *Health Psychology*, 30(2), 177–185. <https://doi.org/10.1037/a0022259>
- Golechha, M. (2016). Health promotion methods for smoking prevention and cessation: A comprehensive review of effectiveness and the way forward. *International Journal of Preventive Medicine*, 7(1), 7. <https://doi.org/10.4103/2008-7802.173797>
- Jain, S., & Sharma, N. (2016). Guideline for systematic reviews. *International Dental & Medical Journal of Advanced Research - VOLUME 2015*, 2(1), 1–10. <https://doi.org/10.15713/ins.idmjar.48>
- Kalkhoran, S., Benowitz, N. L., & Rigotti, N. A. (2018). Prevention and Treatment of Tobacco Use. *Journal of the American College of Cardiology*, 72(9), 1030–1045. <https://doi.org/10.1016/j.jacc.2018.06.036>
- Krist, A. H., Davidson, K. W., Mangione, C. M., Barry, M. J., Cabana, M., Caughey, A. B., Donahue, K., Doubeni, C. A., Epling, J. W., Kubik, M., Ogedegbe, G., Pbert, L., Silverstein, M., Simon, M. A., Tseng, C.-W., & Wong, J. B. (2021). Interventions for Tobacco Smoking Cessation in Adults, Including Pregnant Persons. *JAMA*, 325(3), 265. <https://doi.org/10.1001/jama.2020.25019>
- Kumar, S., & Preetha, G. (2012). Health promotion: An effective tool for global health. *Indian Journal of Community Medicine*, 37(1), 5. <https://doi.org/10.4103/0970-0218.94009>
- Leventhal, H., & Cleary, P. D. (1980). The smoking problem: A review of the research and theory in behavioral risk modification. *Psychological Bulletin*, 88(2), 370–405. <https://doi.org/10.1037/0033-2909.88.2.370>
- Lin, H.-H., Ezzati, M., & Murray, M. (2007). Tobacco Smoke, Indoor Air Pollution and Tuberculosis: A Systematic Review and Meta-Analysis. *PLoS Medicine*, 4(1), e20. <https://doi.org/10.1371/journal.pmed.0040020>
- Martins, J., Correia, A., Belo, N., Santos, H., Ceu, M., Costa, S., Sinha, D., Bhatti, L., Cowan, M., Dorji, G., Garg, R., & Agrawal, N. (2015). *National Survey for Non-Communicable Disease Risk Factors and Injuries: Using WHO STEPS approach in Timor-Leste – 2014*.
- McClure, J. B., Bush, T., Anderson, M. L., Blasi, P., Thompson, E., Nelson, J., & Catz, S. L. (2018). Oral Health Promotion and Smoking Cessation Program Delivered via Tobacco Quitlines: The Oral Health 4 Life Trial. *American Journal of Public Health*, 108(5), 689–695. <https://doi.org/10.2105/AJPH.2017.304279>
- McDonough, S., & Engel, L. (2011). Promoting Health. *NASN School Nurse*, 26(2), 87–88. <https://doi.org/10.1177/1942602X10397550>
- Michie, S., van Stralen, M. M., & West, R. (2011). The behaviour change wheel: A new method for characterising and designing behaviour change interventions. *Implementation Science*, 6(1), 42. <https://doi.org/10.1186/1748-5908-6-42>

- Munafò, M., Clark, T., Johnstone, E., Murphy, M., & Walton, R. (2004). The genetic basis for smoking behavior: A systematic review and meta-analysis. *Nicotine & Tobacco Research*, 6(4), 583–598. <https://doi.org/10.1080/14622200410001734030>
- Öberg, M., Jaakkola, M. S., Woodward, A., Peruga, A., & Prüss-Ustün, A. (2011). Worldwide burden of disease from exposure to second-hand smoke: a retrospective analysis of data from 192 countries. *The Lancet*, 377(9760), 139–146. [https://doi.org/10.1016/S0140-6736\(10\)61388-8](https://doi.org/10.1016/S0140-6736(10)61388-8)
- Onor, I. O., Stirling, D. L., Williams, S. R., Bediako, D., Borghol, A., Harris, M. B., Darensburg, T. B., Clay, S. D., Okpechi, S. C., & Sarpong, D. F. (2017). Clinical Effects of Cigarette Smoking: Epidemiologic Impact and Review of Pharmacotherapy Options. *International Journal of Environmental Research and Public Health*, 14(10), 1147. <https://doi.org/10.3390/ijerph14101147>
- P Saha, S., K Bhalla, D., F Whayne, T., & Gairola, C. (2007). Cigarette smoke and adverse health effects: An overview of research trends and future needs. *International Journal of Angiology*, 16(03), 77–83. <https://doi.org/10.1055/s-0031-1278254>
- Pandayu, A., Murti, B., & -, P. (2017). Effect of Personal Factors, Family Support, Pocket Money, and Peer Group, on Smoking Behavior in Adolescents in Surakarta, Central Java. *Journal of Health Promotion and Behavior*, 02(02), 98–111. <https://doi.org/10.26911/thejhp.2017.02.02.01>
- Swastika, D. P. A., Shaluhayah, Z., & Musthofa, S. H. B. (2021). The Effect on Education of Cigarette's Danger Through Instagram on the Knowledge, Attitudes, and Practices of Female Student Smokers. *JHE (Journal of Health Education)*, 6(1), 16–26.
- Tapera, R., Mbongwe, B., Mhaka-Mutepfa, M., Lord, A., Phaladze, N. A., & Zetola, N. M. (2020). The theory of planned behavior as a behavior change model for tobacco control strategies among adolescents in Botswana. *PLOS ONE*, 15(6), e0233462. <https://doi.org/10.1371/journal.pone.0233462>
- Usman, S., Notoadmodjo, S., Rochadi, K., & Zuska, F. (2014). Changing Smoking Behavior of Staff at Dr. Zainoel Abidin Provincial General Hospital, Banda Aceh. *Advances in Public Health*, 2014, 1–12. <https://doi.org/10.1155/2014/316274>
- WHO. (2019). *WHO global report on trends in the prevalence of tobacco use (3rd Edition)*.