

Epidemiology of Smoking Behavior in Aceh

Siti Maisyaroh Fitri Siregar¹, Arfah Husna², Sukma Elida³, Enda Silvia Putri⁴, Sufyan Anwar⁵, Lili Eky Nursia⁶,
Zata Ismah⁷

^{1,2,3,4,5,6}Public Health Faculty, Universitas Teuku Umar, Meulaboh, Indonesia

⁷Public Health Faculty, State Islamic University of North Sumatra, Indonesia

Corresponding Author: sitimaisyaroh@utu.ac.id

Submitted: 19/7/2021 **Conference:** 17/10/2021 **Accepted:** 23/2/2022 **Published online:** 8/3/2022

Abstract: The percentage of smoking according to the results of the National Socio-Economic Survey on the population in Indonesia in 2020 reached 28%, 7 percent of which were under 18 years of age. The national average prevalence of smokers aged 15 years and over is 32.2%, almost 50% of the provinces have prevalence above the average. The Purpose of this research is to identify epidemiology of smoking in Aceh The Method a local representative household rapid survey was undertaken in Aceh in May 2021, the data collection method used snowball sampling, with a sample of 170 people, The Results show that 98.8% of respondents know that smoking is detrimental to health, but 66% of the sample are active smokers. With reasons to join friends (37%) and help concentration (28%). 47% of these smokers spend 1-3 cigarettes and the rest more than 3 cigarettes per day. The condition of smokers chooses smoking behavior in the majority because they feel bored and when they are relaxed / fad but ironically all smoke in places that are at risk of contamination to others, namely in public places (53.6 %), at home (49.1%) and at work (20.9%). The conclusion most smokers know the dangers of smoking but still actively smoke in large quantities for psychological reasons such as boredom and fun. The Recommendation, people should be able to apply knowledge with healthy behavior, namely avoiding the dangers of smoking both for themselves and the wider community

Keywords: Survey, Smoking Risk, Epidemiology

Introduction

Smoking is not only a problem in adults, but also increasingly prevalent among children and adolescents. This is evidenced by the increasing prevalence of smoking in the population aged 10 to 18 years, which is 1.9% from 2013 (7.2%) to 2018 (9.1%).

This places Indonesia as the country with the third highest number of active smokers in the world. Tobacco-attributable diseases include lung and heart diseases, chronic respiratory diseases, cancers, and diabetes , Smoking also impairs the immune system and previous studies have established that tobacco use is linked with poorer outcomes for people with TB and pneumonia. Indeed, smoking increases pneumococcal, legionella, and mycoplasma pneumonia by *three- to five-fold* Protecting populations from the harms of tobacco has never been more important. Reducing tobacco use is critical to reducing the burden of noncommunicable diseases, which account for 71% of deaths globally. And globally, smoking prevalence among people aged over 15 years has fallen from 22.7% to 17.5%.

Smoking leads to disease and disability and harms nearly every organ of the body. More than 16 million Americans are living with a disease caused by smoking. For every person who dies because of smoking, at least 30 people live with a serious smoking-related illness. Smoking causes cancer, heart disease, stroke, lung diseases, diabetes, and chronic obstructive pulmonary disease (COPD), which includes emphysema and chronic bronchitis. Smoking also increases risk for tuberculosis, certain eye diseases, and problems of the immune system, including rheumatoid arthritis. Tobacco is one of the world's largest preventable causes of premature death, accounting for more than 8 million deaths and costing the global economy US\$ 1.4 trillion each year. This disproportionately affects people in low- and middle-income countries (WHO, 2021) All countries can adopt and implement comprehensive tobacco control measures to prevent the immense burden. caused by tobacco use and exposure to second-hand smoke. Yet, in 2020, 49 countries had not yet adopted a single MPOWER measure at best-practice level, leaving 2.4 billion people vulnerable to the tobacco industry's tactics and marketing.

Methods

This type of research is a survey research that aims to get a picture of smoking behavior. The population of this study is the people of Aceh who can access the internet, because of the distribution of questionnaires with electronic media. The research sample amounted to 170 people using the rapid survey method with the sample criteria of 100-200 respondents. This Researche use method a local representative household rapid survey was undertaken in Aceh in May 2021, the data collection method used snowball sampling, with a sample of 170 people. Research variables consist of knowledge, attitude and behavior. data were analyzed by quantitative descriptive analysis techniques.

Result

Tabel. 1 Characteritic smoking behavior

Characteristic	Total	
	n	%
Educational		
Than	158	98,8
Less	12	1.2
Attitude		
Than	124	73
Less	46	23
Behavior		
Smoker	112	66
Not Smoker	58	34
Total	170	100

Table 1 shows a description of the distribution of knowledge of respondents who have good knowledge about the dangers of smoking (98%), who have good attitudes about smoking activities (73%), but bad behavior is more dominant (66%).

1. Description of knowledge

Based on the results of the study 98% of respondents have good knowledge about the risks of smoking. They know information about the risk of smoking from various sources including parents, friends, teachers and health promotion advertisements. Important factors predicting initiation in western societies are: having friends who smoke, having parents who smoke, low social grade, tendency to mental health problems and impulsivity (Action on Smoking and Health, 2015b). Transition to daily smoking follows a highly variable pattern sometimes being very rapid and sometimes taking several years (Schepis & Rao, 2005).

Important factors predicting the transition to regular smoking are: having friends who smoke, weak academic orientation, low parental support, pro-smoking attitudes, drinking alcohol and low socio-Economic status (Action on Smoking and Health, 2015b). Respondents varied, 86% answered that it could damage the lungs and interfere with pregnancy. 51% of respondents also know that the risk of smoking can also be experienced by passive smokers in addition to active smokers because there are harmful chemicals contained in cigarettes.

2. Description of Attitude

There is 97% of respondents are aware of regulations that prohibit smoking in public places, health facilities, workplaces, learning processes, children's activities, places of worship, and public transportation. However, knowledge is contrary to their attitude, only 51% of respondents think that smoking is a natural thing. This attitude can be seen from the results of 65% who gladly support if there is an anti-smoking movement.

3. Description of Behavior

The results showed that 66% of the respondents were smokers, of the number of smokers, 63% admitted to getting cigarettes and smoking for the first time due to the influence of colleagues for various reasons including the invitation of friends, helps them concentrate and feel natural as adults. 47% of respondents smoked 1-3 cigarettes per day (light smokers) and 25% spent more than 10 cigarettes per day (heavy smokers). Average daily cigarette consumption among smokers in the US and UK has declined steadily since the 1970s. In the UK, it is currently 11 cigarettes per day, and non-daily smoking is very rare (Action on Smoking and Health, 2016c; Jarvis, Giovino, O'Connor, Kozlowski, & Bernert, 2014).

Smoking activity is usually done when the condition is feeling bored (31%) and other reasons such as experiencing stress, relaxing, even when seeing other people smoking.. Many smokers report that smoking helps them cope with stress and increases their ability to concentrate. However, this appears to be because when they go for a period without smoking they experience nicotine withdrawal symptoms that are relieved by smoking. Long-term

smokers who stop report lower levels of stress than when they were smoking and no reduction in ability to concentrate (West, 2009; West & Shiffman, 2016).

It is commonly thought that smokers with mental health problems are using cigarettes to ‘self-medicate’ or treat their psychological symptoms. However, the evidence indicates that neither nicotine nor smoking improves psychological symptoms, and people with serious mental health disorders who stop smoking do not experience a worsening of mental health. In fact some studies have found an improvement (Royal College of Physicians and Royal College of Psychiatrists, 2013). Smoking behavior of smokers also tends to be risky, which is carried out in public places (51%) and at home 49%. While they have a group that is vulnerable to cigarette smoke (pregnant women/babies/toddlers) at home they live as much as 18% and they still smoke in the house.

As many as 49% of respondents claimed to have health problems caused by smoking behavior. Second-hand emissions have the potential to harm bystanders. Studies show that ENDS use raises airborne concentrations of particulate matter above background levels when measured indoors. The levels of nicotine, particulate matter and potential carcinogens in second-hand aerosols (SHA) exceed the maximum recommended levels set out in the WHO FCTC Guidelines. This is of concern, as human exposure to particulate matter generated during the use of ENDS – including fine and ultrafine particles (which may penetrate the alveoli), volatile organic compounds, heavy metals and nicotine, have been shown to be associated with increased risk of heart and lung disorders. Although the health risks associated with SHA from ENDS are not yet well understood, a systematic review concluded that ENDS “vapour” has the potential to cause harm to bystanders. Further research is needed to fully understand the health effects of second-hand exposure to ENDS aerosols.

The harms of second-hand smoke There is no safe level of exposure to second-hand smoke, and even brief exposure can cause harm. Severe or fatal diseases, including heart disease, respiratory disease, and cancer, can result from exposure to second-hand smoke – and non-smokers living with smokers are at greater risk of such diseases, and premature death. Children and infants are particularly susceptible and at increased risk for respiratory disease, middle-ear disease, and sudden infant death syndrome. Pregnant women exposed to second-hand smoke are more likely to experience stillbirths, and their fetuses are more likely to have congenital malformations and lower birth weights.

The only way to adequately protect both smokers and non-smokers from second-hand smoke is to fully eliminate indoor smoking. For example, an analysis based on data from Brazil suggested that, over a period of 16 years, up to 15 000 infant deaths may have been averted by the implementation of comprehensive smoke-free laws. China is the world’s largest producer and consumer of tobacco products and is home to more than 300 million smokers (a quarter of the global total). Each year more than 1 million people in China die from diseases caused by tobacco. To monitor the tobacco epidemic, China regularly conducts nationally representative tobacco use surveys.

Research shows 11% of respondents have no desire to quit smoking, For most smokers, cessation requires a determined attempt to stop and then sufficient resolve in the following weeks and months to overcome what are often powerful urges to smoke. Factors that predict quit attempts differ from those that predict the success of those attempts (Vangeli et al., 2011). Approximately 5% of unaided quit attempts succeed for at least 6 months (Hughes, Keely, & Naud, 2004). Relapse after this point is estimated to be around 50% over subsequent years (Stapleton & West, 2012). The most common self-reported reasons for smoking are stress relief and enjoyment, with around half of smokers reporting these smoking motives. Weight control, aiding concentration and socialising are also quite commonly cited (Fidler & West, 2009). Smoking for supposed stress relief, improved concentration, weight control or other functions has not been found to be related to attempts to stop or success of attempts to stop (Fidler & West, 2009). Smokers who report enjoying smoking are less likely to try to stop but not less likely to succeed if they do try (Fidler & West, 2011). In addition, having a positive smoker identity (liking being a smoker) predicts not trying to quit, over and above enjoyment of smoking (Fidler & West, 2009).

The first to introduce cigarettes to respondents were mostly friends (60%), then themselves by 29.4%, from families who smoked 9.4% and other things by 1.2%. This is as revealed in Sitepoe's research which explains that the reasons teenagers start smoking are of their own volition, seeing their friends, and being taught or forced to smoke by their friends. As for the respondent's reasons for smoking for the first time, that is, 50.6% because of an invitation from friends (solidarity), curious to try (41.2%), and the impact of family members who smoke (8.2%). L Mercken found that selection as well as influence processes play an important role in adolescent smoking behavior. Selection had a relatively stronger role than influence, in particular when selecting non-reciprocal friends. The strength of both influence and selection processes decreased over time (L Mercken, 2010).

The things that make respondents smoke are when they are relaxed (42.4%), when depressed or stressed (26%), when people around the respondent smoke (18.8%), and in other circumstances 4.7%. This research is like Andrea's, 2017, Persons with depression, compared to those without depression, are more likely to smoke, and meet criteria for nicotine dependence, are less likely to quit smoking, and are more likely to relapse. Little is known about the association between depression and smoking behavior by age, socioeconomic status, or race/ethnicity or with regard to the use of tobacco products other than cigarettes. This is as explained by Monique's research on the common reasons that make someone a smoker, namely: experimenting and following along, increasing self-confidence, eliminating free time, expelling a temporary cold feeling in the body, relieving headaches and stress. can cause a person's smoking behavior.

Based on the results of interviews with respondents, most of the respondents who have a negative attitude are smokers (97.9%). This study is in accordance with the research of Muhammad Rachmat et al regarding adolescent smoking behavior, showing a significant relationship between attitudes and adolescent smoking behavior. A negative attitude towards a health behavior can influence a person to behave negatively, in this case the respondent is

smoking. Based on the results of the study, most of the respondents who are in the category of negative attitudes towards the dangers of smoking and the application of pictorial health warnings are smokers. This shows that attitudes can support a person's smoking behavior.

Petter Lundborg's research, 2008, show significant gender differences in the perception of smoking mortality risk and in the perception of the addictiveness of smoking. Girls perceive the mortality risk of smoking as significantly greater than boys do, but they also perceive the addictiveness of cigarettes as less. These results persist after controlling for a wide range of background characteristics, including smoking risk information sources.

Moreover, the findings suggest that while smoking information from sources such as teachers, pals, and own search, affect smoking mortality perceptions in a significant and positive manner among boys, no such effects are obtained among girls. Meanwhile, regarding the impact of the implementation of pictorial health warnings, based on the results of interviews with respondents, it was found that 60% of respondents had high exposure to pictorial health warnings on cigarette packaging, where respondents who were in the low exposure category were smokers (97.5%). A total of 64.7% of respondents became motivated to quit smoking. As many as 23.5% of respondents stated that they have reduced smoking since the implementation of pictorial health warnings on cigarette packaging in Indonesia. This shows that there is a positive impact with the implementation of pictorial health warnings on cigarette packaging in Indonesia, namely smokers want to stop smoking, and there are smokers who reduce cigarette consumption.

This finding is consistent with studies from Canada, Thailand, and a number of other countries regarding the impact of implementing pictorial health warnings on cigarette packaging. The more a person is exposed to pictorial warnings about the dangers of smoking, the more likely a person is to stay away from smoking behavior. This is because the purpose of implementing the pictorial health warnings itself is to inform the impact of smoking on health so that smokers do not want to smoke, reduce cigarette consumption or actually stop smoking.

Conclusion

Most smokers had good knowledge about risk factor of smoking and know the dangers of smoking. they also have good attitude, but they have bad behavior that actively smoke in large quantities. They have psychological reasons such as boredom and fun.

References

- Action on Smoking and Health. 2015. *Young people and smoking*. London: ASH. Retrieve from http://www.ash.org.uk/files/documents/ASH_108.pdf [Google Scholar]
- Action on Smoking and Health. (016. *Smoking statistics: Who smokes and how much?* London: ASH. Retrieved from http://www.ash.org.uk/files/documents/ASH_106.pdf [Google Scholar]
- Andrea H. Weinberger, PhD, Rachel S. Kashan, MA, Danielle M. Shpigel, MA, Hannah Esan, Farah Taha, Christene J. Lee, MA. 2017. Depression and Cigarette smoking behavior: A critical review of population-based studies. *The American Journal of Drug*

and Alcohol Abuse: Encompassing All Addictive Disorders. Volume 43, 2017-issue 4: Dual Diagnosis Special Issue. Accessed 27 Sept 2021, 15.00

- L. Mercken, T.A.B. Snijders, C. Steglich, E. Vartiainen. H. de Vries. 2010. Dynamics of Adolescent friendship networks and smoking behavior. *ELSEVIER: Social Networks*, Vol 32, Issue 1, January 2010, pages 72-81. <https://www.sciencedirect.com/science/article/abs/pii/S0378873309000082>. Diunduh tanggal 27-09-21 pukul 14.48
- Faridah F, 2015, Analisis Faktor-Faktor Penyebab Perilaku Merokok Remaja di SMK “X” Surakarta . *JURNAL KESEHATAN MASYARAKAT* (e-Journal) Volume 3, Nomor 3, April 2015 (ISSN: 2356-3346) <http://ejournal-s1.undip.ac.id/index.php/jkm>
- Fidler, J., & West, R. (2009). Self-perceived smoking motives and their correlates in a general population sample. *Nicotine & Tobacco Research*, 11, 1182–1188. doi:10.1093/ntr/ntp120 [Crossref], [PubMed], [Web of Science ®], [Google Scholar]
- Hughes, J. R., Keely, J., & Naud, S. (2004). Shape of the relapse curve and long-term abstinence among untreated smokers. *Addiction*, 99, 29–38.10.1111/add.2004.99.issue-1 [Crossref], [PubMed], [Web of Science ®], [Google Scholar]
- Jarvis, M. J., Giovino, G. A., O’Connor, R. J., Kozlowski, L. T., & Bernert, J. T. (2014). Variation in nicotine intake among U.S. cigarette smokers during the past 25 years: Evidence from NHANES surveys. *Nicotine & Tobacco Research*, 16, 1620–1628. doi:10.1093/ntr/ntu120 [Crossref], [PubMed], [Web of Science ®], [Google Scholar]
- L. Mercken, T.A.B. Snijders, C. Steglich, E. Vartiainen. H. de Vries. 2010. Dynamics of Adolescent friendship networks and smoking behavior. *ELSEVIER: Social Networks*, Vol 32, Issue 1, January 2010, pages 72-81. <https://www.sciencedirect.com/science/article/abs/pii/S0378873309000082>. Diunduh tanggal 27-09-21 pukul 14.48
- Muhammad Rachmat, Ridwan Mochtar Thaha, Muhammad Syafa. 2013. Perilaku Merokok Remaja Sekolah Menengah Pertama. *Jurnal Kesehatan Masyarakat Nasional*. Vol. 7No. 11 Juni 2013
- Petter Lundborg, Henrik Andersson. 2008. Gender of Adolescent friendship networks and smoking behavior. *ELSEVIER: Journal of Health Economics*, Vol 32, Issue 1, January 2010, pages 72-81. <https://www.sciencedirect.com/science/article/abs/pii/S0167629608000295>. diunduh tanggal 27 September 2021 pukul 14.00
- Smoking and Tobacco, 2020. [Usehttps://www.cdc.gov/tobacco/basic_information/health_effects/index.htm](https://www.cdc.gov/tobacco/basic_information/health_effects/index.htm)
- Schepis, T. S., & Rao, U. (2005). Epidemiology and etiology of adolescent smoking. *Current Opinion in Pediatrics*, 17, 607–612.10.1097/01.mop.0000176442.49743.31 [Crossref], [PubMed], [Web of Science ®], [Google Scholar]
- Stapleton, J. A., & West, R. (2012). A direct method and ICER tables for the estimation of the cost-effectiveness of smoking cessation interventions in general populations: application to a new cytosine trial and other examples. *Nicotine & Tobacco Research*, 14, 463–471. doi:10.1093/ntr/ntr236 [Crossref], [PubMed], [Web of Science ®], [Google Scholar]
- West, R. (2009). The multiple facets of cigarette addiction and what they mean for encouraging and helping smokers to stop. *Chronic Obstructive Pulmonary Disease*, 6, 277–283.10.1080/15412550903049181 [Taylor & Francis Online], [Web of Science ®], [Google Scholar]