

The correlations of knowledge, attitude, and smoking behaviour with smoking cessation effort at coffee shops in Banda Aceh, Indonesia



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ABSTRACT

Background: The highest prevalence of smokers aged 15 years and above is occupied by the Republic of Indonesia with a percentage reaching 76.2%. Aceh Province leads the highest prevalence of smokers aged of ≥ 10 years (24.0%) compared to the mean of Indonesia (24.3%). Researchers are encouraged to discuss about smoking cessation efforts that might be carried out by the knowledge, attitudes, and smoking habits in the people of the City of Banda Aceh.

Methods: This study aims to find out the correlation between knowledge, attitudes and smoking behaviour towards the smoking cessation efforts in Banda Aceh. Using a cross-sectional design with accidental sampling technique at six most visited coffee shops in Banda Aceh. All the data were collected using GATS (Global Adult

Tobacco Surveillance) questionnaire that had been modified, and conducted by direct interview. All respondent had received signed informed consent.

Results: A total of 111 active smokers was collected. This study indicated that smokers have average smoking cessation efforts more than 30 days (41.4%), dominantly well educated (60.4%), neutral attitude (72.1%), and mild smokers (79.3%). We also found that smoking cessation efforts were influenced by knowledge ($p=0.036$), attitudes ($p=0.025$), and smoking behaviour ($p=0.001$).

Conclusion: There are correlations between knowledge, attitudes, and smoking behaviour towards the smoking cessation efforts in Banda Aceh.

Keywords: smoking cessation efforts, knowledge, attitude, smoking behaviour.

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INTRODUCTION

There were more than 1.1 billion people who smoked tobacco according to the World Health Organization (WHO) in 2015 consisted of 942 million men smokers and 175 million women smokers aged ≥ 15 years.^{1,2} Highest smokers prevalence aged ≥ 15 years is occupied by the Republic of Indonesia with percentage of 76.2%.³

According to the data of Indonesian Basic Health Research in 2018, the proportion of smokers in Aceh aged ≥ 10 years were 24% as daily smokers and 4.1% as occasional smokers. This percentage is close enough to the prevalence of Indonesian smokers aged ≥ 10 years in which there were 24.3% daily smokers and 4.6% occasional smokers.⁴

WHO estimated that smoking will cause 10 millions death in advanced countries and more than 1,5 times in the developing countries, mostly on reproductive ages which is 15-64 years old. The main causes of death in smokers are cardiovascular diseases especially coronary heart disease. Smoking is also the risk factor of stroke, blindness, osteoporosis, and peripheral cardiovascular disease.⁵

Global Adult Tobacco Survey (GATS) mentioned the percentage of smoking cessation

efforts by comparing the current smokers and nonactive smokers in the last 12 months. The lowest efforts were found in Republic of China (14%), Greece (17%), Russia (29%), and Indonesia (30%).⁶ According to Notoadmodjo, human behaviour is influenced by knowledge and attitude towards something.⁷ While Firzawati and Yashinta showed that knowledge, attitude, and supporting factors are related to the smoking cessation efforts.^{8,9}

Based on data mentioned, we examined the influence of knowledge, attitude and smoking behaviour towards smoking cessation behaviour in Banda Aceh as study about reproductive age smokers in the city is limited. We would like to find out the smoking cessation efforts of people living Banda Aceh viewed by the perspectives of knowledge, attitude and behaviour.

METHODS

This is an observational analytic with cross sectional design using accidental sampling technique. The study was done in 6 most visited coffee shops in Banda Aceh, they are Solong Coffee Ulee Kareng, Dhapu Kupu Lueng Bata, Zakir Kupu Kuta Alam,

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Rawasakti Coffee Syiah Kuala, Black Jack Coffee Meuraxa and Cut Nun Kupi Kuta Alam. Data were collected twice per day from 08.00 -10.00 AM and

08.00 - 10.00 PM every Saturday and Sunday of September to November 2019. Samples were people residing in Banda Aceh who smoked in coffee shops and fulfilled the inclusion criteria.

The instrument used was Global Adult Tobacco Survey (GATS) questionnaire that had been modified and conducted by direct interview in Banda Aceh coffee shop. This research used simple statistical analysis.

RESULTS

Data obtained in October 5th until October 27th, 2019. Data on [table 1](#) showed that there were 111 active smokers residing in Banda Aceh. The smokers were all men. The dominance age range in this research was 18-25 years old (72%). The table also showed that majority of respondents were graduated from senior high school (53.2%), and had already been employed (78.4%). Most of respondents are living in Syiah Kuala (25.2%) ([Table 1](#)). Data obtained showed that most respondents already had well knowledge about smoking dangers (60.4%) ([Table 2](#)) and neutral attitude towards smoking dangers (72.1%) ([Table 3](#)). Majority of respondents are light smokers (79.3%) ([Table 4](#)) and have already attempted to quit smoking > 30 days (41.4%) ([Table 5](#)).

Based on the tabulated results in [table 6](#) shows that knowledge about smoking dangers associated with smoking cessation effort ($p = 0.036$) because the majority of respondents with well knowledge are likely to have attempted to quit smoking > 30 days ([Table 6](#)). [Table 7](#) shows that the whole respondents with negative attitude does not attempt to stop smoking by 100%, it can be inferred that attitude associated with smoking cessation effort ($p = 0.025$) ([Table 7](#)). On the other hand, [table 8](#) shows that smoking behaviour associated significantly with smoking cessation effort ($p = 0.001$) ([Table 8](#)).

DISCUSSION

The findings from this study are smokers in Banda Aceh city dominantly are male smokers who were aged 18-25 years had graduated senior high school, had employed, mostly lived at Syiah Kuala (urban), had more well knowledge about smoking dangers, mostly had neutral attitude towards smoking, more likely are light smokers and to have made attempt to quit smoking > 30 days. An association was identified between knowledge, attitude, and smoking behaviour with smoking cessation effort.

Based on the Global Tobacco Surveillance System (GTSS) the prevalence of smokers based on gender with Comparing the ratio of male and

Table 1 Baseline characteristics of respondents

| Baseline Characteristics | Population (n = 111) |
|---------------------------------|----------------------|
| Gender, n (%) | |
| Male | 111 (100) |
| Female | 0 (0) |
| Age, n (%) | |
| 18-25 | 80 (72) |
| 26-35 | 26 (23.4) |
| 36-45 | 2 (1.8) |
| 46-55 | 1 (0.9) |
| 56-60 | 1 (0.9) |
| Education History, n (%) | |
| Primary School | 1 (0.9) |
| Junior High School | 7 (6.3) |
| Senior High School | 59 (53.2) |
| Bachelor Degree | 44 (39.6) |
| Employment Status, n (%) | |
| Unemployed | 24 (21.6) |
| Employed | 87 (78.4) |
| Sub Districts, n (%) | |
| Baiturrahman | 6 (5.4) |
| Banda Raya | 2 (1.8) |
| Jaya Baru | 5 (4.5) |
| Kuta Alam | 15 (13.5) |
| Kuta Raja | 2 (1.8) |
| Lueng Bata | 11 (9.9) |
| Meuraxa | 20 (18) |
| Syiah Kuala | 28 (25.2) |
| Ulee Kareng | 22 (19.8) |

Table 2 The Distribution of Knowledge about Smoking Dangers in Banda Aceh

| Knowledge, n (%) | Population (n = 111) |
|------------------|----------------------|
| Well | 67 (60.4) |
| Enough | 30 (27) |
| Less | 14 (12.6) |

Table 3 The Distribution of Attitudes towards smoking in Banda Aceh

| Attitude, n (%) | Population (n = 111) |
|-----------------|----------------------|
| Positive | 28 (25.2) |
| Neutral | 80 (72.1) |
| Negative | 3 (2.7) |

Table 4 The Distribution of Smoking Behaviour in Banda Aceh

| Smoking Behaviour, n (%) | Population (n = 111) |
|--------------------------|----------------------|
| Light | 88 (79.3) |
| Moderate | 21 (18.9) |
| Heavy | 2 (1.8) |

Table 5 The Distribution of Smoking Cessation Efforts in Banda Aceh

| Smoking Cessation Efforts | Population (n = 111) |
|---------------------------|----------------------|
| Attempted > 30 Days | 46 (41.4) |
| Attempted ≤ 30 Days | 37 (33.3) |
| Did Not Attempted | 28 (25.2) |

Table 6 Correlation Between Knowledge With Smoking Cessation Efforts in Banda Aceh

| Knowledge | Smoking Cessation Effort | | | Total n (%) | p-value | r |
|-----------|---------------------------------|---------------------------------|-----------------------------|----------------|---------|-------|
| | Attempted > 30 days n (%) | Attempted ≤ 30 days n (%) | Did not Attempt n (%) | | | |
| Less | 7 (50) | 1 (7.1) | 6 (42.9) | 14 (100) | 0.036 | 0.199 |
| Enough | 7 (23.3) | 12 (40) | 11 (36.7) | 30 (100) | | |
| Well | 32 (47.8) | 24 (35.8) | 11 (16.4) | 67 (100) | | |

Table 7 Correlation Between Attitude With Smoking Cessation Efforts in Banda Aceh

| Attitude | Smoking Cessation Effort | | | Total n (%) | p-value | r |
|----------|---------------------------------|---------------------------------|-----------------------------|----------------|---------|-------|
| | Attempted > 30 days n (%) | Attempted ≤ 30 days n (%) | Did not Attempt n (%) | | | |
| Negative | 0 (0) | 0 (0) | 3 (100) | 3 (100) | 0.025 | 0.212 |
| Neutral | 32 (40) | 26 (32.5) | 22 (27.5) | 80 (100) | | |
| Positive | 14 (50) | 11 (39.3) | 3 (10.7) | 28 (100) | | |

Table 8 Correlation Between Smoking Behavior With Smoking Cessation Efforts in Banda Aceh

| Smoking Behavior | Smoking Cessation Effort | | | Total n (%) | p-value | r |
|------------------|---------------------------------|---------------------------------|-----------------------------|----------------|---------|--------|
| | Attempted > 30 days n (%) | Attempted ≤ 30 days n (%) | Did not Attempt n (%) | | | |
| Heavy | 0 (0) | 0 (0) | 2 (100) | 2 (100) | 0.001 | -0.313 |
| Moderate | 6 (28.6) | 3 (14.3) | 12 (57.1) | 21 (100) | | |
| Light | 40 (45.5) | 34 (38.6) | 14 (15.9) | 88 (100) | | |

female respectively a maximum of 38: 1 in Egypt.⁶ This is in line with research conducted Firzawati in 2015 in Indonesia, which results in that a majority of respondents are male with a percentage of

96.3%.⁸ This is because there is significant difference between gender in terms of beliefs about the dangers of smoking behaviour, attitudes rejection smoking behaviour and smoking intensity between the two groups.¹⁰

Global Tobacco Surveillance System (GTSS) states that smoking prevalence generally increased among young or middle-aged adults where the percentage of smokers at most were age 18-24 years, especially in the Russian Federation (49%).⁶ Similar research conducted Rizky Amelia in Padang branch of the Indonesian Red Cross in 2016, obtained the majority of research respondents are 18-25 years old (21.5%).¹¹ In young adulthood, the majority of teenagers smoking make to look mature yet done quietly so as not known by parents and eventually become a daily smoker within a few years later.¹⁰

As of education history of respondents, Xianglong Xu in China (2015) had obtained data that shows the average respondent had similar education level as senior high school with percentage 53.9%¹² but the differing results obtained in the study Zhao (2015) in China that smokers had similar education levels as junior high school more dominant at 45.5%.¹³

Qian Wang in 2019 in Kazakhstan, current smokers generally had employed that is equal to 77%.¹⁴ The majority of smokers in Indonesia in 2015 Firzawati research dominant status of work at 91.8%.⁸ Based GTSS, 60% of adults who work in indoor environments has been exposed to smoke and become passive smokers, because tobacco smoke exposure associated with intentions to quit smoking so that respondents were exposed to smoke and secondhand smoke become more difficult to maintain smoking cessation after seeing other people smoke.^{6,14}

Most of the respondents in this study are live at urban areas, but different findings from Zhao research in 2015 in China provides the results of the majority of respondents from rural areas with a percentage of 58%.¹³ In addition, research Firzawati in 2015 in Indonesia also showed the opposite result where the majority of residence of respondents in rural areas amounted to 55.6%.⁸ This is because the rural environment has a low awareness about the dangers of smoking and high-level smoke exposure at home.¹³

Research conducted by Vini Eneng Widiarti in Bogor (2014) shows that 54.8% percent of respondents have well knowledge about smoking dangers.¹⁰ However, it is also contrary to the research conducted by Firzawati in 2015 where knowledge of the dangers of smoking in Indonesia most knowledgeable low that as many as 58.6% of respondents surveyed.⁸ Differences in the results

obtained occurred because knowledge is influenced by several factors such as, education, information/media, social, cultural and economic, environmental, experience, and age.¹⁵

Based on table 3 above respondents of this study tend to have neutral attitude (72.1%), It is not much different from the research conducted by Vini Engeng Widiati in 2014 in Bogor results obtained in the study, most respondents have a positive attitude about smoking with a percentage of 53.2% compared with respondents who have a negative attitude by 46.8%.¹⁰ Similar research conducted by Yuliati Amperaningsih in Tanjung Karang in 2014, contrary to the results obtained in which the dominant attitude of the respondents are negative with a percentage of 55.2%.¹⁶ Differences result in attitudinal variables This occurs because attitudes can not be used to predict the behaviour of a person, according to the theory Fishbein and Ajzen declare the role of a person's belief in shaping attitudes towards anything.¹⁶

According to GTSS, the average number of cigarettes smoked per day by men are in the range of 6 cigarettes in India to 21 cigarettes in Greece.⁶ This is in line with Rizky Amelia research in Red Cross branch in Padang (2016) showed the average respondent is a light smoker with a percentage of 41.5%.¹¹ A similar study conducted by Aditya Arya Adiputra in Jembrana in 2015 however, in this study, a different result is dominated by moderate smokers respondents with a percentage of 60%.¹⁷ According to Hall, LE in Yuliati, smoking behavior is influenced by three main factors, social factors, psychological and genetic factors. Environmental or social factors play a major role in shaping the character of a person either because of family, friends, neighbours and social conditions in the person's environment.¹⁶

Table 4 explains number of smoking cessation effort of respondents, most of the respondents already attempted to quit > 30 days with percentage 41.4%. This is not in line with Firzawati research in Indonesia in 2015 showed that the more dominant of respondents did not attempt to stop smoking with the percentage of 76%.⁸ A similar study conducted in China by Luhua Zhao in 2015, the results of this study found respondents less likely to have an attempt to quit smoking with the percentage of 89%.¹³ The same incident also occurred in Kazakhstan in research Qian Wang in 2019, namely 70.9%.¹⁴ The yield difference occurs because quitting smoking is influenced by two factors, namely, external factors and internal factors.^{7,9} External factors consist of, availability of cigarettes, cigarette affordability, the behaviour of family and friends, and cigarette advertising.^{18,19} Meanwhile, internal factors consist of knowledge, attitude, behaviour, and psychological.²⁰

The results of test analysis *Spearman* shows p -value = 0.036 which suggested an association between knowledge with smoking cessation effort. Soekidjo Notoatmodjo constitutes the correlation between knowledge with quitting smoking in his book "The Science of Health Behavior" knowledge is the result of human senses or results to know a person against an object or a thing through its senses (eyes, nose, ears, etc.).⁷ Similar results were obtained in the study Qian Wang in Kazakhstan (2019) there was a significant relationship between the intention of stopping with knowledge about the dangers of smoking ($p < 0.01$).¹⁴ Research in Indonesia by Firzawati 2015 also mention that the respondents knew about the dangers of smoking is good to have a greater chance of quitting smoking seeks short-term and long-term of 1.73 times and 1.56 times ($p < 0.001$) than the low knowledgeable respondents.⁸

In this study, the correlation value is obtained $r = 0.199$ thus indicating a positive correlation with the strength is very weak. Knowledge is not the only factor influencing smoking cessation efforts. According to Wang in the study respondents who intend to quit smoking is the one who has tried to quit smoking within the past 12 months, has a smoking ban at home, and have knowledge about the dangers of smoking.¹⁴ This suggests that there are other factors more impact on smoking cessation efforts. These factors include the availability of cigarettes, cigarette affordability, the behaviour of family and friends, and advertising or promotion of tobacco products.

This study was found that there is a significant relationship between attitudes to smoking cessation (p -value = 0.025). These results are consistent with research Yashinta in Semarang (2018) which states that the attitudes have been associated with intentions to quit smoking with p -value of 0.004.⁹ Another study by Amperaningsih stated that the attitude does not have a significant association with the intention or quitting smoking.¹⁶ This shows that the attitude is not consistent factor as the cause of smoking cessation efforts. The correlation coefficient between attitude and quitting smoking worth $r = 0.212$ which indicates a positive relationship with the weak force. According to Fishbein & Ajzen in Widiati Vini Engeng study (2014) confirms the theory of reasoned action (reasoned action theory), the intention of a role in determining a person's behaviour in general behaviour will never happen without intention.¹⁰ In this study, the attitude of the respondents still in the neutral category that quitting smoking is not optimal.

The results of this study indicate that there is a negative correlation between the behaviour of smoking to quitting smoking ($r = -0.313$ p -value = 0.001) where the lighter degrees of smoking behaviour have more chance to attempt to quit smoking long-term and short-term. Firzawati in

his research in Indonesia (2015) states that smokers who attempt to quit smoking long-term and short-term attempt to quit smoking dominated by smokers of smoking less than 20 years with p -value = 0.001.⁸ As for the number of cigarettes consumed per day showed smokers who smoked ≤ 10 cigarettes per day are more likely to attempt to quit smoking long term with p -value = 0.001.⁸ Similar results in research Qian Wang in Kazakhstan (2019) in the form of a negative relationship between the smoking behaviour with efforts to quit smoking is also found in the value of $p < 0.001$.¹⁴ This can happen due to the degree of heavy smoking behaviour will experience higher nicotine dependence so that the intention to quit smoking become smaller, heavy smokers or smokers with high nicotine dependence typically have a more expensive treatment costs.¹⁴

STUDY LIMITATIONS

Author did not review the content of the type of cigarette consumed by each respondent where the impact had an effect on quitting smoking due to nicotine dependence. Also found that many samples refused to become respondents so that not all sample groups were well represented.

CONCLUSION

There is a correlation between knowledge and smoking cessation effort, there is a correlation between attitude and smoking cessation effort, and significant correlation between smoking behaviour and smoking cessation effort.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest regarding this study.

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AUTHOR CONTRIBUTION

All authors are contributed equally to the content of the study, including data gathering, statistical analysis and data synthesis.

ETHICAL CLEARANCE

This study has been approved by the Ethical Committee Faculty of Medicine Universitas Syiah Kuala, Banda Aceh, Indonesia.

REFERENCES

1. World Health Organization. GHO data : Prevalence of tobacco smoke [Internet]. 2019. Available from: <https://www.who.int/gho/tobacco/use/en/>
2. Drope J. The Tobacco Atlas [Internet]. 6th ed. Atlanta: American Cancer Society; 2018. 58 p. Available from: www.tobaccoatlas.org
3. World Health Organization. Prevalence of tobacco smoking [Internet]. 2016. Available from: http://gamapserver.who.int/gho/interactive_charts/tobacco/use/atlas.html
4. Indonesian Ministry of Health. National Report on Basic HEalt Research 2018 [Internet]. Jakarta: Indonesian Research and Development Board; 2018. p. 674. Available from: http://labmandat.litbang.depkes.go.id/images/download/laporan/RKD/2018/Laporan_Nasional_RKD2018_r200319.pdf
5. Indonesian Ministry of Research. National Data Book of Health Registry year 2016; 2016.
6. Blotcher-nelson G, Bunnell R, Cohen J, Ellis J. The GATS Atlas. Atlanta: CDC Foundation; 2015.
7. Soekidjo N. Science of Health Behaviour. Rineka Cipta. Jakarta: Rineka Cipta; 2014.
8. Firzawati. Reinforcing factor to stop smoking in active smoker aged 15 years. Medical Dissertation. Universitas Indonesia. 2015;1–152.
9. Yashinta G. Factors Associated with effort of smoking cessation on Junior High School Student in Semarang City. 2018;6. Available from: <http://ejournal3.undip.ac.id/index.php/jkm>
10. Widiyanti EV, Yunis T, Wahyono M. Factors Associated with effort of smoking cessation on Junior High School Student in Bogor; 2014.
11. Amelia R, Nasrul E, Basyar M. Correlation between severity of smoking habit with haemoglobin. E-Journal Undip; 2001;5(3):619–24.
12. Xu X, Liu L, Sharma M, Zhao Y. Smoking-Related Knowledge, Attitudes, Behaviors, Smoking Cessation Idea and Education Level among Young Adult Male Smokers in Chongqing, China. Int J Environ Res Public Health. 2015;2135–49.
13. Zhao L, Song Y, Xiao L, Palipudi K, Asma S. Factors Influencing Quit Attempts Among Male Daily Smokers in China. Prev Med (Baltim). 2015;81:361–6.
14. Wang Q, Mati K. Intention to Quit among Smokers in Kazakhstan : Data from 2014 Global Adult Tobacco Survey. J Epidemiol Glob Health. 2019;9:23–8.
15. Budiman RA. Essential questionnaire in measuring knowledge, attitude, and behaviour in medical research; 2014.
16. Amperaningsih Y. Correlation between attitudes and subjective norm with smoking cessation effort in primary health care center Tanjung Karang. E-Journal Undip. 2015;XI(2):293–8.
17. Adiputra AA. Smoking habit in the work area of primary Health Care Center Pekutatan I Jembrana period June 2013-July 2013. E-Journal Medika. 2015;3(1):58–63.
18. Iwan S. Caregiver in family [Internet]. 2005; Available from: www.orientalscholar.com/pdf.
19. Shaffer DR. Social and Personality Development. 5th ed. Thomson Wadsworth. United States of America: Thomson Wadsworth; 2005.
20. Aula LE. Stop Smoking. Yogyakarta: Garailmu; 2010.



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