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## *Smoking Behavioral Dependence during the COVID-19 Pandemic Among University Student*

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**Abstract:** *Smoking, an addictive behaviour, is a health problem that is still found during the COVID-19 pandemic. There are several possibilities that have impacts on smoking behaviour during the COVID-19 pandemic. The aim of this study is to understand the description of smoking addiction during the COVID-19 pandemic towards students at the University. A descriptive quantitative research design was used. This study involved one variable which is smoking behavioral dependence during the COVID-19 pandemic in students at the University. The populations in this study are students who are active smokers (conventional, electric, or shisha) at one of the universities in Indonesia. The sampling technique uses accidental sampling, and it is obtained a sample of 378 students. The instrument in this study uses the GN-SBQ (Glover Nilsson-Smoking Behavioural Questionnaire). The results of the research data are analyzed using descriptive analysis in the percentage frequency distribution. Based on the results of the study, it is found that during the COVID-19 pandemic, most of the respondents experienced smoking dependency behavioral moderate (66.4%), strong (20.9%), and mild (12.7%). The use of cigarettes during the COVID-19 pandemic mostly uses conventional rather than electric and shisha. Based on the characteristics of the respondents, smoking behavioral dependency is dominated by male students, aged 21 years, grade 2017, and had pocket money in the middle economic category. Therefore, this study recommends health services to provide counselling and mentoring services for students, which one of them is the Cognitive Behavioral Therapy (CBT) approach to reduce the level of smoking behavior.*

**Keywords:** Behavioral Smoking Dependence, COVID-19 Pandemic, Students

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### INTRODUCTION

The COVID-19 (Coronavirus Disease-2019) pandemic that occurred in almost all countries in the world has become a worldwide attention until now. On January 9, 2021, the total confirmed cases of COVID-19 in Indonesia reaches more than 818 thousand people, of which 673 thousand people are declared cured and 23 thousand people died (COVID-19 Handling Task Force, 2020). Nowadays, the increase of the total number of confirmed cases of COVID-19 is still increasing every day.

There are various factors that cause the increase of COVID-19 cases which the main factor supporting this case is the process of transmission and spread of the virus that is not controlled. According to (Ahmed et al., 2020) smoking can cause an increased risk of spreading COVID-19 virus transmission to both active smokers and passive smokers because it can produce smoke, due to coughing and sneezing, release saliva droplets in the form of aerosols, especially in cases of asymptomatic smokers infected by SARS-CoV-2. In addition, the involvement of finger-lip contact in the act of smoking increases the risk of smokers getting COVID-19 (WHO, 2020).

Beside potentially to spread the transmission of the COVID-19 virus, smoking can also increase a person's risk factors for SARS-CoV-2 with more severe symptoms due to the side effects that it causes. According to WHO (2020), the use of tobacco can increase the risk of suffering from serious symptoms due to COVID-19 disease. Furthermore, smoking is also potentially risk factor for COVID-19 disease because it has been shown to upregulate ACE-2 expression so that it can worsen the pathobiology of COVID-19 (Gaiha et al., 2020; Gülsen et al., 2020; Sifat et al., 2020).

During the COVID-19 pandemic, there are various kinds of habit changes, both healthy and bad habits. Healthy habits that occur are people routinely do sports such as walking and cycling. On the other hands, there are also things that are unhealthy habits, one of them is smoking.

Smoking behaviour with high intensity frequently will cause addiction and addiction to smoke. This dependency can include psychic and physiological individuals. When the individual has experienced smoking addiction, so he will feel that smoking is a part of his life. Then, when he does not smoke, there will be several symptoms such as anxiety, stress, and feeling uneasy. The relation between COVID-19 and smoking behavioral dependence tends to be complex.

Several studies show that there is tendency that the pandemic can motivate their intention to quit smoking and reduce the intensity of smoking behaviour. These changes are caused by exposure and searching for news related to COVID-19, wearing masks, closing bars and pubs, class suspension, and not being able to socialize with friends (Ho et al., 2020; Siddiqi et al., 2020). However, these four things do not rule out the possibility that during the pandemic it can also increase smoking habits in the community. Another study reveals that the pandemic has a negative impact on an individual's psychosocial where there are loneliness, boredom, stress and anxiety about the fear of SARS-CoV-2 and limit the space for individuals to move, so that this is closely related to smoking addiction (Bommel   et al., 2020; Chen-Sankey et al., 2020; Chen, 2020).

Based on survey results in 2018, West Java occupies the second rank with the province with the highest number of smokers in Indonesia in residents aged > 15 years, namely 35.78%, followed by Central Sulawesi (35.57%) and Bengkulu (35.53%) (Central Bureau of Statistics, 2018). According to the Ministry of Health of the Republic of Indonesia (2018), active smokers aged 20-24 years have a prevalence value of 27.3% which in this age range, it is currently the age range occupied by students. Based on age growth, students are classified as late adolescence and early adulthood that at this time a person undertakes a broader exploration which is characteristic of the transition to adulthood (emerging adulthood) and feels more capable to control the events of his life (Berk, 2012). Another study that supports this theory conducted by Adistie et al. (2015) that smoking behaviour can occur in students because it is possible that after entering college, students feel they are mature enough in making decisions, so they have the right to carry out activities that he wants, which one of them is smoking.

According to the results of research conducted by Arisona, Rahayuwati, Prawesti, & Agustina (2020) with a sample of 384 Padjadjaran University students, it was found that non-health students (90.6%) were more likely to smoke than health students (9.4%) and used the type smoking at Padjadjaran University students prefer to use conventional cigarettes (91.7%) compared to electric cigarettes (6.8%) or shisa cigarettes (1.5%). Other factors that cause students becoming addicted of smoking are sex, pocket money, and grade. It is often found that male students are higher in number than female students. The difference in prevalence occurs because of the assumption of social discrimination from society against women who smoke. Then, according to Perelman et al. (2015) that the high pocket money can determine adolescents in buying cigarettes, the level of smoking addiction, and the amount of smoking intensity.

According to Khader & Alsadi (2008) academic achievement is the reason for students to smoke where the lower academic achievement is, the stronger students smoke. Academic achievement is certainly a reference for students as an achievement in their studies, but the change in the arrangement of learning methods that go online during the COVID-19 pandemic is a new thing and a challenge for students. Academic failure occurs due to online learning methods, causing students to experience academic stress during the COVID-19 pandemic (Andiarna & Kusumawati, 2020).

The phenomenon of an increase of cigarettes during the COVID-19 pandemic with a quite large prevalence plays an important role in the relation between cigarettes and COVID-19. In addition, an increase of smoking habits can also increase a person's level of smoking addiction (West & Gossop, 1994). Various kinds of reasons for students to keep smoking which can eventually lead to dependency. When students have entered the stage of smoking addiction, they need a help from health workers to intervene in smoking addiction.

Nurses are one of the health workers who have a responsibility in providing health services with one of the principles which is doing promotive and preventive actions. In this case, nurses need to carry out secondary and tertiary efforts in reducing the level of smoking addiction, especially during the COVID-19 pandemic considering that there is a relation between the process of spreading and the severity of COVID-19 symptoms by smoking. The implementation of these efforts is cooperating with the nurse's role as educator and counsellor that the task in this role is to provide education, guidance, and consultation to the community to improve community health level.

## **METHOD**

This study uses a quantitative descriptive method with variable which is smoking behavioral dependence during the COVID-19 pandemic in students at the University. The sampling technique used in this study was accidental sampling by setting a research time of 30 days. The population in this study are students who are active smokers at a state university in West Java who undergraduate students class of 2017-2020, aged 18-24 years, and were active smokers either single or double with conventional, electric, and shisha types. The sampling technique used is the Issac and Michael formula with accidental sampling technique which produces 378 students as the final sample. Collecting data in this study uses a questionnaire adapted from the GN-SBQ (Glover Nilsson-Smoking Behaviour Questionnaire) with 11 question items (Glover et al., 2005). Then, there is 1 item which is additional question concerning the intensity and type of cigarettes used per day. Data collection is carried out in 2021. This research has received permission from the Research Ethics Committee of Padjadjaran University with number 390/UN6.KEP/EC/2021. Analyzing data in this study uses univariate descriptive statistical method. The data that has been analyzed is then presented in the form of a frequency distribution table. There is an addition in this study that researchers analyze the data using the cross of tabulation method (crosstab) to see smoking addiction based on respondent characteristics (gender, age, grade, and pocket money).

## **RESULTS**

### **Characteristics of Respondents**

This study analyzes the characteristics of respondents with the aim of knowing the background of the respondents, so it can clarify this research. There are 4 characteristics of respondents in this study, namely gender, age, grade, and pocket money. There is a presentation of the frequency distribution table in each respondent's characteristics below.

**Table 1. Frequency Distribution Characteristics of Research Respondents (N=378) Period May 2021 Until June 2021**

Characteristic	Frequency (f)	Percentage (%)
<b>Gender</b>		
Male	357	94,4
Female	21	5,6
<b>Age</b>		
18	55	14,6
19	66	17,5
20	86	22,8
21	101	26,7
22	63	16,7
23	7	1,9
<b>Grade</b>		
2017	153	40,5
2018	107	28,3
2019	74	19,6
2020	44	11,6
<b>Pocket Money/month</b>		
< Rp. 1.000.000	74	19,6
Rp. 1.000.000 – 2.000.000	233	61,6
Rp. 2.000.000	71	18,8

Table 1 shows the characteristics of research respondents based on four socio demographics. the results of the study are found that almost all of the respondents are male students, which is 94.4% and 5.6% of them are female respondents. Based on age, 26.7% of research respondents are 21 years old, which at this age is the ideal age for students to be in the final level of lectures. As same as this case, most of the research respondents are the 2017 grade (40.5%) which is the class of the final academic year at the time this research period conducted. Then, based on the characteristics of the pocket money/month obtained by students, the majority of research respondents are included in the middle economic category with the nominal range of pocket money obtained is Rp. 1,000,000 - 2,000,000/month (61.6%).

#### Smoking Behavioral Dependence and The Use of Cigarettes During The COVID-19 Pandemic

**Tabel 2. Frequency Distribution of Smoking Addiction During the COVID-19 Pandemic Period May 2021 Until June 2021**

Score	Frequency (f)	Percentage (%)
Mild	48	12,7
Moderate	251	66,4
Strong	79	20,9
Very Strong	0	0

Based on Table 2, it can be seen that during the COVID-19 pandemic most of the respondents, that are 251 (66.4%) students have a moderate score, then 79 students (20.9%) have a strong level, and 48 (12.7%) have a mild level of smoking behavioral dependence. According to the results of the study, it is not found that students have a very strong level of smoking behavioral dependence.

**Tabel 3. Frequency Distribution Intensity and the Use of Cigarettes during the COVID-19 Pandemic Period May 2021 until June 2021**

<b>Kind of Cigarettes</b>	<b>Frequency (f)</b>	<b>Percentage (%)</b>
<b>Conventional Cigarette</b>		
1-10 cigarette/day	179	79,9
10-20 cigarette/day	41	17,9
>20 cigarette/day	5	2,2
<b>Electric Cigarette</b>		
1 session/day	4	8,3
1-3 session/day	15	31,3
>3 session/day	29	60,4
<b>Shisha Cigarette</b>		
1 session/day	0	0
1-3 session/day	0	0
>3 session/day	0	0
<b>Double Smoker</b>		
Conventional and Electric	79	75,2
Electric and Shisha	4	3,8
Conventional and Shisha	12	11,4
Conventional. Electric and Shisha	10	9,5

Based on Table 3, it is known that during the COVID-19 pandemic, most of the research respondents that are 179 students, are single users of conventional cigarettes who consumed 1-10 cigarettes/day (79.9%) which is viewed based on the number of cigarettes consumed per day in the group. It is categorized as a light smoker. Some students use e-cigarettes >3 times a day (60.4%). Besides single smokers, this study also looks at the frequency distribution based on the use of multiple types of cigarettes such as conventional and electric, electric and shisha, conventional and shisha, as well as conventional, electric, and shisha. The results of this study find that 79 respondents (75.2%) are double smokers that use conventional and electric cigarettes.

**Smoking Behavioral Dependence Based on the Respondent's Characteristics**

**Tabel 4. Frequency Distribution of Smoking Behavioral Dependence Based on Respondent's Characteristics period May 2021 until June 2021**

Characteristic	Interpretation							
	Mild	(%)	Moderate	(%)	Strong	(%)	Very Strong	(%)
<b>Gender</b>								
Male	40	11,2	241	67,5	76	21,3	0	0
Female	8	38,1	10	47,6	3	14,3	0	0
<b>Age</b>								
18	8	14,5	32	58,2	15	27,3	0	0
19	9	13,6	37	71,2	10	15,2	0	0
20	9	10,5	61	70,9	16	18,6	0	0
21	11	10,9	70	69,3	20	19,8	0	0
22	9	14,3	38	60,3	16	25,4	0	0
23	2	28,6	3	42,9	2	28,6	0	0
<b>Grade</b>								
2017	16	10,5	106	69,3	31	20,3	0	0
2018	10	9,3	78	72,9	19	17,8	0	0
2019	13	17,6	44	59,5	17	23,0	0	0
2020	9	20,5	23	52,3	12	27,3	0	0
<b>Pocket Money/month</b>								
< Rp. 1.000.000	14	18,9	43	58,1	17	23,0	0	0
Rp. 1.000.000 – 2.000.000	21	9,0	162	69,5	50	21,5	0	0
> Rp. 2.000.000	13	18,3	46	64,8	12	16,9	0	0

Table 4 explains the results of the cross tabulation between the characteristics of respondents and the results of interpretation concerning smoking behavioral dependence during the COVID-19 pandemic. From the table, it can be seen that most of the respondents behave in moderate smoking behavioral dependence, which is dominated by male with 241 respondents (67.5%) and 10 female respondents (47.6%). In the age category, 70 respondents (69.3%) are 21 years old with a moderate level of smoking behavioral dependence. Other results obtained in this study are smoking behavioral dependence based on the data obtained that in the 2017 grade as many as 106 respondents (69.3%) have moderate level of smoking behavioral dependence. Then, smoking behavioral dependence based on pocket money found in this study, 162 respondents (69.5%) have pocket money in range of IDR 1,000,000 - IDR 2,000,000 / month and have moderate level of smoking behavioral dependence.

**DISCUSSION**

Addiction can occur because it starts from repetitive behaviour that forms a negative pattern beginning with curiosity and experimenting with something. This case can lead to behavioural addiction on someone in their daily life, one of them is smoking. According to Juranic et al. (2018), smoking is initially a habit that eventually causes physical and psychological addiction.

Physical and behavioural addiction are not independent conditions, but slightly different aspects of the same condition, namely nicotine addiction (Nerín et al., 2005). So behavioural addiction is related to both psychologically and physiologically. Physiological addiction on smokers is caused by the impact of the addictive substance of cigarettes, which is nicotine. While psychological

addiction does not only occur because of brain disorders caused by nicotine, but it is related to other factors such as certain situations and conditions (Stop-tobacco.ch, 2021).

Same as this theory, the results of this study indicate that the majority of respondents behave in moderate smoking behavioral dependence. From the results of this study, it can be seen that addictive smokers feel that smoking is very important for him and certain places or things can trigger to smoke. Stop-tobacco.ch (2021) states that behavioural addiction on some individuals express a desire to smoke when he is in front of other smokers, but other individuals are more likely to smoke when using a computer, drinking coffee, or reading a book. In this case, environmental factors play an important role in the smoking behavioral dependence.

Smoking behavioral dependence can also occur as a result of one of the substances in cigarettes, which is nicotine. Nicotine is a substance that can bind to one of the receptors found in the nerves of the brain (nicotic acetylcholine). The occurrence of bonds between nicotine and these receptors can increase dopamine, so the stimulation that occurs in the brain will increase and activate the rewards pathway. Rewards pathway is the settings of feelings and behaviour as results of the occurrence of mechanisms in the brain (Liem, 2016).

The results of the research on smoking behavioral dependence in this study states that during the COVID-19 pandemic the majority of respondents, which are 251 students (66.4%) have smoking behavioral dependence results in the moderate category. There are differences in the results of this study conducted during the COVID-19 pandemic with the research of Suhányi et al. (2019) which is conducted before the COVID-19 pandemic states that most of the students are included in mild addictive behaviour (55.06%). The difference in this study is that because there are several influencing factors, one of them is the existence of the COVID-19 pandemic.

The increase of smoking behavioral dependence is caused by the increasing duration and intensity of consuming cigarettes. This is as well as prime theory explained by West and Hardy which states that there is a positive mover to continue smoking in order to get a reward followed by the increase of the number and duration of cigarettes consumed per day which can increase smoking addiction towards the smokers (West & Gossop, 1994). The increase of the duration and intensity of smoking during the COVID-19 pandemic is caused by the limited space for movement, so it causes psychosocial disorders.

According to (Bommel   et al., 2020; Chen-Sankey et al., 2020; Chen, 2020) reveals that the COVID-19 pandemic has a negative impact on an individual's psychosocial because of restrictions of movement, so it results loneliness, boredom, stress and anxiety about fear of SARS-CoV-2. It is known that there is an influence of affective factors in increasing smoking because cigarettes are often used as a person's maladaptive stress coping. In addition, other studies say that the COVID-19 pandemic in students who study online causes students to have a lot of free time, so they spend their time smoking (Naresawari et al., 2020).

Based on the characteristics of the respondents in this study, respondents who experience moderate level of smoking behavioral dependency are dominated by male sex. This difference can be influenced by the student population, smoking occurs a lot in someone with the male sex. The results of this study are as well as the research by Chinwong et al. (2018) which shows that male students are more likely to smoke every day than women, and the use of the average number of cigarettes per day for men is higher than women. In certain circles of society, women who smoke are considered unusual, so people assume that smoking that occurs in women is an identity that will alienate them from other women who are not smokers.

Adolescence is a time when a person undertakes a broader exploration that characterizes the transition to adulthood (emerging adulthood) and feels that they are more able to control the events in his life (Berk, 2012). In addition, this age is also ideal for the formation of self-actualization. One of the media to form self-actualization at this age is the habit of hanging out in certain cafes which are identical by drinking coffee and other dishes (Fauzi et al., 2017). This case certainly has an impact on smoking behavioral dependency that this can occur during certain situations and conditions. Then this age is also ideal for students who are in the final grade at university.

As well as the results of the research about age characteristics, the results of the research on the characteristics of the grade in this study show that the majority of the research respondents are the 2017 grade, which is the final academic year at the time this research is conducted. The most senior students tend to be identical with the final task they are facing. There are various challenges faced by students in doing their final assignments, especially during the COVID-19 pandemic. The situation of the COVID-19 pandemic is a big pressure for students who are completing their thesis because students are required to stay at home, then students also need to re-create the agenda that is made previously by adjusting to current conditions (Sawitri & Widiyasavitri, 2021). This condition certainly has an impact towards student's smoking, especially during the COVID-19 pandemic. Other studies support the same thing which deteriorating mental health and psychosocial well-being have a significant relation with smoking behavior (Bommel   et al., 2020). Some of these things certainly affect the occurrence of smoking behavioral dependence.

The results of the study concerning pocket money show that more than half of the respondents (61.6%) have pocket money as much as Rp. 1.000.000 – Rp. 2,000,000. According to Arisona et al. (2020), the nominal range of pocket money is included in the middle economy. Heo et al. (2014) reveals that the high pocket money owned by teenagers increases the risk of smoking, on another hand the uncontrolled pocket money will increase the confidence of teenagers to buy cigarettes. Therefore, the more often individuals use their pocket money to buy cigarettes, the higher the level of smoking addiction will occur. This is reinforced by another study, which is written by Perelman et al. (2015) revealing that pocket money is an independent and consistent predictor that can determine adolescents in the act of buying cigarettes, level of smoking addiction, and smoking intensity.

Based on the results of research on the types of conventional cigarettes used by students at the University during the COVID-19 pandemic, most of the research respondents, which are 179 students are users of conventional types of cigarettes who consumed 1-10 cigarettes/day (79.9%) that in this group categorized as light smokers. This is case is same as the research by Ardiyanti et al. (2020) which said that during the COVID-19 pandemic, teenagers continue to smoke in the light category.

Then, on the type of electric cigarette, 29 respondents use e-cigarettes with the intensity of >3 sessions/day. The majority of respondents do not use e-cigarettes because users of e-cigarettes in Indonesia are still rare compared to conventional types. According to IAKMI (2020), the national average prevalence of e-cigarette users is 2.8%. This is because conventional cigarettes have long been known by the Indonesian people (Arisona et al., 2020). There are several studies that discuss the relationship between the use of e-cigarettes and COVID-19. According to Gaiha et al. (2020) says that a diagnosis of COVID-19 is five times more likely to occur in single e-cigarette users. Since the occurrence of the COVID-19 pandemic in almost all of the world, there have been several positive things related to smoking. Research conducted by Kale et al. (2021) says that COVID-19 could motivate the intention to stop using e-cigarettes and even 21% of respondents stop using e-cigarettes.

Furthermore, on the type of shisha cigarette, this study has the result that during the COVID-19 pandemic all respondents did not use a single cigarette with the type of shisha (100%). The prevalence of shisha cigarette users in Indonesia is not certainly known, but according to Jawad et al. (2018), it is stated that the average shisha user in Southeast Asia is 2.8%. Then, according to IAKMI (2020) the distribution of the proportion of cigarette consumers in adolescents with the type of shisha occupies the last level, which is 5.1% at the age of 15-19 years and 3.9% at the age of 20-24 years. This shows that the use of shisha is still limited because the majority can only be accessed in certain places. During the COVID-19 pandemic, there are restrictions of movement and social isolation to prevent an increase in the transmission of the SARS-CoV-2 virus. One of the precautions taken by the Government is to establish Large-Scale Social Restrictions (PSBB) in Indonesia. This policy results the closure of public spaces, which one of them is places that provide shisha cigarettes.

This study also observes use of multiple types of cigarettes. Multiple smokers are individuals who use two or more types of cigarettes. Various types of cigarettes have been circulating in Indonesia such as conventional, electric, and shisha. The results of this study finds that 75.2% are double smokers with conventional and electric types. There are various reasons why someone tries to



use e-cigarettes, which is one of them is a belief that e-cigarettes can stop the consumption of conventional cigarettes. However, according to research studies, it is said that there are many cases of electric users with the reason of wanting to stop using conventional one which have results that are not as desired, but they are stuck being users of both cigarettes (electronic and conventional) (Simonavicius et al., 2017). Research observing the association between double smoking and COVID-19 has evidence that a diagnosis of COVID-19 might occur more than seven times towards multiple cigarette users (electronic and conventional) (Gaiha et al., 2020).

From the explanation that has been conveyed, it is necessary to take an action to reduce the level of smoking behavioral dependence, especially during the COVID-19 pandemic. There are various treatments to reduce smoking addiction, which one of them is behaviour management. According to Glover et al. (2005) says that the higher the score obtained on the GN-SBQ indicates, the more intensive behaviour management is applied by competent health workers. On another hand, the lower the score obtained on the GN-SBQ, the lower the emphasis on behaviour management is applied.

Some behaviour management that can be provided are counselling using Cognitive Therapy (CT), Behaviour Therapy (BT), and Cognitive Behavioural Therapy (CBT) methods. Research studies say that CBT can provide significant results in reducing smoking addiction (Hargiana et al., 2018; Hill et al., 2013). CBT is a psychotherapy with a counselling method that can change behaviour through modifying individual beliefs by restructuring cognitive and directing individuals concerning the problems they face (Susiladiharti & Gunawan, 2020).

The advantage of CBT is that it does not cause any effect during treatment because it is not based on pharmacotherapy, but it requires motivation and effort during the process. In addition, CBT is also a combination of cognitive and behaviour therapy approaches. This is an advantage of CBT to stop smoking addiction because when individuals are already addictive smoker, it involves cognitive aspects and thought patterns. CBT is known to provide applications to individuals concerning how to think and behave appropriately and correctly, so they can stop thinking incorrectly and maladaptive behaviour. The ultimate goal of CBT is that it is hoped that there will be more positive feelings towards oneself, so it can reduce anxiety and increase adaptive behavior (Khairani, 2019).

## CONCLUSION

Based on the results of the study, it is found that during the COVID-19 pandemic most of the respondents have a moderate level of smoking behavioral dependency which is dominated by male students, in the age of 21 years, 2017 grade, and have pocket money in the middle economic category. The use of cigarettes during the COVID-19 pandemic among university students mostly use conventional cigarettes compared to e-cigarettes and shisha. Then the intensities of smoking used per day by students, which are the conventional type, the majority spent 1-10 cigarettes/day, the electric cigarette used > 3 sessions/day, and the shisha cigarette used 1 session/day. For the next researchers, they can develop from the results of this study. There is a need for other studies that use different research designs, such as correlational or experimental to see the relationship or influence between the factors that influence smoking addiction. In addition, there is a need for other researches concerning the latest appropriate interventions to reduce smoking addiction.

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