

Relationship of Smoking and Anxiety Levels on Student Faculty of Medicine, University of North Sumatra Semester II Academic Year 2012/2013

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Abstract

Depression and anxiety in adolescents has been known to be a powerful predictor of smoking experimentation and change to become smokers every day. The objective of the present study is to investigate the relationship between smoking behavior with the level of anxiety among students of the Faculty of Medicine. Participants were 75 male medical students who study in medical college University of North Sumatra and smoke within the last 30 days. Anxiety was assessed using Hamilton Anxiety Rating Scale (HARS). The association was assessed using Spearman test. There are no relationship between smoking behavior with the level of anxiety in the second semester students of Faculty of Medicine, University of North Sumatra Academic Year 2012/2013.

Keywords : addiction, anxiety, smoking

1. Introduction

Smoking is a public health problem in the world, especially in developing countries.¹ Smokers often report that smoking reduces anxiety and smoking is one way to reduce stressful situation. A study by Jarvik et al show the anxiolytic effects of smoking during a stressful situation. According to Morissette et al prevalence of smoking in anxiety were 17 percent to 55 percent.² Smoking among students of a public health problem, and as a result a lifespan of 18 to 24 years old is the highest smoking prevalence in the United States of America (USA).³ A study of students of Canada by Adlaf et al in 2003, found that the fourth year students have the lowest smoking rates, and second-year students have the highest level, but there was no further discussion on this matter.⁴

Medical faculty known as a stressful environment which often cause negative effects on academic performance, physical health and psychological well-being. The second-year medical student has the highest percentage against depression and anxiety. In a study of the prevalence of anxiety and depression in a fourth-year medical students was 49 percent, in the third year 47 per cent, in the second year 73 percent and 66 percent the first year. This research also found 28.7 percent showed anxiety, and a study conducted in Estonia showed 21.9 percent of medical students who exhibit symptoms of anxiety, and other studies in Lithuania showed that 43 percent of medical students to experience anxiety.^{5,6}

2. Subject and Methods

This study was approved by the Research Ethics Committee of Medical Faculty University of Sumatera Utara. The subjects included 75 male students of the Faculty of Medicine who smoke in the last 30 days and willing to participate in research. Criteria for exclusion criteria were history of substance abuse other than nicotine, history of medical disease and history of psychiatric disease. Written informed consent was obtained from all participants after giving a full explanation of the study protocol. This study use Hamilton Anxiety Rating Scale for the screening of anxiety. This study is a cross-sectional study and executed between first May 2013 until 31th July 2013.

2.1 Hamilton Anxiety Rating Scale

Hamilton Anxiety Rating Scale (HAM-A) is one example of the scale of assessment instruments doctors to assess symptoms of anxiety in youth.⁷ Total score between 0 and 5 means no anxiety, a score of 6 to 14 states minor anxiety, while a score of 15 or more states major anxiety. The sensitivity for detecting anxiety disorder is 74 percent, for affective disorders in general is 87 percent, while the specificity was 100 percent.⁸

2.2 Statistical analysis

Bivariate analysis was performed to assess the relationship between smoking and anxiety symptoms in the second semester students of Faculty of Medicine, University of North Sumatra School Year 2012/2013. To assess the comparison we used Spearman test and statistical analysis was performed using SPSS software. A significant level was considered as 5%.

3. Result

Characteristics of smoking on the participants are shown in Table 1.

Age started smoking respondents most are at the age of 17 years as many as 29 people (38%), the average value of 16.53 and a standard deviation of 1.082. Time range of smoking respondents was 1 year in 28 people (37.3%), a mean value of 2.19 and a standard deviation of 1.477. Types of cigarette that most used by respondents were white smoke as many as 48 people (64%).

Anxiety level based on Hamilton Anxiety Rating Scale are shown in Table 2.

Category anxiety in most respondents is no anxiety as many as 69 people (92%) and the least was severe anxiety numbered 1 (1.3%). And no respondents with severe anxiety category.

Smoking behaviour under cross tabulation of anxiety level are shown in Table 3.

Using Spearman's test analysts, the results obtained in light smokers and moderate smokers were most commonly found there is no anxiety. Where light smokers who do not experience anxiety as many as 42 people (56%) and moderate smokers who do not experience anxiety as many as 27 people (36%). In the light smokers were obtained anxiety as much as 1 (1.3%) and severe anxiety as much as 1 (1.3%). While the moderate smokers who experience mild anxiety as much as 3 people (4%) and anxiety was as much as 1 (1.3%).

4. Discussion

In this study, based on the characteristics of the smoker, the age of starting to smoke the most was at the age of 17 years, amounting to 29 (38%). Based on the research results RISKESDAS in 2010 found that in North Sumatra age start smoking the most are 15-19 years old. According to research conducted by Nazary in Iran says that age start smoking that most are 18-20 years old. Meanwhile, a study in Thailand reported that age start smoking the most are 15-19 years.^{3,9}

From this study, the level of anxiety in most participants is no anxiety, which amounted to 69 (92%), and the least is severe anxiety, namely 1 (1.3%). This is in line with the results of research conducted by Ahmed et al in Dubai, that 80.7% of medical students have anxiety level is very light and only 14.2% had moderate anxiety and 5.1% had severe anxiety. Based on research conducted in Turkey mentioned that the level of anxiety increased in first-year medical student.¹⁰

From the cross-tabulation between smoking behavior and anxiety level in the research showed no correlation between smoking behavior with the level of anxiety, where the p value > 0.05 (p = 0.246).

5. Strength and Limitation

This study is a first study that had been conducted in medical college in University of Sumatera Utara. This result can be used as a screening and detect student's mental health and anticipate the next plan for student's well-being. The limitation in this study is a questionnaire that is both self-report and was not asked about stressors being experienced by the subjects.

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Table 1. Characteristics of smoking on the participants

Characteristic	Frequency	%	Mean	SD
Age start to smoke				
14 year	3	4		
15 year	11	14		
16 year	18	24	16,53	1,082
17 year	29	38		
18 year	14	18		
Periode of smoke				
1 year	28	37,3		
2 year	26	34,7		
3 year	11	14,7	2,19	1,477
4 year	9	12		
5 year	1	1,3		
History family who smoke				
Yes	66	88		
No	9	12		
Smoking in peer				
Yes	70	93.3		
No	5	6.7		
Type of smoke				
White	48	64		
Kretek	27	36		

Table 2. Anxiety level based on Hamilton Anxiety Rating Scale

Anxiety level	Frequency	%
No anxiety (total score HARS ≤ 14)	69	92
Mild anxiety (14 – 20)	3	4
Moderate anxiety (21 – 27)	2	2,7
Severe anxiety (28 – 41)	1	1,3
Very severe anxiety (42 – 56)	0	0
Total	75	100

Table 3. Smoking behaviour under cross tabulation of anxiety level

Anxiety level	Smoking behavior				Total		p
	Light smoker		Moderate smoker		n	%	
	n	%	n	%	n	%	
No anxiety	42	56	27	36	69	92	0,246
Mild anxiety	0	0	3	4	3	4	
Moderate anxiety	1	1,3	1	1,3	2	2,7	
Severe anxiety	1	1,3	0	0	1	1,3	
Total	44	58,6	31	41,3	75	100	