

ORIGINAL ARTICLE

The role of medical education in smoking prevention: the prevalence of smoking and related factors in medical students, Canakkale

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Abstract

Objective: The aim of this study is to investigate the prevalence of smoking and related factors among medical students of Canakkale Onsekiz Mart University Medical School. The results of our research are expected to develop training about smoking prevention starting from our faculty and contribute to Global Health Professionals Survey data and discussions determined by WHO, CDC and Canadian Public Health Association.

Methods: This is a cross-sectional study conducted at Canakkale Onsekiz Mart University Faculty of Medicine. The questionnaire including demographic characteristics and status smoking of students was applied between December 2018 - January 2019. The data of the study was analyzed with the statistical package program SPSS 20.0.

Results: In this study, the number of medical students reached was 652. 52.6% of the students were female. 30.5% of the medical students were currently smoking. It was found that age (OR: 1.13 95% CI: 1.05-1.21), male gender (OR: 1.9 95% CI: 1.40-2.67) and boarding in high school (OR: 1.5 95% CI: 1.01-2.26) significantly increased the risk of smoking.

Conclusion: The prevalence of smoking was high among students of Canakkale Onsekiz Mart University Faculty of Medicine. The rate of smoking increased during medical education. The literature suggests that physicians who smoke cannot be effective in smoking prevention. In medical education, training about preventing the use of tobacco and tobacco products is insufficient. In addition, there should be gained to medical students with the knowledge and skills that can protect their own health and then advocate for anti-smoking campaigns in the community.

Keywords: Smoking, Smoking Prevention, Medical Students, Medical Education, Canakkale

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INTRODUCTION

The use of tobacco and tobacco products is the most important cause of preventable premature deaths. According to the World Health Organization (WHO), eight million people die due to tobacco use every year and tobacco exposure or smoking is one of the most important outbreaks of the century ¹. In Turkey, 28% of men and 7.8% of women in the 15-24 age group use cigarettes every day in 2016. This frequency increases to 49.6% and 16.6% in the 25-34 age group, respectively. When the reasons attributable to Disability Adjusted Life Years (DALY) per 100000 people in Turkey are considered, active and passive tobacco use comes first in 2017 (3034 DALY) ². Tobacco use is one of the most common preventable health problems both in the world and in our country.

The role of health professionals especially physicians who advocate for preventing the use of tobacco and tobacco products is critical worldwide. According to the Centers for Disease Control and Prevention (CDC), health professionals can reduce tobacco use through short and simple interventions ^{3,4}. With this aim, WHO, CDC and the Canadian Public Health Association (CPHA) developed the Global Health Professionals Survey (GHPS) to collect data on tobacco use and cessation counseling in WHO member states, and planned studies in medicine, dentistry, nursing and pharmacy students ⁴⁻⁶. In 2005, the study conducted in ten countries reported that the prevalence of smoking among health students in seven countries was more than 20%. 5-37% of the students stated that they had received an education that could provide counseling on smoking. The researchers state that smoking of both healthcare workers and students has a

negative impact on the health effects of smoking as well as smoking counseling ³.

Studies show that physicians start smoking during their medical education. According to GHPS, female health workers tend to smoke more than women in the general population. Factors such as the long and tough education process and stress are among the determinants of starting smoking during education. According to GHPS 2018 data, smoking among medical students varies from 12.3 to 36.0 percent in males and 2.9 to 25.2 percent in females. The prevalence of smoking is higher, especially in Europe ⁴. Smoking prevalence among medical students in studies that were conducted in different regions of Turkey ranged from 12.5-35.0% ⁷⁻¹².

According to the results of GHPS, it is observed that there is not enough education about smoking especially in African and Asian countries ³. The National Core Education Program, published in 2014 by the Council of Higher Education in Turkey, has targets for counseling training within the scope of preventive medicine practices in addition to environmental diseases, symptoms and situations that develop after tobacco use. Although we do not have data on education about tobacco use at national level, personal experience suggests that the educational level in medical faculties is not sufficient. In our faculty, training for 'the harms of smoking and smoking cessation treatment' is provided as one hour of theoretical lecture in the fifth grade but no smoking prevention and counseling training is provided. In the unpublished study carried out in our faculty, the prevalence of smoking was 27.9% among the first grade students and 47.1% among the sixth grade students. Almost half of the students who smoke in the sixth grade

stated that they started smoking during their medical education.

The aim of this study is to investigate the prevalence of smoking and related factors among medical students of Canakkale Onsekiz Mart University The Faculty of Medicine. The results of our research are expected to develop training about smoking prevention starting from our faculty and contribute to Global Health Professionals Survey data and discussions determined by WHO, CDC and Canadian Public Health Association.

MATERIAL AND METHODS

Research Area and Population

This research was conducted in Canakkale Onsekiz Mart University Faculty of Medicine. The Faculty of Medicine started to educate in 2007. As from 2019, the faculty continues education with 916 students in all six grades (first grade: 207; second grade: 158; third grade: 135; fourth grade: 137; fifth grade; 136; sixth grade; 143) and 135 academicians. The sample was not calculated for this study and it was aimed to reach all students. In this study, the number of medical students reached was 652 (total participation 71.2%; 1st grade: 75.4%; 2nd grade: 73.4%; 3rd grade: 60.7%; 4th grade: 61.3%; 5th grade; 82.4%; 6th grade; 71.3%).

Type of Research

This study is a cross - sectional study researching the prevalence of smoking and related factors in Canakkale Onsekiz Mart University Faculty of Medicine.

Data Sources of Research

In this research, questionnaire form was used as a data source. The questionnaire consisted

of 20 questions including demographic characteristics and status smoking of students.

Implementation of Research

The research was conducted by the academic staffs of the Department of Public Health and the Department of Psychiatry between December 2018 - January 2019. Questionnaires were applied under observation in classes and laboratories for first to third grades and in the departments that were training for fourth to sixth grades.

The Permissions About Research

Approval was obtained from the Canakkale Onsekiz Mart University Clinical Research Ethics Committee with 03.12.2018 date and 2019-21 decision number for this study. Research permission was obtained from the Dean of the Faculty of Medicine at Canakkale Onsekiz Mart University (decision date: 05.12.2018 / number: E.1800176989).

Statistical Analysis

The data of the study was analyzed with the SPSS 20.0 statistical package program. For presentation of descriptive data, frequency, percentage, mean, standard deviation, median, minimum and maximum values were used. Chi-square test was used to compare categorical data. Independent variables predicting smoking rate of students were evaluated by the Logistic Regression Analysis Backward Conditional Model. In the analysis, the dependent variable was smoking status (0=never used, 1=currently using-quitted). Independent variables were age (continuous variable), gender (0=female, 1=male), high school education type (0=day student, 1=boarder), family type (0=elementary family, 1=extended family, 2=divorced family) , with whom

they lived (0=with family, 1=with friends or in the dormitory, 2=alone), income status (0 = Income > Expense, 1 = Income = Expense, 2 = Income < Expense) and education status of parents (0=high school or university, 1=Primary school and lower). As a result of the six-stage analysis, independent variables of age, gender and high school education type remained in the model. The Odds Ratio was used for statistical evaluation and $p < 0.05$ was accepted.

RESULTS

In this study, 652 students in the faculty of medicine were reached (71.2%). 52.6% of the students were female and 47.4% were male. The mean age was 21.3 ± 2.3 years and the median age was 21.0 years (min-max: 17.0-33.0). Of the students, 156 (23.9%) were first, 116 (17.8%) were second, 82 (12.6%) were third, 84 (12.9%) were fourth, 112 (17.2%) were fifth and 102 (15.6%) were in the sixth grade. 18.9% of students were graduated from boarding high schools. During university education 15.2% of the students live with their families, 21.9% live with their friends at home, 26.5% live alone at home and 36.4% live in the dormitory. 84.5% stated that they had an elementary family and 6.1% stated that they had divorced families. The mother of 32.7% of the participants and the father of 47.9% of the participants graduated from university. When income status were queried, 52.0% stated that their income was equal to their expenses and 11.8% stated that their income was less than their expenses.

30.5% of the students studying at the Faculty of Medicine were still smoking. It was found that males smoke more than females ($p < 0.05$). There was no significant difference between the grades in terms of smoking rate

($p > 0.05$). Although it was seen that children with divorced families smoked more cigarettes, it was not statistically significant ($p > 0.05$) (Fig. 1). 60.8% of 199 smoking students stated that they have smoked at least once a day for more than six months.

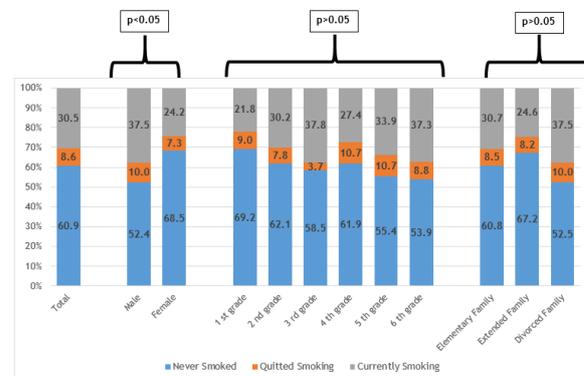


Figure 1 Relation between smoking and socio-demographical characteristics

p: Chi-Square Test

The mean of cigarette count smoked per day was 12.8 ± 7.9 , the median of cigarette count smoked per day was 12.0 (min-max: 1.0-56.0). The mean age of starting to smoke was 17.8 ± 2.5 and the median age was 18.0 (min-max: 5.0-25.0). 50.8% of the students stated that they did not want to quit smoking.

When the students were asked about the reasons for starting to smoke, the first three reasons were pleasure, stress and curiosity (23.7%, 15.3% and 13.2% respectively). 70.4% of the students who smoked stated that they knew the institution where they can get help when they want to quit smoking.

When the factors affecting the smoking status of students was examined with the logistic regression analysis, it was found that age (OR: 1.13 95% CI: 1.05-1.21), male gender (OR: 1.9 95% CI: 1.40-2.67) and studying in boarding high school (OR: 1.5 95% CI: 1.01-2.26) significantly increased the risk of smoking (Tab. 1).

Table 1. Investigation of risk factors affecting students' smoking rate by logistic regression analysis

Variables	B	Odds Ratio	95% CI	p
Constant	-3,523	0.030		0.0001
Age	0.125	1.134	1.05-1.21	0.001
Sex				
Female			1.0	
Male	0.660	1.934	1.40-2.67	0.0001
High school education type				
Day student			1.0	
Boarder	0.412	1.510	1.01-2.26	0.045

CI: Confidence Interval, p: Logistic regression analysis backward conditional model

DISCUSSION

The prevalence of smoking is still high in both physicians and medical students. On the other hand, many authors indicate that medical practitioners play a key role in smoking cessation^{4,13}. The scientific literature about smoking states that health workers play a critical role in the fight against smoking and are role models in social change. Training for health professionals can provide important opportunities with supporting smoking prevention programs. In the USA in 1992, the National Cancer Institute recommended that smoking prevention programs be a part of undergraduate medical education by 1995^{14,15}. In studies conducted in the USA, 70% of smokers stated that physician advice was important for quitting. Armstrong et al. emphasized that formal training on smoking in medical education had positive effects on the attitudes of physicians about smoking counseling¹⁶.

There is plenty of research on medical students in Turkey, and the rate of smoking among students still varies between 12.5-35.0% in these studies^{7-13,17-19}. Inandı et al researched tobacco use and passive exposure at 12 medical schools in Turkey. The study showed that 68% of medical students used tobacco or tobacco products at least once in their lifetime, and the prevalence of smoking

was 29.0% for males and 11.0% for females¹³. In a study conducted in Duzce University Faculty of Medicine, influence of friend environment, pleasure and stress were from among the most important reasons for starting to smoke⁷. In a study conducted by Arslan et al. in Aydın, it was found that 24.5% of medical students in the first grade had smoked at any time in their life. The rate of students currently smoking was 18.1% and men were smoking more. Authors reported that the rate of smoking increased as the grade increased, and that the friendship environment was one of the factors that increased smoking¹².

30.0% of students of Canakkale Onsekiz Mart University Faculty of Medicine were current smokers and 8.0% had quit smoking (Fig. 1). 21.8% of first grade students and 37.0% of sixth grade students were smoking. The rate of smokers in men was higher than women (Fig. 1). Age, male gender and boarding in high school were found as risk factors for smoking (Tab. 1). Approximately one-fifth of students had been just smoking when they started medical school. Smoking was quite high both at the age of starting to school and at the age of graduating from school. 21.0% of students at the age of starting medical education were currently smoking. This condition is similar to other faculties in our country. In addition,

according to the results of the Global Youth Tobacco Survey conducted by the Ministry of Health, 17.9% of young people between the ages of 13-15 used a tobacco product. 40.2% of this group tried tobacco products at least once. In Canakkale, the rate of using tobacco products in the similar age group was 17.1%²⁰. Studies on smoking show that approximately 20% of young people in Turkey start to smoke and almost 40% of them encounter tobacco and its products. This situation is similar for the students who started medical school. One-fifth of students who started medical school smoke. However, the increase in rate during education is another problem. Medical education is expected to contribute to smoking prevention, however, the frequency of smoking among students increases. The causes of this problem should be investigated, the solutions should be developed and the interventions should be planned.

Smoking status among physicians and medical students is one of the interesting areas also in the international literature. The reasons for this topic include the worldwide consumption of cigarettes and the burden of disease related smoking. The task expected from doctors in smoking prevention attracts attention to this occupational group. In a study conducted in Kyrgyzstan, the rate of smoking among medical students was 21.0%. 27% of students in first grade and 19% of students in sixth grade were smoking. Men smoke more than women²¹. In the study conducted by San-Pedro et al. in Spain, the rate of smoking was found 52.2% in physicians and 36.6% in medical students²². According to the results of Global Health Professional Students Survey, the highest prevalence of smoking among medical students was in Europe and in the USA (29.2%, 20.3%

respectively). The prevalence of smoking was higher in male students in all regions. In the same study, 70-86% of medical students accepted that physicians were role models for their patients and society⁴.

Although there has been a high rate of smoking during medical education, experts on the subject mentioned that health professionals are role models in preventing the use of tobacco and tobacco products. It is one of the important expectations that medical students and healthcare professionals advocate not using tobacco and their products, especially with the training about smoking in the education period⁴. Smoking and related problems took place at different levels in the National Core Training Programme prepared in 2014 in Turkey. However, this document is not yet fully binding for medical faculty education. Each medical faculty prepares its own training program. Smoking-related curricula generally remain at the level of 'related diseases'. In Canakkale Onsekiz Mart University Faculty of Medicine, the subject of smoking is only included in the curricula of the Pulmonary Disease Department. The weight of courses aimed at individual and social struggle related to smoking in medical education should be increased. In the preparation of this program, the objectives contained in the National Core Education Program for Medical Education published in 2020 should be taken into account. A significant number of students already have started school by smoking, and it is seen that this number increases even more while the number is expected to decrease during education. Male gender and students boarded in high school constitute more risky groups about smoking. This is an expected result, because men smoke more than women

all over the world. In addition, it may be easier to get cigarettes for students who leave their families at an early age and boarding in high school. Studies also show that the influence of the friend environment makes these conditions even easier.

CONCLUSIONS

The prevalence of smoking is high among students of Canakkale Onsekiz Mart University Faculty of Medicine. This is similar to the frequency of smoking in the literature. In addition, the rate of smoking is increasing throughout education. This is a major problem that medical education increases smoking aside from the prevention of smoking. Medical education is known as long and difficult. Smoking is one of the most important health problems globally. Physicians play a key role in preventing this problem. The literature suggests that physicians who smoke cannot be effective in smoking prevention. There is insufficient training on tobacco and tobacco products within medical education. This makes smoking prevention difficult.

There is a need for qualitative studies investigating the reasons for not quitting smoking despite medical education among medical students. In addition, medical students should be brought the knowledge and skill that will be able to protect their own health and then advocate for anti-smoking campaigns in the society through educational programs that will be implemented from the first grade.

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