

RESEARCH COMMUNICATION

Smoking Prevalence and Associated Attitudes among High School Students in Turkey

Zehra Golbasi*, Didem Kaya, Arzuhan Cetindag, Emine Capik, Semra Aydogan

Abstract

This is a descriptive study to determine the smoking prevalence and attitudes with smoking among high school students in Sivas, Turkey. This study was carried out in 6 high schools located in Sivas, Turkey. The sample was constituted by 1050 students. The data of the study was obtained by a questionnaire which is developed by researchers. The χ^2 test was used in the statistical analyses. In this study, the rate of students who did not smoke or stopped smoking was found to be 79.6%, while the rate of occasionally or daily smokers was 20.4%. Students with male gender, those whose fathers and mothers had a low educational level, and a smoking mother, father or sibling, had a higher frequency of smoking ($p < 0.05$). Students were found to have opposite attitudes to cigarette in general and rates of agreed to some attitude expressions were found to be higher in non-smoking students. The results demonstrated that the smoking prevalence among high school students was high and students with a smoking family member in particular, those with parents having low educational levels and of male gender should be regarded as a risk group for smoking.

Keywords: Smoking cigarette - prevalence - attitudes - Turkish high school students

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Introduction

Tobacco use is one of the biggest public health threats the world has ever faced. Tragically, the epidemic is shifting towards the developing world, where 80% of tobacco-related deaths will occur within a few decades. The shift is caused by a global tobacco industry marketing strategy that targets young people and adults in developing countries (WHO, 2008). In most countries the great majority of smokers begin to use tobacco before age 18 years (Nelson et al., 2008; Townsend et al., 2006). Among those young people who smoke, nearly one-quarter smoked their first cigarette before they reached the age of ten (WHO, 2008). Adolescents who start smoking at an early age seem considerably more at risk of the disadvantageous health consequences of smoking than late starters. Also, nicotine addiction among these early smokers appears more severe than that among late starters (Ausems et al., 2009).

Cigarette consumption continues to represent a major public health problem in Turkey (Can et al., 2009; Erbaydar et al., 2005). Turkey has a young age structure: 27 percent of population is below age 15. 61 percent of children age 14 to 16 years attended high school (Hacettepe University Institute of Population Studies et al., 2009). In 2003, Turkey joined Global Youth Tobacco Survey that was initiated to enhance tobacco monitoring among young people (aged 13-15 years). The results indicated a level

of adolescents who have smoked (29.3%), and of those who began smoking before the age of 10 (29.5%). The prevalence of current smokers stands at 10.9% in Turkey (Ergüder et al., 2006).

All kind of prevention activities, particularly those at early ages in life, would be of significant impact on public health (Ergüder et al., 2006; WHO, 2009) Surveillance of tobacco use is necessary in order to plan, evaluate, and revise tobacco control program efforts. The ability to identify groups of adolescents at risk and knowledge and attitudes of these groups improve the effectiveness of targeted programs to fight tobacco addiction and health-related hazards. This study was intended to determine the smoking prevalence and attitudes with associated smoking for students attending high schools in Sivas, Turkey.

Materials and Methods

Study design and selection of participants

This study was carried out in Sivas, a city located in central Anatolia with a population of 285,000. Six of the total 19 high schools in Sivas Centrum were selected for this study. Written informed consents were obtained from the Provincial Directorate of Education and school administrators before beginning the study. The study universe was constituted by 5,897 students attending these 6 schools. With 50% of expected highest prevalence, 95% confidence interval and 0.05 deviation, it was determined

that 1,050 students should be included in the sample. From every school, a number of students proportional to the total student number of schools were included in the sample. Furthermore, the number of students included in the sample from every school was selected proportional to the class and gender of the students. Verbal informed consents were also obtained from the students selected for the sample.

Data instrument

The data of the study were obtained using a questionnaire which was developed by the investigators, consisting of open-ended and closed-ended questions. The first part of the questionnaire that consisted of 29 questions in total was composed of questions prepared to determine the identification characteristics of the students such as age, gender, and the educational levels of the mother/father. In the second part, there were questions to determine the students' themselves and their family members' smoking conditions. In the last part there were attitude items related to smoking. For attitude items, 3 Likerts' scale (agree, undedicated, not agree) was used.

The smoking conditions of the students were evaluated in 4 categories: 1. Daily smokers: Smoked at least one cigarette every day in the last 30 days ; 2. Occasional smokers: Smoked less than one cigarette every day, but more than one every week in the last 30 days; 3. Stopped: Smoked at least one hundred cigarette in all in their lives, but had not smoked in the last 30 days ; 4. Non-smokers: Had not smoked one complete cigarette in their lifetime Students who had chosen the first and second options were evaluated as still smokers, and those who had chosen the third and fourth options were evaluated as non-smokers currently.

The school administrators permitted us to do the survey at a lecture hour. The students were informed about the aim of the study. The questionnaires were handed out to the students who volunteered to be involved in the study verbally. The students were asked not to write their names on the surveys. After having answered the questions individually, the surveys were collected by the researchers.

Statistical Analysis

The Statistical Package for the Social Sciences for Windows (SPSS for Windows) 14.0 software was used to analyze all the data. The data was presented descriptively as frequency, percentage, mean and standard deviation. The χ^2 test was carried out to evaluate the smoking and non-smoking students with regards to some characteristics and to explore the difference between attitudes of smokers and non-smokers related smoking. Statistical significance was set at $p < 0.05$.

Results

Fifty one percent of the students involved in study were girls, while 49.0 % were boys. The mean age of the students was 16.02 ± 0.99 years. Nearly all of the students (91.2%) lived with their families. Some 78.5% of the students were found not to smoke one complete cigarette in their lifetime; 12.3% were found to smoke at least one

Table 1. Distribution of Smoking Pattern of Students According to Selected Variables

Variables	Smoker	Non-smoker	p value
Sex			
Female	26 (4.9)	509 (95.1)	$\chi^2=161.935$ $p=0.000$
Male	188 (36.5)	327 (63.5)	
Age (years)			
Less than 16	57 (15.6)	308 (84.4)	$\chi^2=7.827$ $p=0.005$
16 and above	157 (22.9)	528 (77.1)	
Grade			
9th	60 (16.1)	312 (83.9)	$\chi^2=14.500$ $p=0.001$
10th	63 (18.4)	280 (81.6)	
11th	91 (27.2)	244 (72.8)	
Education level of father			
\geq High school	76 (15.0)	429 (85.0)	$\chi^2= 18.833$ $p=0.000$
<High school	136 (26.0)	387 (74.0)	
Education level of mother			
\geq Primar	80 (17.6)	375 (82.4)	$\chi^2= 4.116$ $p= 0.042$
<Primary	133 (22.7)	453 (77.3)	
Mother smokes			
Yes	43 (24.0)	136 (76.0)	$\chi^2= 1.685$ $p=0.194$
No	170 (19.7)	692 (80.3)	
Father smokes			
Yes	132 (24.5)	406 (75.5)	$\chi^2= 10.556$ $p=0.001$
No	80 (16.3)	410 (83.7)	
Sisters / brothers smoke			
Yes	71 (32.6)	147 (67.4)	$\chi^2= 26.267$ $p= 0.001$
No	134 (16.8)	662 (83.2)	

cigarette every day; 8.1% were found to smoke less than one cigarette every day, but more than one in every week in the last 30 days, and 1.1% were found to smoke at least one hundred cigarettes in their lifetime, but had not smoked in the last 30 days.

According to Table 1, 36.5% of the boys and only 4.9% of the girls smoked ($p < 0.001$). In the evaluation of smoking and non-smoking students with regards to their fathers' and siblings' smoking habits, the difference was statistically significant ($p < 0.01$). Furthermore, there was also a statistically significant difference with regards to their mothers' and fathers' educational levels when compared according to their smoking habits ($p < 0.001$). According to these data, students whose fathers' educational levels were less than high school and/or mothers' educational level of less than primary school and those who had a smoking mother, father or sibling, had a higher frequency of smoking.

More than half (62.6%) of the students were found to have begun smoking between the ages of 12-14 years. Some factors such as emulation (51.4%), curiosity (49.5%), peer pressure (40.2%) and stress (39.7%) were determined as the first line factors.

There was a significant difference among smokers and non-smokers with regards to some attitude expressions dealing with smoking. The agreed rates of non-smokers to the expressions of: cigarette prices were expensive (75.2%), smoking should be prohibited in public areas (90.9%), and cigarette should not be sold to children below the age of 18 years (91.3%) were significantly higher than those of smokers (63.6%, 82.7%, and 83.2%, respectively) ($p < 0.01$). The agreed rates among smoking and non-smoking students towards other expressions were similar.

Discussion

In our study, the rate of students who did not smoke at any time or had stopped smoking was found to be 79.6%, while the rate of occasionally or daily smokers was found to be 20.4%. In different studies from different cities in Turkey, the smoking prevalence among high school students was found to range between 18.1-38% (Arbak et al., 2000; Karlıkaya, 2002).

In a study by Kempainen et al (2002), among ninth class students from Russia and Finland, the rates of rare or regular smoking students were found as 9% in girls and 31% in boys in Russia, while these rates were determined as 27% in girls and 23% in boys in Finland. Besides, in a study by Chen et al (2008) from Taiwan, it was reported that 34% of high school students had smoked cigarette at any time of their lives and 10.1% of the students were regular smokers. In another study from Japan, the rate of smoking students was found as 17.4% (Takakura et al., 2003). Grimshaw et al found the total rate of regular and rare smokers as 24.7% among the youths of the 15-19 year age group in England (Grimshaw et al., 2003). In Hong Kong, the rate of smokers in the 13-18 age group adolescents was determined as 30.5% (Lam et al., 2001). This rate was found as 26% in Korea (Kim, 2005).

In our study, the smoking prevalence in girls was found to be significantly lower than that in boys. Similarly, in many studies from our country and other countries, the smoking prevalence in boys was found to be significantly higher than that of girls (Göksel et al., 2001; Gökğöz et al., 2007; Lin et al., 2008). Our results showed that students whose fathers' education was less than 8 years and whose father or sibling smoked had a higher rate of smoking. In a similar way, many studies have shown that the smoking habits of adolescents have significant association with the smoking habits of other family members (Leatherdale et al., 2005; Wilson et al., 2007) and the mother/father's educational levels (Ünlü et al., 2004; Ceylan et al., 2005; Ünsal et al., 2009).

In this study, more than half of the smoking students were found to have begun smoking between the ages of 12-14 years (mean age: 13.46±1.79 years). This result is compatible with the previous studies (Çelik et al., 2000; Karlıkaya, 2002; Ünsal et al., 2009). In the comparison of students starting smoking before the age of 15 and after 20 years, the lung cancer risk was reported to increase two times. Moreover, starting smoking in the first 5 years after menarche has been reported to increase the risk of breast cancer (Leatherdale et al., 2005). Because of these reasons, it can be concluded that a significant proportion of smoking students in our study had a higher cancer risk due to the age they had started smoking.

In our study, the main reasons for students to start smoking were emulation, curiosity, friendship effect, stress, proving themselves and the presence of a smoking family member. This was also consistent with the literature (Çelik, 2000; Ceylan et al., 2005; Hamzaçebi, 2008). Emulation, curiosity and trying to prove themselves were the main characteristics of adolescents. Moreover, the influence of friend groups was also very high in adolescents. However, these features of adolescence may

have had some negative effects on the health of the youths time to time. On the other hand, showing the presence of a smoking family member as a reason to start smoking is an important finding. According to this finding, it can be concluded that adults, especially the parents, should be positive role-models in preventing youths to start smoking.

It can be said that the majority of students involved in this study have opposite attitudes to cigarettes. The higher agreed rates to some attitude expressions in non-smokers prove the importance of the fighting against starting smoking of youths. It is also noteworthy that Celik et al (2000) found results similar to our study in high school students regarding the thoughts of students on cigarette advertisements, cigarette prices and legal precautions dealing with cigarettes. On the other hand, in a study of Mayda et al (2007) among students of medical school, a lower proportion (54.3%) of students agreed with the idea of not selling cigarettes to individuals before the age of 18. Similarly, in a study of Azak (2006) on students of health officers, the agreed rates of students on the ideas of forbidding cigarette advertisements, not smoking in public areas, increasing cigarette prices and not selling cigarette to children, were found to be lower than that of our study. These results suggest that youths at younger ages have more opposite ideas to cigarette than youths at older ages, and because of this reason, interventions against a harmful habit like smoking among children and youths should be begun at primary schools.

In conclusion, schools can provide an ideal venue not only to teach about the harmful effects of smoking, but also to teach students refusal skills. The first step with school programmes is to increase knowledge about the harm caused by smoking and to change beliefs, attitudes and intentions. The results of this study show us that smoking is still an important health problem among high school students in Turkey. It has been emphasized that boys in particular, students with parents having low educational levels and those with a smoking family member, are at risk for this problem. Moreover, non-smokers are found to have more opposite attitudes to cigarette and due to this reason, attempts at intervention against cigarettes should be initiated through preventing them from experimenting cigarettes for the first time. Therefore, school-based smoking prevention programs should be implemented in partnership with families.

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