

Factors Affecting the Cigarette Smoking Habits Among Students in Afyon-Turkey

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SUMMARY

Objective: The aim of this study is to investigate the smoking ratio and factors affecting the smoking habits of 12 – 18 years old students.

Methods: A questionnaire about smoking habits of students and a self report test for measuring depression was applied in local schools. 1300 students in 42 classes gave the answers independently and anonymity was guaranteed.

Results: 1113 students (85.6 %) completed the questionnaires. The prevalence of smokers was 28.8% (males 19.6%, females 9.2%; $p < 0.05$). The minimum age at which the first experience of smoking occurred was seven years, while the mean age for first smoking was 12.4 ± 2.59 years. The factors affecting the smoking habits of the students were male gender, smoking of one or more siblings, being in the ages of seventeen or eighteen and to have depression. Educational level of parents, their jobs were not found to be effective factors on smoking of the students.

Conclusion: In this study it was observed that smoking may start as early as seven years of age and this shows us efforts to prevent smoking must be started in the preschool period and should be continued afterwards in a regular program.

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Key Words: Smoking habits, prevalence, depression.

ÖZET

Afyon'da Öğrencilerin Sigaraya Başlamasını Etkileyen Faktörler

Amaç: Çalışmada 12-18 yaş öğrencilerde sigara içme oranı ve sigaraya başlamayı etkileyen faktörlerin araştırılması amaçlanmıştır.

Metod: Binüçyüz öğrenciye 42 sınıfta sigara alışkanlığı ve depresyon durumlarını ölçen kendilerinin doldurduğu anket formu uygulandı. Öğrencilere gizliliğin korunacağı şekilde güvence verildi.

Bulgular: Öğrencilerin 1113'ü anket formlarını kabul edilebilir şekilde doldurdu. Sigara içme oranı %28,8 (erkek %19,6, kız %9,2) olarak bulundu. Sigarayı en küçük deneme yaşı 7 yaştı ve ortalama sigaraya başlama yaşı 12.4 ± 2.59 yıl olarak tespit edildi. Sigaraya başlamayı etkileyen faktörler; erkek cinsiyet, bir veya daha fazla kardeşinin sigara içmesi, 17 ve 18 yaşında bulunmak ve depresyonu olmak olarak bulundu. Anne –babanın eğitim durumu ve mesleklerin sigaraya başlama üzerine etkisi yoktu.

Sonuç: Çalışmada sigaraya başlama yaşının 7 yaşına kadar indiği ve sigara içmeyi engelleyici önlemlerin okul çağı öncesinde başlayıp düzenli programlarla devam etmesinin gerekliliği görülmüştür.

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Anahtar Kelimeler: Sigara içmek, prevalans, öğrenciler.

Introduction

Cigarette smoking is considered the single most significant cause of preventable mortality and morbidity (1). It is estimated that approximately 450.000 Americans die each year from diseases

directly attributable to smoking. Twenty percent of all ischemic heart disease deaths are blamed on cigarette smoking. Furthermore, 38% of all cancer deaths in men and 23% of all cancer deaths in women are related to cigarette smoking.

The economic costs of smoking on society are exorbitant. The direct health care cost associated with smoking in 1993 was approximately 50 billion USA dollars (2). In Turkey which is a developing country smoking prevalence among the adult population

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(>15 years of age) is higher than the average prevalence of both the developing and the developed countries, with figures in general population of 62.8 % in men and 24.8% in women (3). According to the World Health Organization, Turkey ranks sixth in the world in cigarette consumption and, despite these high figures, per capita consumption of manufactured cigarettes shows an average annual increase of 1% between 1990 and 1995 (4). Until November 1996, there had been no legislation to intervene in the overwhelming smoking epidemic in Turkey. Cross-sectional studies of adolescents suggest that smokers are likely to report more depressive symptoms than are nonsmokers (5). The aim of this study was to determine the environmental factors that influence children to smoke, and to understand the reasons why children smoke and to investigate the association between cigarette smoking and depression disorders among adolescents and young adults.

Materials and Methods

In this cross-sectional study, a self-report questionnaire was given to students of ages 12 and 18 years in secondary school. The study group comprised all students who attended class at the time of the survey. Of 1300 questionnaires administered, 1113 (85.6 %) were properly completed (94.5%), in the academic year 2000-2001, in Afyon. After the students were informed about the anonymity of the survey, the questionnaire was administered to the students in their classrooms. The questionnaire used in this study was a translation and modification of a previously used questionnaire (6,7). The students were asked about their age, gender, and smoking status, and the smoking status of their parents, siblings and friends. To verify the accuracy of the self-reported current smokers, the students were asked to state the number of smokers in their class. Students who had smoked at least once were asked at what age they started smoking, how they obtained it, where they usually smoked, and their reasons for smoking. The students were also asked whether they thought certain personality characteristics could be applied to children who smoke. Finally, a list of eight potential adverse health consequences of smoking was given, of which two statements were false, and the

students were requested to mark either true or false for each consequence.

The true statements included the following: smoking is bad for the health of other people, smoking during pregnancy can damage the fetus, smoking increases the chance of developing lung cancer, smoking increases the chance of developing lung disease, smoking causes a decrease in physical fitness, and smoking increases the chance of developing heart disease. The false statements were as follows: smoking at a young age causes growth retardation, and smoking reduces the level of concentration. The students' smoking status was defined as in previous studies: nonsmokers were students who had never smoked; experimental smokers were students who had smoked at least once, but had not smoked within the last 2 weeks; and current smokers were students who had smoked within the last 2 weeks (6,8). Also a questionnaire named Children's Depression Inventory (CDI) developed by Kovacs in 1981 (9) and modified and translated to Turkish in 1990 was applied to the population in the study. This inventory is a self reported test consisting of 27 items involving the symptoms of depression and evaluates the last two weeks of child. For each item there are 3 sentences of which the respondent should select the most appropriate one. Higher total scores indicate increasing levels of depression, the maximum score and the cut off point for the test being 54 and 19 respectively.

Statistical analysis

Statistical analyses were done using the Statistical Package for the Social Sciences (SPSS, 9.0 version). Results are expressed as the percentage of positive responses to each question. The chi-square test was used to detect differences between groups and p value of less than 0.05 was considered significant. Data was further evaluated by multivariate analysis, using a logistic regression model. Odds ratios and 95% confidence levels were calculated.

Results

Of the 1113 students, aged 12-18 years, who participated in the study, 49.1% (542) were male and 50.9% (566) were females. Distribution of sex and age are shown in Table I. The prevalence of smokers was 28.8% (males 19.6%, females 9.2%; $p < 0.05$).

The least age of the first smoking experience was seven, median age was 12.4+2.59. The age of first smoking experience dropped. 18.6 % of the students first tried to smoke between the ages of seven and twelve. 73.5 % of the students said that they provided the first cigarette from their close friends. They were also asked about the causes of smoking. 57.2 % of the students were smoking due to great interest, 27.8 % due to discomfort or stressful conditions, 10.8 % due to imitation. The questions about hazardous effects of smoking were answered as it was a detrimental habit by most of the students. The first six questions might be answered as "true". 95.4 % - 87.4 % of the students gave the answer as "true". 7th and 8th questions must be answered as "wrong". 87.6 % - 77.9 % of the students gave the answer as "wrong". When we compared the answers of smokers and nonsmokers there was no statistically meaningful difference for the first seven questions ($p < 0.05$). But for the 8th question smokers gave more proper answers than nonsmokers (chi square 10.6, $p = 0.01$). The question " Why don't

you smoke ?" was answered as follows : 55.4 % of them don't smoke since they dislike taste or smell of cigarettes.

30.9 % of them don't smoke since their parents or their teacher warn them about harmful effects of smoking.

9.2 % of them don't smoke because their parents are heavy smokers and it's disturbing them.

7.8 % of them are afraid of smoking since their close relatives died due to smoking.

In that question more than one answer was given. In this table 95 % confidence interval and Odd's ratio of the variables that affect smoking of the students are shown.

Factors causing the students to smoke are male gender, existence of one or more siblings, being in the ages of seventeen or eighteen. Parental educational level or job are not found to be effective factors for the smoking of students. 20 % of the students have the depression score of 19 points or higher which means that they are depressive persons. 11.4 % of smokers, 8.6 % of nonsmokers have the depression score of 19 points or higher.

Table I: Age and sex of students.

Age (year)	Boys (%)	Girls (%)	Total (%)
12	14 (1.3)	31 (2.8)	45 (4.0)
13	68 (6.1)	71 (6.4)	139 (12.5)
14	86 (7.7)	76 (6.8)	162 (14.6)
15	77 (6.9)	112 (10.1)	189 (17.0)
16	93 (8.4)	138 (12.4)	231 (20.8)
17	137 (12.3)	109 (9.8)	246 (22.1)
18	72 (6.5)	29 (2.6)	101 (9.1)
Total (%)	541 (49.1)	566 (50.9)	1113 (100)

Table II: The prevalence of smokers, experimental smokers and never smokers for ages.

Age	Smokers		Experimental		Never	
	Boys (%)	Girls (%)	Boys (%)	Girls (%)	Boys (%)	Girls (%)
12	1 (7.1)	1 (3.2)	4 (28.6)	2 (6.5)	9 (64.3)	28 (90.3)
13	3 (4.4)	1 (1.4)	3 (4.4)	4 (5.7)	62 (91.2)	66 (92.9)
14	16 (18.6)	2 (2.6)	27 (31.4)	7 (9.2)	43 (50)	65 (88.2)
15	29 (38.2)	16 (14.3)	38 (50)	31 (27.7)	32 (11.8)	58 (58)
16	43 (46.2)	30 (21.7)	40 (43)	41 (30.1)	10 (10.8)	67 (48.2)
17	78 (56.9)	37 (33.9)	43 (31.4)	47 (43.4)	16 (11.7)	84 (22.7)
18	48 (66.7)	15 (51.7)	15 (20.8)	5 (17.2)	9 (12.5)	9 (31.1)

Discussion

Cigarette consumption in Turkey increased by 10% from 1970 to 1985 and the consumption went up to 44% in 1988 with 63% of males and 24% of females smoking within the Turkish population (10). Among Turkish high school students, the smoking habit is 23.2% (males 22.7%, females 24.1%) (11). In contrast to the decline of smoking consumption in many developed countries, the prevalence of smoking in Turkey has increased during the past three decades. Unfortunately, smoking-related diseases are expected to increase in Turkey. In this table studies made in some countries about prevalence of smoking students are shown.

As shown in the table IV the highest ratio is present in Holland, United States have lower ratios. Our district has average ratios between them. In our study with increasing age prevalence of smoking is also increasing rapidly and when the person comes to age of eighteen smoking ratio increased to 59.2 %. Recent studies have found that

28% to 36% of teens are current smokers (13,14). Recent work also indicates that lifetime prevalence of depression in adolescents parallels rates observed in adults. Depending on the study, adolescent lifetime prevalence rates for depression of 15% to 20% have been observed, and the proportion of adolescents reporting significant depressive symptoms has increased in recent years (15,16). Typically, increased likelihood of smoking initiation and progression have been viewed as consequences of depression (14, 16-17).

It's claimed that increased likelihood of smoking initiation and progression have been viewed as consequences of depression. Cross-sectional studies of adolescents suggest that smokers are likely to report more depressive symptoms than are non-smokers (18). These findings in the literature is confirmed by the results of our study also. It should be speculative to end up with a causative relation between depression and smoking initiation and/or progression. However according to the our results, there seems to be statistically correla-

Table III Affecting factors for the smoking habits of schoolchildren.

Variable	B	P	Odd's ratio	95.0 % C.I.	
				Lower	Upper
Boys	0.97	0.000	2.65	1.83	3.85
Sibling	0.688	0.001	1.99	1.35	2.93
Friends	1.65	0.000	5.24	3.29	8.34
Age (17)	1.76	0.032	5.81	1.16	29.04
Age (18)	3.09	0.005	22.03	2.53	191.74
Depressed students	0.960	0.000	2.61	1.74	3.90

Table IV: Smoking prevalence among students in different countries*.

	United States	France	The Netherlands	Israel	Afyon, Turkey
Year	1990	1983	1986	1993	2001
Sample size	11,248	1,943	723	847	1113
Age (year)-%					
12	–	1	14	1	4.4
13	9	11	17	4	2.9
14	16	18	26	8	11.1
15	17	35	–	21	23.9
16	20	42	–	36	31.6
17	25		–	28	46.7

*Adapted from reference12

tion between smoking and depression. Since the number of subjects having depression scores higher than 19 is more in the smoking group when compared with the non-smoking group.

In many studies it is shown that smoking parents or smoking siblings play a causative role on starting to smoke (19-22). In our study smoking parents, low educational level of parents or their job do not play a causative role on smoking of the students. But there is a strong relation between smoking of students and existence of one or more siblings in the family. Similar results were also seen in a study made in Manisa (23). Çelik et al (23) explicated that there was no relationship between parent's smoking habit and students' smoking habit, but they stated that smoking siblings affect each other. Friends and neighborhood are effective factors for smoking like all bad habits and they may be determinative. Social groups' pressure or wishing to take position in a group of smoking friends facilitates starting to smoke. In our study when starting to smoke students mostly try to imitate their friends. Similar results were also found in other studies (19,20).

A recent review showed that only 2 to 3% of regular cigarette smokers successfully quit smoking each year; the addition of nicotine medication can only triple this result (24). It would, therefore, be preferable to concentrate efforts on smoking prevention. It has been shown that most adult smokers began smoking regularly before the age of 18 years (25). In this study it was observed that smoking may start as early as seven years of age and this shows us efforts to prevent smoking must be started in the preschool period and continued in schools from primary school in a regular program.

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