Cigarette use frequency and the affecting factors in primary and high school students in Diyarbakir

Yılmaz PALANCI[1], Günay SAKA[2], Abdullah Çetin TANRIKULU[3], Hamit ACEMOĞLU[4]

[1] Kafkas Üniversitesi Tıp Fakültesi, Halk Sağlığı Anabilim Dalı, Kars,
[2] Dicle Üniversitesi Tıp Fakültesi, Halk Sağlığı Anabilim Dalı, Diyarbakır,
[3] Kafkas Üniversitesi Tıp Fakültesi, Göğüs Hastalıkları Anabilim Dalı, Kars,
[4] Atatürk Üniversitesi Tıp Fakültesi, Halk Sağlığı Anabilim Dalı, Erzurum.

ÖZET

Diyarbakır il merkezindeki ilköğretim ve lise öğrencilerinde sigara kullanımı ve etkileyen faktörler

Sigara, alkol ve madde kullanımı özellikle gençleri etkileyen dünya çapında bir tehlikedir ve bu önlenebilir bir halk sağlığı sorunudur. Bu çalışmanın amacı; Diyarbakır il merkezindeki ilköğretim okulları 6, 7, 8. sınıflar ile lise öğrencileri arasında madde kullanımı yaygınlığını ve etkileyen faktörleri incelemektir. Öğrencilerin %62'si erkek, %38'i kadındı. Yaş aralığı 11-20 olup, yaş ortalaması 15.2 + 2.0 idi. Sigara içme prevalansı toplam olarak %14.8 (kadınlarda %6.0, erkeklerde %20.2), ilköğretim öğrencilerinde %5.8, lise öğrencilerinde %23.7 idi. Ortalama ilk sigarayı içme yaşı 12.6 + 2.3 yıl bulundu. Sigara içimi erkek öğrencilerde kadın öğrencilerden daha yüksek bulundu. Sigara içiminde taklit edilen kişiler yakın arkadaş ve öğretmenlerdi. Diğer ilişkili faktörler ebeveyne dükkandan sigara almak ve diğer bağımlılık yapıcı maddeleri kullanmak olarak belirlendi. Diyarbakır'da öğrenim görmekte olan gençlerde sigara kullanımı önemli boyutlardır ve önleyici müdahaleler acilen uygulanmalıdır. Bu konuda yapılacak müdahaleler sadece gençleri değil toplumun tümünü kapsamalıdır. Aileler, öğretmenler ve ilköğretim çağındaki öğrenciler müdahale için öncelikli gruplardır. Sigara ile ilgili yasalar tam olarak uygulanmalıdır.

Anahtar Kelimeler: *Sigara, ilkokul, lise, öğrenci, risk faktörleri.*

SUMMARY

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Yılmaz PALANCI[1], Günay SAKA[2], Abdullah Çetin TANRIKULU[3], Hamit ACEMOĞLU[4]

[1] Department of Public Health, Faculty of Medicine, Kafkas University, Kars, Turkey,
[2] Department of Public Health, Faculty of Medicine, Dicle University, Diyarbakir, Turkey,
[3] Department of Chest Diseases, Faculty of Medicine, Kafkas University, Kars, Turkey,
[4] Department of Public Health, Faculty of Medicine, Atatürk University, Erzurum, Turkey.

Cigarette, alcohol and substance use is a worldwide threat which especially affects young people and a preventable public health problem. Aim of the study is to investigate the prevalence of substance use and the factors affecting this prevalence among the students of primary and high school students in Diyarbakir. 62% of the students were males, and 38% were females. The age range was from 11 to 20 and the mean age was 15.2 + 2.0. The smoking prevalence was a total of 14.8% (6.0% in females and 20.2% in males), 5.8% in primary school students, 23.7% in high school students. The mean first-smoking age was found as 12.6 + 2.3 years. Smoking were more common among male students than girls. Close friends and teachers were source of imitation to smoke cigarettes. Other associated factors were age, buying cigarettes from the corner shops for parents, usage of other addictive substances. Cigarette use among students attending to schools in Diyarbakir is significant health problem and preventive interventions should be employed without delay. Interventions which will be implemented in this context not only should comprise the young, but also the all society. Families, teachers and primary school students are the groups which are of priority for intervention. The law about cigarette smoking should be fully enforced.

Key Words: *Smoking, primary school, high school, students, risk factors.*

Tobacco use is the most significant cause of preventable morbidity, disability and premature mortality (1). According to the data of World Health Organization (WHO), 30.2% of the world's population (12.4% of women and 47.9% of men) smokes tobacco (2,3). Two hundred-fifteen million people in Europe, 130 million of whom are men smoke tobacco. Smoking prevalence in young people between the ages 15-18 has been estimated as 30%. No decrease in smoking has been observed in any of the European country in recent years (4). Several publications emphasized the danger of smoking effecting physical and mental health of children and adolescent. Smoking habit is becoming more prevalent among young people in developing countries (5). It is estimated that 4.8 million people, 1 million of whom are women, died of tobacco related diseases during the year 2000 all over the world (6). If this smoking tendency does not change, it is presumed that the mentioned number will reach to 8.4 million people in 2020 (7). According to

the reports of the WHO, 8.8% of the total deaths in the world are related to tobacco use, 3.2% are related to alcohol use and the 0.4% is related to illegal drug use (8). Young persons attending secondary school are the most risky group in terms of smoking, alcohol and drugs usage. Smoking and substance usage of family member increases prevalence of smoking among students (5).

The aim of the present study is to find out the smoking prevalence and associated factors among students attending primary school in Diyarbakir province center.

MATERIALS and METHODS

The research group was composed of elementary and high school students in Diyarbakir province center. The required permissions were taken from the Governor's Office and the Provincial Directorate of National Education before for study was carried out. There were 84 primary and 30 high schools in the city center. The total number of students in primary schools was 45.273 and the to-

tal number of students in high schools was 26.014. The sample size was calculated as a minimum of 2862, using epic Info 2000 statistical software, with an error of 1% and with a confidence interval of 95%. For this reason, it was decided to set the sample size as 3000 people.

The numbers of students in study group were certained according to school type and gender. The selection of the sample was performed by using the layered sampling method. After the number of the samples was determined, classes in which study would be done were selected randomly. The questionnaire form was piloted in a school and then were revised to the finally. The questionnaire was consisted of 45 questions. This research was conducted in 17 primary and 17 high schools, during dates between April 15th-28th, 2003.

Variables

Dependent variables:

1. Smoking: In the present research, the classification provided by WHO for adolescents was adopted to define the cigarette smoking characteristics of the students (9).

2. Never smoker: Person who had smoked less than 100 cigarettes during life time.

3. Ex smoker: Person who had been smoke cigarettes more than 100 after that had quit smoking at least one month ago.

4. Smokers: Others.

5. Ever smoker (lifetime smoker): Smoker + exsmoker.

6. Among smokers: Those who currently smoked, who smoked occasionally, and who had smoked and quitted smoking were determined. Afterwards, according to having smoked within the last 30 days, those who smoked everyday and the ones who had smoked at least once within the last one month were accepted as cigarette smokers.

Independent variables:

Age, gender, school: Primary/high school, family type, education level of parents, smoking status of the mother, father, at least one of the siblings, smoking of teachers, parents having the child buy cigarette from the shops, smoking status of the 3 most-loved friends of the student, families and teachers' informing the child about cigarette smoking.

A scale which consisted of 8 items was developed in order to determine the economic status of the families. The points taken according to the economic scale were divided into 3 and 3 groups were formed as bad, middle and good. The reliability analysis of the developed scale was performed and the Cronbach's coefficient alpha was found as 0.72. In the study, family type was defined in 3 groups:

1. Nuclear family: Family which consists of a mother, father and children.

2. Extended family: Family consisting of mother, father and from one or more close relatives.

3. Divided family: Family in which at least one of the parents is dead or separated.

Statistical Analysis

After the research questionnaire was implemented, the data were evaluated on a computer by using SPSS 10.0, Epi info 2000 and Microsoft Excel software. Chi-square test was used for the categorical data analysis. Logistic regression analysis was used in order to determine the risk factors affecting cigarette use. According to this analysis, a model was developed in order to determine the factors affecting cigarette use. Those who smoked at least once a month and those who did not smoke were put into the model which was developed to determine the factors affecting cigarette smoking as dependent variables. The data was analyzed by the enter method. The data was accepted as statistically significant when p value < 0.05.

RESULTS

There were 3000 students, 38.0% females 62.0% male, in study group. The mean age was found to be 13.6 ± 1.2 years in primary schools and 16.7 ± 1.2 years in high schools. 1500 (50%) of the subjects were primary school students and 1500 (50%) were high school students. 19.5% (586) of the students had a job with an income.

It was found that 48.7% (1461) of the students' mothers and 11.0% of the students' fathers were illiterate. The results showed 11.6% mothers and 32.6% fathers had high school or higher degrees. 83.9% of the students were from families consisting of parents and 1 or 2 children, 9.1% were from bigger families. 7.0% of parents of students were divorced.

The percentage of students who smoked cigarettes was 14.8% (n= 443) (Table 1). Smoking prevalence was found to be 6.0% (n= 68). In females and 20.2% (n= 375) in males among all students. Smoking prevalence was found 5.8% in primary school grades 6, 7 and 8 and 23.7% in high schools. It was determined that 72.6% of the female students and 50.2% of the male students had never tried smoking. Peer environment and outdoor were first tried smoking place of 42.5% and 33.8% of all the students respectively. While male students stated that they smoked their first cigarettes mostly in their peer environments (44.1%) and outdoors (%40.9), female students smoked their first cigarettes mostly at home and in their peer environments (46.2%) (p< 0.001). Furthermore, 24.8% of the students expressed that they smoked their first cigarettes in a festival. The mean age for trying the first cigarette was 13.1 ± 2.3 among females and 12.4 ± 2.1 among males. This age was 11.8 ± 1.8 in primary school student and 13.0 ± 2.4 in high schools.

The smoking prevalence among all students was found to be 14.8%. It was found that the smoking risk for males was 1.66 times higher (95% confidence interval (CI): 1.19-2.31) compared to females when the effect of all factors were examined (Table 2). In the research, smoking prevalence was found to be 1.6% at age 13, 21.3% at age 16 and 36.0% at age 19. When the effects of all the variables were examined, it was found that the risk increased 1.40 times for each age (95% CI: 1.29-1.51). There was no meaningful relationship between the smoking prevalence in students with family types.

We showed that smoking risk is found 10.61 times higher (95% CI: 7.26-15.54) in students with 1 close friend who smokes and 20.29 times higher (95% CI: 13.76-29.98) in students with 2 close friends who smoke and 32.52 times higher (95% CI: 22.43-47.28) in students whose 3 close friends smoke. When the variables other than friends' smoking status was checked, these risks were found as 5.21 (95% CI: 3.52-7.70), 10.21 (95% CI: 7.00-15.68) and 15.17 (95% CI: 10.25-22.43) respectively, and it was found that this relationship determined was independent from other variables. Getting information about damages of smoking from teacher or family was not affecting smoking prevalence (p> 0.05). If other factors were considered, it was found that the risk of cigarette smoking was 7.13 times hig-

Table 1. Distribution of smoking prevalence of students within the scope of the study by schools and gender.

		Never smoked before		Tried smoking once or a few times		Smoked and quit		Smokes		Total	
		Number	%	Number	%	Number	%	Number	%	Number	%*
Primary education	Female	479	79.8	98	16.3	3	0.5	20	3.4	600	40.0
	Male	580	64.4	233	25.9	19	2.1	68	7.5	900	60.0
	Total	1059	70.6	331	22.1	22	1.5	88	5.8	1500	100.0
High school	Female	349	64.6	136	25.2	7	1.3	48	8.9	540	36.0
	Male	354	36.9	241	25.1	58	6.0	307	31.9	960	64.0
	Total	703	46.9	377	25.1	65	4.3	355	23.7	1500	100.0
Total	Female	828	72.6	234	20.5	10	0.9	68	6.0	1140	38.0
	Male	934	50.2	474	25.5	77	4.1	375	20.2	1860	62.0
	Total	1762	58.7	708	23.6	87	2.9	443	14.8	3000	100.0

* Column percentage.

Table 2. Smoking prevalence of students within the scope of the study by certain variables and the multiple regression analysis of certain variables.

	n	Smokes (%)	OR (95% CI)	Adjusted OR (95% CI)
Gender				
Female	1140	6.0	1	1
Male	1860	20.2	3.98 (3.04-5.22)***	1.66 (1.19-2.31)**
Ages				
11	19	0.0	-	
12	250	0.0	-	
13	496	1.6	1	
14	430	6.0	3.93 (1.67-9.52)***	
15	463	10.8	7.38 (3.33-17.05)***	1
16	497	21.3	16.54 (7.69-37.07)***	
17	473	26.4	21.91 (10.23-48.96)***	1.40 (1.29-1.51)***
18	258	34.5	32.12 (14.70-73.11)***	
19	86	36.0	34.84 (14.24-85.84)***	
20	28	28.6	24.40 (7.39-81.38)***	
Education level of mother				
Illiterate and literate	1698	17.1	1	1
Primary and secondary	956	11.9	0.66 (0.52-0.84)***	0.78 (0.57-1.07)
High school and above	346	11.3	0.62 (0.42-0.89)**	0.79 (0.43-1.42)
Education level of father				
Illiterate and literate	565	18.1	1	1
Primary and secondary	1456	15.7	0.85 (0.65-1.10)	1.15 (0.83-1.61)
High school and above	979	11.4	0.59 (0.43-0.79)***	1.00 (0.65-1.56)
Family type				
Nuclear family	2518	14.4	1	1
Extended family	272	13.6	0.94 (0.64-1.37)	0.93 (0.59-1.46)
Divided family	210	21.0	1.58 (1.09-2.27)*	1.21 (0.77-1.91)
Mother's smoking				
Does not smoke	2457	15.1	1	1
Smokes	543	13.4	0.88 (0.67-1.15)	0.92 (0.64-1.32)
Father's smoking				
Does not smoke	1353	13.5	1	1
Smokes	1647	15.8	1.21 (0.99-1.49)	1.27 (0.96-1.65)
Siblings				
Do not smoke	2148	12.0	1	1
Smoke	852	21.8	2.06 (1.67-2.53)***	1.02 (0.77-1.34)
Friends' smoking				
None of them smokes	1783	2.5	1	1
One of them smokes	501	21.6	10.61 (7.26-15.54)***	5.21 (3.52-7.70)***
Two of them smoke	331	34.4	20.29 (13.76-29.98)***	10.47 (7.00-15.68)***
Three of them smoke	385	45.7	32.52 (22.43-47.28)***	15.17 (10.25-22.43)***
Got information from his/her family				
Yes	2691	14.8	1	1
No	309	14.6	0.98 (0.72-1.34)	1.20 (0.82-1.77)
Got information from his/her teacher				
Informed this year	1396	14.1	1	1
Informed previous year	892	14.1	1.00 (0.78-1.28)	0.80 (0.59-1.09)
No information	712	16.9	1.23 (0.96-1.59)	0.94 (0.69-1.30)

Table 2. Smoking prevalence of students within the scope of the study by certain variables and the multiple regression analysis of certain variables (contunied).

	n	Smokes (%)	OR (95% CI)	Adjusted OR (95% CI)
Bought cigarettes from the shops				
Bought	693	1.9	1	1
Did not buy	2307	18.6	11.98 (6.85-20.95)***	7.13 (3.86-13.14)***
Working status				
No	2414	12.4	1	1
Yes	586	24.4	2.28 (1.82-2.85)***	1.27 (0.94-1.72)
Alcoholic drinks				
Do not use	2820	12.1	1	1
Use	180	57.2	9.76 (7.11-13.39)***	2.93 (1.89-4.55)***
Drugs				
Not tried	2925	13.4	1	1
Tried	75	66.7	12.89 (7.88-21.07)***	2.79 (1.47-5.29)**
Teachers				
Do not smoke	845	7.7	1	1
Smoke	2155	17.5	2.55 (1.94-3.37)***	1.72 (1.23-2.42)**
Economic scale				
Bad	953	11.1	1	1
Middle	1756	16.6	1.59 (1.25-2.04)**	1.27 (0.94-1.73)
Good	291	15.5	1.46 (0.99-2.16)*	1.64 (0.92-2.93)
Total	**3000**	**14.8**		

CI: Confidence interval, OR: Odds ratio.

* p< 0.05

** p< 0.01,

*** p< 0.001.

her (95% CI: 3.86-13.14) in students who bought cigarettes for parents when compared to the students who did not buy cigarettes. The risk was found to be 1.27 (95% CI: 0.94-1.72) among working students compared to nonworking students when the effects of other variables were controlled, and it was seen that this effect appeared as a result of other factors. Alcohol and drug usage were other important factors effecting smoking habit. The prevalence of smoking was 57.2% in students who use alcohol at the same time and 12.1% in nonalcohol users. The same result was noticed according to drug addiction (66.7% and 13.4% respectively). When the variables were controlled, the probability of cigarette smoking was found to be 12.89 (95% CI: 7.88-21.07) times higher in students who used alcoholic drinks compared to the ones who did not use alcoholic drinks, and 2.79 times higher (95% CI: 1.47-5.29) in students who had tried drugs compared to the ones who had not tried drugs.

It was determined that students who had seen their teachers smoking cigarettes smoked 1.72 times more (95% CI: 1.23-2.42) than the students who had not had such an experience. The comparison of the crude odds ratio (OR) and adjusted OR of the cigarette smoking prevalence of students according to the economic scale showed that the significant crude relationship between the cigarette smoking prevalence of students who had middle and good economic scales compared to the students who had bad economic scales was largely dependent on the effect of other variables.

When reasons of smoking were asked to students, stressful conditions, anxiety and friend's influence were decelerated as main reasons for smoking. The amount of smoked cigarettes was increasing in parties and wedding ceremonies.

DISCUSSION

In a previous research conducted on 3315 students in Diyarbakir province center in 1992, the

smoking prevalence was found to be 29.1% (10.5% females, 36.5% males) (10). In several researches carried out in Turkey smoking prevalence was found in range 11.1% to 23.7% (5,11-13). It is seen that smoking prevalence has fallen in all age groups in Diyarbakir but it remains as a significant problem in Diyarbakir, considering the studies conducted in other cities.

In 30 European countries on students between the ages 15-16, smoking prevalence in the last 30 days was examined and the highest percentages were found in Greenland (67%), Bulgaria and Russia (45%) (14). Smoking prevalence was 32.1% among in Greek students (15). It can be seen that the smoking prevalence of the students in Diyarbakır is lower than most of the students in the European countries.

In our study, the percentage of the students who had ever smoked cigarettes at least once is as high as 41.3%. According to the study conducted on 6-11 grade students in Bursa in 2000, the rate of lifetime cigarette use was found to be 38.9% (8), this ratio was 29.0% in Manisa (12). Result of both researches was similar to results obtained from our study. However, in The United States of America the frequency of lifetime cigarette use was reported as high as 63.9 ± 2.1% in 2001 (16).

We noticed that the mean age of first smoking was found as 11.8 year-old age in primary schools and 13.0-years-old age in high schools. This age was 13.2-years-old in Manisa, 13.3-years - old in Izmir, 15.0-years-old in Edirne (5,12,13). All these findings show that the mean age of first smoking is becoming increasingly lower and preventive programs against smoking should start at earlier ages.

It is seen that male students smoke cigarettes 3.5 times more than female students. In many studies conducted so far, it is reported that female students smoke less than male students and there are significant differences between the genders in terms of smoking (12,17). However, Göksel et al. did found no relation between genders and smoking habit (13). This may be a consequence of the socio-cultural differences between the regions. Significant differences are

observed in the European countries in cigarette smoking of students between the genders (18,19). While the prevalence of smoking is higher in males at ages 15 and above in the Eastern European countries, females consume more cigarettes than males in Western European countries (4).

In the present study, it was found that the risk of smoking prevalence was increasing with age. There are quite a number of studies which focus on this point (5,10,16,17,20). This shows that the transition from the primary school to high school with the increase of age and the level of grade systematically increases the frequency of trying and smoking cigarettes.

Children of parents who were well educated smoke less amounts of cigarettes. Similar findings were detected reaches carried out in Holland (21). In a study conducted in Portugal, however, it was found that as the education level of parents increased, prevalence of smoking became higher in students (20). No relationship between the family type and smoking was found. In the study conducted in Portugal, similar findings were obtained (20). Many studies show that lack of communication and conflicts within the family play a more significant role on smoking than the family type (22). Smoking habit is accepted as a normal behavior and effects person's status positively in some societies (23).

Adolescence is the period in which young people are the most affected by the society and the environment they live in, identification models, socio-cultural values and in which modeling plays a significant role in learning. Mother, father, siblings, teachers, friends, social leaders, sportsmen, artists and actors play significant role among the identification models (24). In the present study, a significant relationship could not be found between the smoking behavior of students and their mother, father and siblings. Smoking of siblings was found as an effective factor on smoking of students in some studies (12,13). In Portugal, it was determined that students, whose parents were smoking, use cigarettes 1.76 times more than the students whose parents did not smoke (20). Yorulmaz F et al.

Determined that students whose mothers were smoking, uses cigarettes 2155 times more than the students whose parents did not smoke (5).

Smoking of friend was found to have a very significant effect on students' smoking habit. Similar results were determined in several studies (13,17,24). A strong relationship between cigarette smoking and smoking of best friends was found a research carried out in six European countries (25). Smoking of the most closed friend was more effective than smoking of family member (26).

The teachers acts as a role model for students in many aspects Herken et al. found that teachers smoking had an effect on students smoking habits in their study done in Konya in the year 2000 (24). Teacher must support antitobacco programs to increase their success (27).

Smoking prevalence was found 13.3% in primary school students, 31.7% students attending a part time job and 43% working children who quit school before in Erbaydar's study (17) . As it is seen, having a part time job has a significant effect on students' smoking. Smoking risk was 7.13 times more in students who buy cigarettes from shop than others. Buying may increase interest on smoking. In a study conducted in Edirne, it was found that 84% of the students did not have any difficulties in buying cigarettes from shop (28).

A significant relationship was not found between the economic status of the families and cigarette smoking. Similar findings were reported in the studies by Yorulmaz et al (5). Langille et al. In their study in Canada, stated that low socioeconomic status had a relationship with risky attitudes (29). It was showed socioeconomic status is associated with substance use (cigarettes, alcohol, marijuana, and cocaine) among teenagers (30).

When the reasons for starting smoking are examined, they are mainly listed as distress and anxiety, family influence, desire-curiosity, friends' influence, family and school problems. The results of studies done in Manisa and Izmir were similar with our results (12,13). It can be figure out that from this smoking reasons decelerated by students, they smoke to attract the opposite sex, to create an image, to prove that they are grown-ups, to imitate their elders by smoking, to look like adults, curiosity, the desire to break the rules, failure in rejecting the offers of friends to smoke, desire to look like the people who are role models for them.

The interventions to be employed in order to prevent cigarette smoking among young people should embrace the whole society. Families should set good examples for their children by not using such substances and should educate them. Also the teachers should not smoke, in order to be good models at schools.

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