

Tobacco Epidemic Keeps Spreading Among Turkish Youth

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Abstract

Objective: This study was carried out to show Turkey's prevalence of tobacco use among 15-24 year olds, to evaluate passively the affected cases, to determine the tendency to quit smoking and to contribute to the development of effective interventions for young people.

Methods: In this study, Turkey Statistical Institute (TurkStat) Health Survey 2014 data, representing the whole Turkey population, and a stratified sampling method were used.

Results: The sample group represented the population in the age group of 15–24 years in Turkey (11,750,297 young people). Nearly one of five young people (18.5%) was a daily smoker. The percentage of male daily smokers was significantly higher than that of female daily smokers ($p < 0.001$). The initial age of smoking among males was 14.9 ± 3.19 years, whereas that of females was 16.3 ± 2.88 years; this difference was statistically significant ($p < 0.001$). The percentage of passive smoking among young males was significantly higher than among young females ($p = 0.028$). The number of daily smoking cigarette was higher among individuals who started smoking at an early age than among those who started at an older age ($p < 0.005$).

Conclusion: Descriptive and further analyses are showing that young people are at a risk for tobacco use and passive smoking despite the strong tobacco control law in our country. Young people who started smoking at earlier ages, smoke more numbers of cigarettes and do not want to quit. Stronger tobacco control activities for young people should be developed and implemented in the country.

Keywords: Epidemic, tobacco, Turkish youth

INTRODUCTION

The World Health Organization describes tobacco use as an epidemic that has spread worldwide, that results in the death of 6 million people every year, and that is considered the most severe health problem to have ever been encountered. One of two smokers dies because of tobacco use-related diseases (1).

Identity development begins with adolescence and continues until the age of 25 (2). This process of change is exploited by the tobacco industry (3). According to a research conducted by a tobacco company, 31% of smokers start smoking after the age of 18 and only 5% of them start after the age of 24 (4). Currently, in the place of every person who dies every day because of tobacco consumption, one of two adolescents or young adults becomes a smoker (5, 6). Researches show that starting tobacco smoking at an early age increases the possibility of severe addiction, making the period of smoking longer and quitting difficult. Starting tobacco smoking at an early age causes more severe health problems (3, 7-10). It is reported that in the United States, majority of adult smokers start smoking before the age of 18, and occasional smoking becomes a daily routine before the age of 26 (11). Researches performed in Europe demonstrate that tobacco consumption starts at adolescence and increases during the years of high school. Moreover, in recent years, different tobacco products have been used among young people (12-14).



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According to the Global Adult Tobacco Research (2012) conducted in Turkey, the percentage of tobacco consumption was 27.1% among adults aged >15 years. The same research shows that 33% of males and 7.4% of females in the age range of 15–24 years are smokers (9). According to the Global Youth Tobacco Research (2009) conducted in Turkey, the frequency of smoking was 9.4% and 3.5% for males and females, respectively, at the age of 11–13 years. These rates have increased to 10.2% for males and 5.3% for females in 2012 (15). These data prove that tobacco consumption is increasing despite the program of tobacco control in Turkey. According to local researches in Turkey, the rates of smoking change from 15.5% to 30.3% among secondary school students and from 24.1% to 45.4% among high school students. Researches with high school students show that students in higher grades and male students smoke more (16-21).

This study aimed to discuss the frequency of smoking and passive smoking among young people aged 15–24 years and their consistency to quit smoking. In addition, it aimed to contribute in designing effective actions for youth.

METHODS

This cross-sectional research represents the population of the country and enables general estimations for all the population. Stratification was used to select the sample, and the stratification criteria were determined to be urban/rural residence and has been determined according to the stratification of administrative regions. Residence stratification had three different groups, i.e., urban–urban, rural–urban, and rural–rural.

Two-stage stratified cluster sampling was used for stratification. At the first stage, clusters included 100 houses; a total of 974 clusters were selected from the country. At the second stage, sample addresses were determined using the systematic selection method, and 10 addresses in each of the 974 clusters were selected for determining the homogeneity coefficient. The study included 9740 addresses. The addresses were selected from the National Database of Addresses, updated in June 2014 (22). The data were collected and entered by the Turkish Statistical Institute, and the survey report was published as Turkey Health Survey 2014 (22).

The data included sociodemographic characteristics of young people such as gender, age, and educational and working status. Variables related to young smokers were smoking behavior, age, causes of starting tobacco smoking, trying to quit smoking, and exposure to passive smoking. The variables of passive smoking were entertainment venues visited by young people and their opinion regarding their exposure to passive smoking at these venues.

Variables of age and educational status were grouped by researchers. The age groups were 15–18 years and 19–24 years; the legal age for purchasing tobacco in the country was 18 years. The educational status was grouped using the basic level of schooling in the country, i.e., illiterate including illiterate, non-primary school graduate, primary school graduates including the first 5 years of schooling, secondary school graduates including the 8 years of schooling, and university including college graduates.

Statistical Analysis

The analyses of data were preformed using the Statistical Package for the Social Sciences (SPSS) for Windows version 21.0 software (SPSS

IBM Corp.; New York, USA). Weighting, as described in the guideline of the Turkish Statistic Institute, was applied to all analyses. In the analyses of the data, the percentage distributions of the variables, measures of centrality, and distribution (mean, median, standard deviation, and minimum and maximum values) were calculated. In the analysis of the variables, Student's t-test and Mann–Whitney U and Kruskal–Wallis non-parametric tests were used.

RESULTS

The sample population of the Turkey Health Survey represents 11,750,297 young people. Table 1 indicates the survey's projections of sociodemographic characteristics of the age group of 15–24 years according to the national population.

The population of male and female in the sample is almost the same. Almost half of the represented young people are primary school graduates, 29.2% are high school graduates, and 12.0% graduates. Among the young people, 27.6% currently have jobs with a regular income.

About one-fifth (18.5%) of the youth declared themselves as daily smokers. The percentage of male daily smokers was significantly higher than that of female daily smokers ($p < 0.001$). More than half of the smokers (65.5%) started smoking before the age of 16 years. Likewise, the percentage of males starting smoking at an early age was higher than that of females, and the difference was statistically significant ($p < 0.001$) (Table2).

The average initiation age of smoking among male smokers was 14.9 years (SD, 3.19), median age was 15 years, minimum age was 5 years, and maximum age was 23 years. Among female smokers, the ages were 16.3 years (SD, 2.88), 16 years, 6 years, and 23 years, respectively.

Table 1. Some sociodemographic characteristics of young people in the age group of 15–24 years according to the national population

	Number	Percent
Sex		
Male	5,876,593	50.0
Female	5,873,705	50.0
Age group, years		
15–18	5,222,746	44.4
19–24	6,527,552	55.6
Education status		
Illiterate	483,326	4.1
Primary school	684,888	5.8
Secondary school	5,739,907	48.8
High school	3,426,576	29.2
University and higher	1,415,602	12.0
Working status		
Working	3,242,321	27.6
Not working	8,507,976	72.4
Total	11,750,297	100.0

Table 2. Smoking behaviors of individuals in the age group of 15–24 years with respect to sex (Turkey, 2014)

	Male		Female		Total		P
	S	%	S	%	S	%	
Smoking status							
Daily	532	31.4	96	5.7	628	18.5	<0.001
Sometimes	103	6.1	62	3.7	165	4.9	
Quit smoking	173	10.2	127	7.5	300	8.9	
Never	886	52.3	1409	83.2	2295	67.7	
Total	1694	100.0	1694	100.0	3388	100.0	
Initiation age of smoking							
≤16 years	565	69.9	151	53.0	716	65.5	<0.001
Between 17 and 21 years	220	27.2	114	40.0	334	30.6	
≥21 years	23	2.8	20	7.0	43	3.9	
Total	808	100.0	285	100.0	1093	100.0	
Smoking cessation trial *							
Yes	263	46.3	57	47.9	320	46.6	0.751
No	305	53.7	62	52.1	367	53.4	
Total	568	100.0	119	100.0	687	100.0	
Exposure to passive smoking							
Almost not	1093	64.5	1166	68.8	2259	66.7	0.028
<1 h a day	296	17.5	255	15.1	551	16.3	
>1 h a day	305	18.0	273	16.1	578	17.1	
Total	1694	100.0	1694	100.0	3388	100.0	

* 67 smoker men and 39 smoker women did not answer this question
S: Participants in the survey

There was a statistical difference between the average initiation age of smoking among males and females ($p < 0.001$; $t, -6.336$) (Data are not given in the table).

Approximately one-third of the young people declared that they were exposed to tobacco smoke. The percentage of passive smoking among males was significantly higher than that among women ($p = 0.028$) (Table 2).

The frequency of daily smokers among young people in the age group of 19–24 years was found to be statistically much higher than that among young people in the age group of 15–18 years ($p < 0.001$). The percentage of male daily smokers (31.4%) was higher than that of female daily smokers (5.7%), and the difference was statistically significant ($p < 0.001$). While the age of starting to smoke decreased, the percentage of daily smokers increased; this correlation was found to be statistically significant ($p < 0.001$). Among all smokers, 74.4% smoked at home every day, and half of the occasional smokers did not smoke at home; the difference of smoking at home was statistically significant between daily smokers and occasional smokers ($p < 0.001$) (Table 3).

The number of cigarette smoked among daily smokers who started smoking at early ages was more than that among daily smokers who started smoking at later ages ($p < 0.05$) (Data is not given in the table).

For both sex and age groups, the first three reasons for first smoking were in the following order: curiosity, peer influence, and desire. Starting to smoke because of personal problems was more often reported by the older age group than by the younger age group (13.2% vs. 8.1%), and females rather than males mentioned more personal problems (15.8% vs. 10.5%). The variables of passive smoking were entertainment venues visited by young people and their opinion regarding their exposure to passive smoking at these venues (Table 4).

Males aged 19–24 years who attended at restaurants, patisseries, and cafes during the daytime declared that they were more exposed to passive smoking than females ($p = 0.019, 0.028, \text{ and } 0.004$, respectively); furthermore, males reported that they were more exposed to passive smoking at restaurants and patisseries than females ($p < 0.001$ and $p < 0.001$, respectively).

Females aged 15–18 years who attended at pubs during the daytime declared that they were passively more affected from tobacco smoke than females (for ages 15–18 years; $p = 0.001$ and $p < 0.001$ and for ages 19–24 years; $p < 0.001$ and $p < 0.001$) (Table 5).

DISCUSSION

This study was conducted by analyzing the data of the Turkey Health Survey 2014. The study was significant because it represented the age group of 15–24 years in Turkey.

Table 3. Young smokers classified by age group, sex, initiation of smoking, and smoking at home (Turkey, 2014)

	Daily Smokers				Total	P
	Yes		No			
	S	%	S	%		
Age groups*, years						
15–18	134	9.0	1371	91.0	1505	<0.001
19–24	494	26.2	1389	73.8	1883	
Total	628	18.5	2760	81.5	3388	
Gender*						
Male	532	31.4	1162	68.6	1694	<0.001
Female	96	5.7	1598	94.3	1694	
Total	628	18.5	2760	81.5	3388	
Initiation age of smoking*						
≤16 years	451	63.0	265	37.0	716	<0.001
Between 17 and 21 years	164	49.3	170	50.7	334	
≥21 years	13	30.2	30	69.8	43	
Total	628	57.5	465	42.5	1093	
Smoking at home**						
Everyday	467	74.4	1202	43.6	1669	<0.001
Once in a while	25	4.0	177	6.4	202	
Never	136	21.6	1381	50.0	1517	
Total	628	100.0	2760	100.0	3388	

*Row percentage; ** Column percentage

Table 4. Causes of young people starting to smoke according to the age group and sex (Turkey, 2014)

First smoking causes	Age groups, years		Sex		Total (N=1091)
	15–18 (N=283)	19–24 (N=808)	Male (N=806)	Female (N=285)	
Curiosity	75.0	69.4	71.3	69.8	31.0
Peer influence	61.4	59.7	61.7	55.8	26.2
Desire	57.6	54.0	56.7	49.9	23.9
Personal problems	8.1	13.2	10.5	15.8	4.8
Leisure	9.1	11.1	9.8	13.0	4.7
No special reason	10.9	9.4	9.4	11.1	4.0
Family issues	6.8	7.2	6.2	9.6	2.6
Family's and siblings' influence	2.9	4.2	3.0	6.1	1.6
Boyfriend/girlfriend's influence	2.3	2.2	2.4	1.6	1.0
Radio, TV, and media impact	0.7	0.2	0.4	-	0.1
	p=0.154		p<0.001		

*Row percentage; ** Column percentage

The process of identity development, which begins with adolescence and continues until the age of 25, should be examined because it is the period during which tobacco addiction mostly occurs. According to the results of the Global Adult Tobacco Survey (2012) and the Global Youth Tobacco Survey (2012), tobacco consumption among

the Turkish youth remains high and continues to increase according to some researchers. Some of the variables analyzed in this study were not examined in the Global Adult Tobacco Survey and the Global Youth Tobacco Survey. This study was planned considering that discussing the youth's tobacco consumption using the data, repre-

Table 5. Exposure to passive smoking among young people who visited entertainment venues with respect to the age group, sex, and day/night hours

	Male			Female			Total			p
	n*	S**	%	n	S	%	n	S	%	
Age group 15–18 years										
Day time										
Restaurant	493	74	15.0	361	58	16.1	854	132	15.5	0.673
Patisserie	414	49	11.8	271	33	12.2	685	82	12.0	0.893
Cafe	405	38	9.4	305	34	11.1	710	72	10.1	0.441
Coffeehouse	349	27	7.7	230	23	10.0	579	50	8.6	0.343
Bar	446	78	17.5	320	75	23.4	766	153	20.0	0.042
Other	379	72	19.0	250	49	19.6	629	121	19.2	0.851
Night										
Restaurant	263	56	21.3	100	6	6.0	363	62	17.1	0.001
Patisserie	226	46	20.4	75	2	2.7	301	48	15.9	<0.001
Cafe	148	27	18.2	108	16	14.8	256	43	16.8	0.469
Coffeehouse	137	24	17.5	85	8	9.4	222	32	14.4	0.095
Bar	308	41	13.3	237	28	11.8	545	69	12.7	0.602
Other	294	33	11.2	225	23	10.2	519	56	10.8	0.715
Age group 19–24 years										
Day time										
Restaurant	756	149	19.7	520	76	14.6	1276	225	17.6	0.019
Patisserie	684	127	18.6	409	55	13.4	1093	182	16.7	0.028
Cafe	580	85	14.7	418	36	8.6	998	121	12.1	0.004
Coffeehouse	516	71	13.8	328	31	9.5	844	102	12.1	0.061
Bar	662	172	26.0	428	93	21.7	1090	265	24.3	0.110
Other	616	165	26.8	358	69	19.3	974	234	24.0	0.008
Night										
Restaurant	479	124	25.9	127	7	5.5	606	131	21.6	<0.001
Patisserie	446	125	28.0	98	7	7.1	544	132	24.3	<0.001
Cafe	292	70	24.0	161	28	17.4	453	98	21.6	0.103
Coffeehouse	279	60	21.5	133	24	18.0	412	84	20.4	0.415
Bar	423	73	17.3	305	43	14.1	728	116	15.9	0.250
Other	412	52	12.6	284	33	11.6	696	85	12.2	0.692

*n, The number of people who visited entertainment venues; **S, The number of people who declared exposure to passive smoking

sending the entire population of Turkey, can contribute to the development of a tobacco control program.

In many countries, researches are conducted regarding the youth's tobacco consumption because it is a severe health problem. According to a research conducted in Russia, it was found that 15.8% of individuals who smoked on a regular basis were in the age group of 15–18 years and 41.4% were in the age group of 19–24 years (23). In the United States, for the age group of 15–18 years, the percentage of individuals who consumed any tobacco product was 24.5%, where as that of individuals who smoked cigarettes was 17.0% (24). In Iran, the rate of smoking was 0.3% for the age group of 15–19 years and 4.8% for the age group of

20–24 years (25). In Romania, 4.4% of males and 3.2% of females aged <25 years smoked (26).

In Poland, smoking frequency was 12.5% and 10.9% (27). In this study, among the young people who regularly smoked, 23.4% were in the age group of 15–24 years, 9.0% in the age group of 15–18 years, and 26.2% in the age group of 19–24 years. The results of this study, conducted with a sample that represented the population of the country, proved that Turkey is among the countries whose youth consume tobacco at high rates. Moreover, according to the Global Youth Tobacco Survey, the frequency of smoking in the age group of 13–15 year increased from 6.9% in 2009 to 8.4% in 2012 (15). Although the age groups do not resemble each other, this study shows

that the frequency of smoking increases in the 15-18 age group, indicating a serious problem among young people.

The smoking rates with respect to sex among adolescents change from country to country. According to a research in Europe, which included individuals in the age group of 15-16 years, the difference between sexes was insignificant in terms of smoking; in some countries, the smoking rate was even higher in females than in males (21). In this study, males started smoking at earlier ages and smoked more than females. This study was approved by the Global Adult Tobacco Survey and the Global Youth Tobacco Survey of Turkey. These different rates between sexes were similar in many countries worldwide (12, 25, 27, 28, 31).

It is found out that in Turkey, the frequency of daily smoking was high among individuals who started smoking at early ages ($p < 0.001$). Azagba et al. (31) reported a similar correlation between the age of trying or starting to smoke and the frequency of smoking. Researches have shown that those who start smoking at an earlier age smoke more cigarettes and the period of smoking is longer (7, 8, 32).

One-fifth of daily smokers declared that they did not smoke at home, implying that youth may tend to smoke with friends without the parents' knowledge. Another significant finding was that for both sexes, the first three reasons for starting to smoke were the same: curiosity, peer influence, and desire. This shows the importance of the influence of the social environment. In a survey conducted with medical school students in Samsun, 58 of 110 students (52.7%) who regularly smoked reported "environment and friends" as the first reason for starting to smoke (17). The three reasons mentioned above were declared as the main reasons in surveys conducted in the Universities of Ondokuz Mayıs, Afyon Kocatepe, and Süleyman Demirel (17, 33, 34). Communication technologies have become a part of our lives; and so there are many factors that intensify curiosity and desire when it comes to cigarette smoking, as in the immediate environment, in role models in society, in cyber games and media organs, or even in commercial advertisements that appear in racing cars (35). All these results indicate that the preceding factor for starting to smoke is the impact of social environment. Thus, we need to implement actions toward changing the social perception of tobacco consumption.

It was demonstrated that family support helps reduce tobacco consumption (36). In a survey conducted in Pakistan, 74% of smokers reported handling stress was the primary reason of smoking (37). Personal problems play a significant role in starting smoking and indicate that many young people fail to solve their problems. The period of adolescence demands psychological support because in this period, one needs to make many decisions regarding career, friendship, love, marriage, etc. (38). The youth need guidance during this period so that they do not find wrong solutions among their age groups. They need to have a sense of responsibility to make sound choices through which they can resist negative social pressures and avoid risky behaviors. To these ends, their skills of communication, empathy, cooperation, and of making sound decisions during critical times and handling stress need to be developed (39).

Surveys have shown that young people, especially women, are more exposed to tobacco smoke (40, 41). Young females aged <18 years who visit public places during daytime reported that they were more

exposed to tobacco smoke than young males. This may be because of the fact that women smoked less, and thus, experienced more discomfort. In addition, males consume more tobacco, the rate of males being passively influenced by the tobacco smoke was higher than that of females. Compared with females, males, aged both <18 years and 19-24 years, indicated that they were more often exposed to tobacco smoke in all environments. Among all public places, restaurants and cafes are the ones where people are more exposed to tobacco smoke. This fact may be considered as a warning sign that actions are required for tobacco control at public places that are visited by young people.

CONCLUSION

The results of this study are significant because it represents the general Turkish young people aged 15-24 years. It also demonstrates that more young males than young females consume tobacco and that they have a risk since an early age. Consistent with the literature, this study shows that those who start smoking at early ages smoke relatively more.

Effective interventions are required to improve the youth's life skills to prevent starting to smoke. Strong control strategies are required to monitor the influences of the tobacco industry.

Passive smoking remains an important public health problem in the country, particularly for young people. Stricter control strategies should be implemented by the government bodies to prevent tobacco epidemics among young people.

Ethics Committee Approval: The Turkey Health Survey has provided ethical permission; thus, there is no need for another ethical consent for the same study. This study is the secondary analysis of the data of the Turkey Health Survey conducted in 2014 by the Turkish Statistical Institute. Our request, including the aim of study and which variables are required, was accepted by the Turkish Statistical Institute, and the data and variables are given.

Informed Consent: This study is the secondary analysis of the Turkey Health Survey.

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