Research / Araştırma

Prevalence of Tobacco, Alcohol and Substance use Among Eskisehir Osmangazi University Students

Ali Dayi[1], Gulcan Gulec[2], Fezan Mutlu[3]

[1]Psychiatrist, Mus State Hospital, Department of Psychiatry, Mus - Turkey
[2]Assoc. Prof. Dr., Eskisehir Osmangazi University, Faculty of Medicine, Department of Psychiatry, Eskisehir - Turkey
[3]Prof. Dr., Eskisehir Osmangazi University, Faculty of Medicine, Department of Biostatistics, Eskisehir - Turkey

ABSTRACT
Prevalence of tobacco, alcohol and substance use among Eskisehir Osmangazi University students
Objective: This study aimed at researching the prevalence of tobacco, alcohol, and substance use and its relation with sociodemographic variables in Eskisehir Osmangazi University students.
Method: The study population consisted of 17676 students at Eskisehir Osmangazi University faculties and colleges. A total of 3141 students (17.76%) were reached using a cross-sectional layer method. The study was evaluated including 3114 people. A survey form was used to obtain the data.
Results: The prevalence of Eskisehir Osmangazi University students' lifelong cigarette use is 40.2%. It was determined that the prevalence of lifelong alcohol use is 60.8%, the prevalence of lifelong substance use except for tobacco and alcohol is 11.0%. This study found that tobacco, alcohol, and substance use are higher in males, in students living on their own, those having negative ideas about themselves and their future, those who are seeking excitement, and those with problems of anger control. In addition, it was determined that tobacco, alcohol, and substance use are higher in students whose family members and especially whose close environment use cigarettes, alcohol, and substances.
Conclusion: These risk factors need to be taken into account in the preparation of prevention programs. These programs are must be implemented among the youth before coming to university.
Keywords: Alcohol, prevalence, substance, tobacco, university

ÖZET
Eskişehir Osmangazi Üniversitesi öğrencilerinde sigara, alkol ve madde kullanım yaygınlığı
Amaç: Bu çalışmada, Eskişehir Osmangazi Üniversitesi öğrencilerinde Tütün, alkol ve madde kullanım yaygınlığı ve madde kullanımının sosyodemografik değişkenlerle ilişkisinin araştırılması amaçlanmıştır.
Yöntem: Çalışmanın evreni Eskişehir Osmangazi Üniversitesi fakülte ve yüksekokullarında okuyan 17676 öğrenciden oluşmaktadır. Kesitsel yöntem ile toplam 3141 öğrenciye (%17.76) ulaşılmıştır. Çalışma 3114 kişi üzerinden değerlendirilmiştir. Veri toplamak amacıyla bir anket formu kullanılmıştır.
Bulgular: Eskişehir Osmangazi Üniversitesi öğrencilerin yaşam boyu tütün kullanım yaygınlığı %40.2'dir. Yaşam boyu alkol kullanım yaygınlığı %60.8, yaşam boyu tütün ve alkol dışında madde kullanım yaygınlığı ise %11.0 olarak saptanmıştır. Bu çalışmada tütün, alkol ve madde kullanımının; erkeklerde, yalnız yaşayan öğrencilerde, kendilik algısı olumsuz olanlarda, geleceğe yönelik olumsuz düşünceleri olanlarda, heyecan arayanlarda ve öfke kontrolünde güçlük çekenlerde daha yüksek olduğu saptanmıştır. Ayrıca aile bireylerinin ve özellikle yakın çevresinde tütün, alkol ve madde kullanımı olan öğrencilerde de tütün, alkol ve madde kullanım yaygınlığının daha yüksek olduğu saptanmıştır.
Sonuç: Önleme programlarının hazırlanmasında bu risk faktörlerinin de dikkate alınması ve bu programların gençlere üniversiteye gelmeden önce uygulanması gerekmektedir.
Anahtar kelimeler: Alkol, yaygınlık, madde, tütün, üniversite

INTRODUCTION

Like everywhere in the world, addictive substance use is one of the relevant public health issues in Turkey. This problem is more serious in developed countries than in developing countries (1). It is known that the age of beginning to use tobacco, alcohol, and other psychoactive substances is usually adolescence or young adulthood (2).

While it is known that in the etiology of substance

use disorder, individual and environmental factors are effective, it is not entirely known what the ratio of this effect is. For an early beginning of addictive substance use, it is reported that environmental factors are effective, and all factors affecting personal development negatively are known to increase the disposition for addiction (3).

Addiction is a process, and a young person with an increased feeling of curiosity, despite reservations against substance use, may choose to try. As prevention programs are insufficient, access is easy, and publicity and distribution strategies are common, the age to start substance use continues to decrease (4).

As substance use is a serious, preventable public health problem, with adolescents and young adults being particularly at risk, establishing the variables affecting substance use in young people contributes to the development of prevention programs. Thus, our study aimed at determining the prevalence of tobacco, alcohol, and substance use among students of Eskisehir Osmangazi University, specify the factors affecting substance use, and establish relations between sociodemographic variables and use of addictive substances.

METHOD

The population of this study consisted of 17676 students at Eskisehir Osmangazi University attending faculties and vocational schools offering education of four years and above. The student list was obtained from the central student office of Eskisehir Osmangazi University. This study uses a cross-sectional approach. A study by Taner (5) among Bosphorus University students found rates of 66.5% for alcohol, 60.2% for cigarette, and 9.2% for cannabis use. We calculated the sample size for our study using Taner's (5) rate of 66.5% for alcohol use as a reference. Before calculating the sample size, it is first necessary to determine the acceptable difference (tolerance) between the parameter estimation from the study and the real parameters ($d=|\mu-\mu_0|$, $d=|\hat{\mu}-\mu|$, or $d=|\hat{P}-P|$). The tolerance range determined for the difference needs to be a small value, such as 2.0%, 3.0%, 4.0%, or 5.0%, depending on the

parameter size. Values 4.0% and 5.0% are often being accepted. In our study, we applied a tolerance range of 4.0%, resulting in a prevalence of alcohol use d=0.665x0.04=0.0266.

According to type 1 error margin $\alpha=0.001$, sample size for our study was calculated as $n=(NxPxQxz^2)/([N-1]xd^2)=(17676x0.665x0.335x3.28^2)/(17675x[0.0266]^2)=$ 3387 students. As the total number of students was 17676, a sample of 3387 represents a ratio of 0.19. By multiplying the student number in each faculty with this factor, we obtained the number of students from each faculty to participate in the survey. We reached a total of 3141 students using a cross-sectional method. In the Academy for Health, where the number of female students is higher than that of males, and in the faculties of Agriculture and Divinities, whose student numbers are small, we tried to reach all students.

Having obtained permission from the rectorate of Eskisehir Osmangazi University, the survey was conducted between April and June 2012. In meetings with the heads of departments in all faculties, we requested permission and made appointments to administer the survey in the most widely attended classes of the first, second, third, fourth, and in the Faculty of Medicine fifth and sixth years. Before carrying out the survey, we made a brief announcement to the students, explaining the scope of the study and informing them that they did not need to write their personal information, that the survey would be evaluated collectively, not individually, that participation was on a voluntary basis, and that the study was independent from the university administration or any other institution. After the announcement, the forms were handed out by the researcher; completing the forms took around 20 minutes, after which they were collected by the same researcher in random order. The study was approved by the Eskisehir Osmangazi University Ethics Committee.

Among the students included in the study 1781 were female and 1360 were male. Eleven of the participants reported having used the substance "relactine", inserted as a catch question, and were

thus excluded, as were 16 students who had provided insufficient information in the form. The study assessed 3114 persons, using a survey form.

The survey form was developed after reviewing the forms used in Taner's study conducted with Bosphorus University students in 2005 (5) and Guler's study made in 2008 with students in the preparatory year at Ege University (6). The form included 33 questions asking about participant's gender, age, year of study, faculty, high school they had graduated from, place of residence before coming to university, current housemates; self-perception of success in relation to classmates, parents' educational level, monthly household income, source income to cover educational costs, parents' state of health, understanding between parents, tobacco- or alcohol-using family members, presence of substance users in the close environment; own use of tobacco, alcohol, or substances during lifetime, last 1 year, and last 1 month; if so, frequency, amount of alcohol consumed in one session; if applicable, reason for alcohol/tobacco/substance use, age at first trial of the respective substance, source for substance, previous attendance at an information event about tobacco/alcohol/substances, and wish to participate in an information or prevention event about substance use.

In addition, the Fagerström Nicotine Addiction Scale (FNAS) was administered to smoking students. This is the most commonly used test for tobacco addiction, developed by Fagerström et al. (7) and studied for validity and reliability in Turkey by Uysal et al. (8). Based on the scores from this test, nicotine addiction was assessed in five groups as very low (0-2 points), low (3-4 points), medium (5 points), high (6-7 points), and very high (8-10 points). In our study, "substance" refers to all addictive substances other than tobacco and alcohol.

Statistical Analysis

In the data analysis, Mann-Whitney Test, Pearson chi-square analysis and, depending on ratio differences, t-test models were used. In addition, to compare demographic variables between students who did and did not use tobacco, alcohol, and substances, we applied binary logistic regression to statistically significant sociodemographic variables in order to estimate the relation between demographic variables and substance use. To test the binary logistic regression model and its appropriateness, the Hosmer and Lemeshow Test was applied. In performing statistical tests, the SPSS 18.00 package was used. Statistical results with p<0.05 were accepted as statistically significant.

RESULTS

Of the 3,114 students participating in the study, 57.0% (n=1775) were female, 43.0% (n=1339) male. Mean age was 21.36±1.88 years. Of the participants, 59.8% (n=1861) reported no tobacco use during lifetime, 34.1% (n=1061) current tobacco use, while 6.1% (n=192) had quit smoking (Table 1). According to the FNAS administered to tobacco-using students, 632 (59.5%; 20.3% of the general sample) were found to be very slightly addicted to nicotine with a score of 0-2 points, 171 students (16.1%, 5.5% of the general sample) were slightly addicted with a score of 3-4 points, 82 students (57.7%, 2.6% of the general

Table 1: Lifetime smoking in study group

Cigarette use	n=3114	%
Non-smoking	1861	59.8
Smoking	1061	34.1
Quit smoking	192	6.1

Table 2: Alcohol used in study group: Lifetime, last 1 year, and last 1 month

Alcohol use	Lifetime		Last 1 year		Last 1 month	
	n	%	n	%	n	%
Yes	1894	60.8	1729	55.5	1302	41.8
No	1220	39.2	165	5.3	536	28.3

sample) were moderately addicted with a score of 5 points, 118 students (11.1%, 3.8% of the general sample) were highly addicted with a score of 6-7 points, and 58 students (5.4%, 1.9% of the general sample) were very highly addicted.

Assessing the participating students regarding alcohol use, 60.8% (n=1894) reported use of alcoholic drinks, 39.2% (n=1220) had not used alcohol during lifetime. The distribution of alcoholic drinks use for lifetime, last 1 year, and last 1 month is shown in Table 2. For participants using alcohol, frequency of use is shown in Table 4 and number of standard units consumed in one session in Table 5.

Of the students participating in the study, 11.0% (n=348) had used at least one substance other than alcohol and tobacco during lifetime. Of those 348 persons, 251 (71.0%) had used only one substance during lifetime, while 97 persons (29.0%) had used more than one substance. Lifetime, last 1 year, and last 1 month substance use according to type of substance is shown in Table 3, reasons for participants' first trial of tobacco, alcohol, and substances in Table 6, age of first trial for students with lifetime tobacco, alcohol, and substance use in Table 7.

It was also found that 49.9% of the participants had attended various events giving information about

Table 3: Substance use during lifetime, last 1 year and last 1 month according to type of substance

Type of substance used	Lifetime		Last 1 year		Last 1 month	
	n	%	n	%	n	%
Cannabis	280	8.99	167	5.36	65	2.09
Ecstasy	25	0.80	7	0.23	2	0.06
Volatile substance	44	1.41	13	0.42	6	0.19
Heroin	3	0.09	2	0.06	1	0.03
Cocaine	16	0.51	4	0.13	2	0.06
Narcotic / stimulant pill	123	3.95	62	1.99	29	0.93

Table 4: Frequency of alcohol use among alcohol users in the study group

Alcohol use frequency	n=1894	%
Once per month or less	884	46.8
Once per fortnight	330	17.4
Once per week	314	16.6
2-3 times per week	209	11.0
Daily	28	1.5
No answer	129	6.8

Table 5: Number of units of alcohol consumed by alcohol users in the study group in one session

Number of units	n=1894	%
1-2	940	49.6
3-4	528	27.9
5-6	217	11.4
7-9	62	3.3
10 and more	24	1.3
No answer	123	6.5

*one standard unit=single shot of raki or vodka, one glass of wine, or one small can of beer (330 ml)

Table 6: Reasons for first use of cigarettes, alcohol, or substances among students in study group

	Cigarette		Alcohol		Substance	
	n=1253	%	n=1894	%	n=348	%
Curiosity	281	22.6	403	21.3	159	46.2
Wanting to feel better	148	11.8	160	8.4	61	17.6
To increase self-confidence	12	0.9	12	0.6	3	0.6
Because friends used/insisted	199	15.9	146	7.7	26	7.3
No particular reason	597	47.8	1143	60.3	96	27.7
Other	16	1.0	30	1.6	3	0.6

Table 7: First experience of students using cigarettes, alcohol, or substances during lifetime by age

	≤11 years		12-14 years		15-18 years		≥19 years	
	n	%	n	%	n	%	n	%
Cigarettes (n=1284)	103	8.2	193	15.0	714	55.6	274	21.2
Alcohol (n=1894)	91	4.8	232	12.3	1109	58.6	462	24.3
Volatile (n=44)	5	11.4	7	15.9	23	52.3	9	20.4
Cannabis (n=280)	0	0.0	6	2.1	101	36.1	173	61.8
Stimulant (n=123)	0	0.0	6	4.9	66	53.6	51	41.5
Ecstasy (n=25)	0	0.0	1	4.0	12	48.0	12	48.0
Cocaine (n=16)	0	0.0	0	0.0	4	25.0	12	75.0
Heroin (n= 3)	0	0.0	0	0.0	1	33.3	2	66.7

Table 8: Factors affecting smoking

	Reference	OR	95% CI	p
Male	Female	2.534	2.123-3.024	<0.001
Living in urban area	Living in rural area	1.261	1.042-1.527	0.017
Living with friends	Living with family	1.277	1.020-1.599	0.033
Living alone	Living with family	1.702	1.257-2.303	<0.001
Average sense of success	Above average sense of success	0.502	0.361-0.697	<0.001
Below average sense of success	Above average sense of success	0.687	0.492-0.960	0.028
Mother smoking	Mother not smoking	1.254	1.023-1.537	0.029
Sibling smoking	Sibling not smoking	1.760	1.447-2.141	<0.001
Father drinking alcohol	Father not drinking alcohol	1.488	1.197-1.848	<0.001
Substance use in close environment	No substance use in close environment	2.775	2.184-3.525	<0.001

OR: Odds Ratio, CI: Confidence Interval

tobacco, 40.1% about alcohol, and 41.9% about substance use, and 46.9% expressed an interest to participate in education or prevention events regarding the use of addictive substances.

Factors Affecting Tobacco Use

Among the participants, a lifetime prevalence of 40.2% for tobacco use was found. The ratio of tobacco use was higher among male participants (55.2%) than among females (29.0%) (χ^2=218.417, p<0.001). Tobacco use was statistically significantly higher in participants with a higher household income (z=-7.736, p<0.001), living in the city (χ^2=17.387, p<0.001), worse perception of success (χ^2=69.636, p<0.000), higher education level of mother and father (in the order χ^2=37.781, p<0.001, χ^2=21.210, p=0.002), funding themselves from different sources, including working (χ^2=41.386, p=0.001), living alone or with friends (χ^2=122.34,

p<0.001); mother (χ^2=25.341, p<0.001), father (χ^2=13.176, p<0.001), sibling (χ^2=56.337, p<0.001) using tobacco; mother (χ^2=31.109, p<0.001), father (χ^2=76.636, p<0.001) and sibling (χ^2=87.114, p<0.001) drinking alcohol, and with substance users in the close environment (χ^2=213.311, p<0.001). Risk factors affecting tobacco use according to logistic regression analysis are shown in Table 8.

Factors Affecting Alcohol Use

Among the participants, a lifelong prevalence of 60.8% for the consumption of alcoholic drinks was found, with a rate of 71.3% in males and 52.9% in females (χ^2=108.682, p<0.001). The lifelong prevalence of alcohol use was significantly higher in participants with a higher household income (z=-13.000, p<0.001), living in the city (χ^2=40.882, p<0.001), living on their own or with friends (χ^2=93.341, p<0.001), having a lower perception of success (χ^2=23.462, p<0.001),

higher education level of mother and father (in the order χ^2=237.134, p<0.001; χ^2=98.741, p<0.001), funding themselves from different sources, including working (χ^2=84.030, p<0.001), poor understanding between parents (χ^2=33.597, p<0.001); mother (χ^2=174.318, p<0.001) or father smoking (χ^2=24.151, p<0.001); mother (χ^2=148.811, p<0.001), father (χ^2=362.552, p<0.001) or sibling (χ^2=294.677, p<0.001) drinking alcohol, or presence of substance users in the close environment (χ^2=161.143, p<0.001).

Of the alcohol-consuming participants, 46.8%/ n=884) reported drinking once per month or less, 17.4% (n=330) once per fortnight, 16.6% (n=314) once per week, 11.0% (n=209) 2-3 times per week, 1.59 (n=28) daily. Of the participants consuming alcohol, 49.6% (n=940) reported drinking 1-2 standard units (SU) per session, 27.9% (n=518) 3-4 SU per session, 11.4% (n=217) 5-6 SU, 3.3% (n=62) 7-9 SU, 1.3% (n=24) 10 SU and above.

Risk factors for alcohol use according to logistic regression analysis are shown in Table 9.

Factors Affecting Substance Use

Lifelong substance use prevalence among the participants was 11.0%. The rate was 18.4% for male, 5.4% for female students (χ^2=133.203, p<0.001).

Substance use among participants was statistically significantly higher with high household income (z=-7.479, p<0.001), living alone or with housemates (χ^2=100.704, p<0.001), low perception of success (χ^2=60.861, p<0.001), father's education level below primary school or university (χ^2=24.029, p=0.001), mother's education level below primary school or high school and above (χ^2=43.782, p<0.001), self-funding through work (χ^2=23.785, p<0.001), poor understanding between parents (χ^2=25.191, p<0.001); mother (χ^2=31.867, p<0.001),

Table 9: Factors affecting alcohol use

	Reference	OR	95% CI	p
Male	Female	1.881	1.551-2.282	<0.001
Living in urban area	Living in rural area	1.462	1.197-1.784	<0.001
Living with friends	Living with family	1.293	1.018-1.642	0.035
Living alone	Living with family	2.263	1.565-3.272	<0.001
Mother's education ≥9 years	Mother's education ≤8 years	0.504	0.404-0.630	<0.001
Understanding between mother and father average	Understanding between mother and father above average	0.684	0.470-0.995	0.047
Mother smoking	Mother not smoking	2.339	1.853-2.954	<0.001
Sibling smoking	Sibling not smoking	0.715	0.576-0.888	0.002
Mother drinking alcohol	Mother not drinking alcohol	5.656	1.739-18.398	0.004
Father drinking alcohol	Father not drinking alcohol	2.583	2.012-3.318	<0.001
Sibling drinking alcohol	Sibling not drinking alcohol	5.214	3.717-7.314	<0.001
Substance use in close environment	No substance use in close environment	3.172	2.328-4.322	<0.001

OR: Odds Ratio, CI: Confidence Interval

Table 10: Factors affecting substance use

	Reference	OR	95% CI	p
Male	Female	1.948	1.406-2.699	<0.001
Living alone	Living with family	1.928	1.188-3.130	0.008
Average sense of success	Above average sense of success	0.463	0.295-0.727	<0.001
Below average sense of success	Above average sense of success	0.479	0.301-0.763	0.002
Understanding between mother and father average	Understanding between mother and father above average	0.558	0.345-0.903	0.018
Sibling drinking alcohol	Sibling not drinking alcohol	1.537	1.063-2.221	0.022
Substance use in close environment	No substance use in close environment	13.391	9.907-18.102	<0.001

OR: Odds Ratio, CI: Confidence Interval

father (χ^2=7.152, p<0.05) or sibling (χ^2=13.867, p<0.001) smoking; mother (χ^2=63.320, p<0.001), father (χ^2=51.494, p<0.001) or sibling (χ^2=70.957, p<0.001) drinking alcohol; presence of substance users in the close environment (χ^2=728.768, p<0.001). Asked about the source of the substance, 54% of the substance-using participants (n=188) reported peers, 31% (n=104) purchase, 13% (n=47) older friends, 2% (n=9) older sister or brother. Risk factors for substance use according to logistic regression analysis are shown in Table 10.

DISCUSSION

Relation Between Tobacco Use and Sociodemographic Variables

Studies conducted in Turkey report a prevalence of lifetime tobacco use for university students between 16.7 and 73.3%; prevalence of current tobacco use at the time of study was between 27.3 and 33.6% (2,5-14). Our result of a lifelong tobacco use rate of 40.2% and a current use of 34.2% is consistent with the results of other studies. The significant gender difference found in our study is also similar to that reported in other studies (13-16). Logistic regression analysis shows that the probability of tobacco use in males is 2.5 times higher than in females.

Our study found that city dwellers are 1.2 times more likely to use tobacco than those living in rural areas, which is similar to results from earlier studies (9,10,17,18). We may assume that the lower rate of tobacco use in rural areas may be related to the effect of social and cultural values. Like in studies conducted previously in Turkey (5,10,16,17), we found that the probability among our participants to use tobacco was high if they lived on their own; it was increased in those living alone or with friends compared to those living with their family. A study made with students of Kirklareli University found that living with friends was a risk factor for tobacco use (15).

Our results show that students with a perception of success below average are twice more likely, those with an average perception 1.5 times more likely to use

tobacco is similar to results from studies made at Mersin University and Ege University (6,19). Again similarly, a study from Sakarya University reported that tobacco use rates are higher in students who had to repeat a year (10). Comparing parents' education level between smokers and non-smokers, results of our study found a similarly significant difference as a study by Bugdayci (10) regarding the mother's education level and to Saracli's study (17) regarding the father's education. However, regression analysis showed that these differences did not increase the probability of tobacco use. Bugdayci (10) and Saracli (17) had used risk analysis in their studies.

Results regarding the relation between mother's, father's, or siblings' use of tobacco and the smoking status of the participant are contradictory (6,17,19,20). Our study found that students whose mothers smoked were 1.2 times more likely to use tobacco, those whose siblings smoked 1.76 times. Similar to the smoking status, Guler (6) found that tobacco use in participants whose mother, father, or sibling consumed alcohol was significantly elevated. Tot et al. (19) reported a significant or close relation between father's alcohol use and participant's tobacco use, while no relation was found between mother's alcohol consumption and participant's smoking. The result of Saracli's (17) study was similar to that of our study. We found a statistically significant difference for all three variables, but only the father's alcohol use increased the probability of the student's smoking. Finally, according to our findings, the presence of a person using substances other than tobacco and alcohol in the close environment increases the probability of tobacco use 2.7 times, which suggests that the child's tobacco use is affected by the use of addictive substances in the family and surrounding role models and by the acceptance of using addictive substances displayed within the family.

Relation Between Alcohol Use and Sociodemographic Variables

Studies with university students in various countries found lifetime alcohol use rates such as 89% in England

(21), 51.9% in Kenya (22), 60.9% in Canada (23), or 86.2% in Brazil (24). Studies in Turkey made with university students found lifetime alcohol use rates ranging between 48.2% and 65.5% (3,5,6,10,17,25).

We found that for city dwellers the likelihood to use alcohol was 1.46 times higher than in the countryside; we may assume, like in other studies (6,17), that the easier availability of alcoholic drinks in cities and greater acceptance of their consumption can have contributed to this result. Our results were similar to those from studies made at Sakarya University (10) and Ege University (6), finding the following ranking of lifetime alcohol use: 80.0% of students living on their own, 64.3% of students sharing accommodation with friends, 55.7% living with their family, and 54.3% living in student dorms were drinking alcohol. Logistic regression analysis showed that living on their own or with friends significantly increased the rate of alcohol use. According to these results, it may seem that living with the family can have a protective effect for alcohol use. However, while the rate of alcohol use among our participants living with family members was lower than in studies from Bosphorus University (5) and Ege University (6), it was higher than the rate in studies from Sakarya University (10) and Zonguldak University (17). This may be an effect of family members drinking alcohol and the prohibition of alcohol consumptions in dormitories. However, considering that in our study 54% of students living in dormitories, a high rate, were drinking alcohol and in studies from Ege and Bosphorus Universities the rate of alcohol users living in dorms was also high, we may say that restrictions can reduce alcohol use but on their own are not sufficient.

Our study found that the mother's education level of 9 years and above increased the probability of alcohol use around 2 times. In a study by Ulukoca et al. (15), the mother's high education level was found to be a risk factor for alcohol use. Tot et al. (19) reported that alcohol use was higher in cases where the mother smoked or drank alcohol and the father used alcohol. Guler (6) and Saracli (17) reported in their studies that alcohol use increased statistically significantly with paternal alcohol use, tobacco use, mother's alcohol use, tobacco use, and with substance use in the environment. Bugdayci (10) reported a relation between study subjects' alcohol use and maternal as well as paternal alcohol use. Our study found an increase in alcohol use by 2.3 times with the mother smoking, 5.6 times with the mother drinking alcohol, 5.2 times with a sibling using alcohol, 2.5 times if the father drank alcohol, and 3.1 times if in the close environment someone other than a family member used substances. We may assume that use of addictive substances in family or close environment is a risk factor for alcohol use as it is for tobacco use. This may be explained by the easy availability of alcohol, the role model offered by family members, reinforcement of alcohol use by family and close environment, or at least lack of discouragement. In addition, in our study an average understanding between students' parents increased the alcohol use probability but not the use of tobacco. In the study by Ulukoca et al. (15), the level of intrafamilial relations was also found to be a risk factor for alcohol use.

Relation Between Substance Use and Sociodemographic Variables

A study conducted in Brazil (24) reported a lifetime substance use prevalence of 48.7%, in England 59% (21), in Canada 47.4% (27). Studies conducted in Turkey showed a lifetime prevalence of substance use between 2.5 and 10.4% (5,6,9,10,15-17,28). Our study found a similar lifetime prevalence of substance use of 11.0%. According to our study, living alone rather than with the family increased the substance use probability as it did for tobacco and alcohol use. At the same time, an average or less-than-average understanding between the parents also increased the likelihood of substance use.

A study from Ege University reported a high prevalence of substance use in students whose mother, father, or sibling used alcohol or in whose environment there were substance users (6). A study from Zonguldak University reported a higher prevalence of substance use in students with alcohol use in their family and substance use in their environment (17). A study from Bosphorus University found a relation between

students' substance use and their mother's smoking, familiar alcohol use and substance use in the social environment (5). Our study found an increase in the likelihood of substance of by 1.5 times with siblings using alcohol and by 13.3 times if substance use was present in the close environment. However, in contrast to alcohol use, neither the mother's level of education nor parents' tobacco or alcohol use increased the probability of substance use. According to studies conducted with university students in Turkey as well as our study, it can be said that substance use in the social environment is an important risk factor for substance use. In addition, alcohol use by family members may be a risk factor for substance use.

Among the limitations of our study, we need to point out that participation was on volunteer basis, and among the students refusing to participate, there may have been substance users; forms may also not have been filled in correctly. Despite these limitations, given that our study has been conducted with a significant sample size, it offers data about legal and illegal substance use in youths, an important public health problem.

In the preparation of prevention programs, it is necessary to pay attention to factors increasing the probability for tobacco, alcohol, and substance use and to provide information about addictive substances right from primary school age. In our study, we have seen that the age of first trial of tobacco and alcohol was usually before starting university, whereas substance use in the great majority of cases began during the university years. In the efforts towards informing the youth, education should be planned according to these differences and information given to university students should not be neglected, especially emphasizing the problem of illegal substances.

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