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Waterpipe, Cigarette, and Tobacco Products Smoking Among University Students: A Cross-Sectional Study

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Main Points

- The highest percentage of tobacco and tobacco product users was observed in the Faculty of Engineering and Natural Sciences.
- The highest percentage of those who did not use tobacco or any tobacco products was in the Faculty of Medicine.
- Students in the study mainly started smoking during adolescence and under the influence of their friends.

Abstract

Tobacco and waterpipe use among university students is a growing public health concern in our country and globally, as it can lead to serious health consequences. The aim of this study is to examine the percentage of tobacco and tobacco products use among university students and the relationship between the percentage of use and their demographic characteristics. A cross-sectional study was conducted using social and electronic media platforms by delivering a pre-formed and validated online questionnaire among university students between January and February 2021 with the voluntary participation of 1282 students from Üsküdar University. Among these, 1254 participants who gave correct answers to the control questions asked in the study were used for evaluation. The collected data were then analyzed with Statistical Package for the Social Sciences Statistics 22 software package to evaluate various parameters of the respondents. The questionnaire was designed to collect data about students' sociodemographic characteristics and tobacco habits. The percentage of tobacco use among Üsküdar University students was 28% (cigarettes, 23%; waterpipe, 3.5%; and cigarettes and waterpipe, 11.2%). It was found that 52.8% of males and 76.8% of females did not use any tobacco products. The mean age of students was 20.81 ± 3.01 years. The highest percentage of tobacco and tobacco products users was in the Faculty of Engineering and Natural Sciences with 28.7% and the highest percentage of those who did not use tobacco or any tobacco products was in the Faculty of Medicine with 81.8%. According to the results of this study, the use of tobacco and tobacco products was higher in males. At the same time, it was determined that smoking was more common than waterpipe use.
Keywords: Attitudes, knowledge, students, tobacco, waterpipe

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Introduction

Tobacco use is one of the leading causes of preventable deaths worldwide and is a risk factor that can change the global increase in non-communicable diseases (World Health Organization [WHO], 2008; WHO, 2015). According to the data from the World Health Organization (WHO), it is estimated that tobacco use will be responsible for more than 8 million deaths by 2030 and that it is a major risk factor for cardiovascular and pulmonary diseases (El-Zaatari et al., 2015; Tucktuck et al., 2017; WHO, 2008). According to the WHO, it is estimated that tobacco use causes more than 7 million deaths and billions of dollars in damage worldwide (WHO, 2017). Tobacco-related deaths are also important for the world economy (Nasser et al. 2020).

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In recent years, a number of studies have been published on the pathogenesis of smoking-related cardiovascular diseases. Studies have reported that myocardial infarction, stroke, and sudden cardiac death are more common in smokers (Rezk-Hanna et al., 2018). Most of the risk of cardiovascular disease arises from inhalation of tobacco combustion products. Carbon monoxide reduces oxygen delivery to the heart, exacerbating ischemia and increasing red blood cell mass and blood viscosity. This supports the formation of thrombosis (Widysanto et al., 2023). Nicotine causes the release of dopamine as well as neurotransmitters such as norepinephrine, acetylcholine, serotonin, GABA (Gamma Amino Butyric Acid), glutamate, and endorphins. These neurotransmitters cause a variety of responses and behaviors after nicotine is ingested. When exposed to nicotine, tolerance develops against the physiological effects of nicotine (Derefinko et al., 2018; Rao et al., 2018).

Nicotine from tobacco products causes arousal in the brain and a decrease in feelings of stress and anxiety. Smoking can increase concentration, reaction time, and performance. However, nicotine withdrawal symptoms occur when smoking is stopped. Withdrawal symptoms may manifest as irritability, depression, anxiety, inability to socialize, increased appetite or cravings for food, and insomnia. If nicotine withdrawal is not treated in habitual tobacco users, it can produce symptoms of similar intensity to psychiatric disorders (Widysanto et al., 2023).

The use of tobacco and tobacco products usually begins and continues during adolescence. University students, on the other hand, start to use tobacco and tobacco products when they encounter problems at the beginning of their university education related to leaving home and family, adapting to a different environment, education, and living conditions (Gerçek et al., 2010; Süngü, 2014). Among the various factors influencing smoking initiation among university students are the desire to prove oneself, socialize with friends, satisfy curiosity, and imitate others. These motivations play a pivotal role in triggering the desire to start smoking (Akan et al., 2010; Koca & Oğuzöncül, 2015; Vatansev et al., 2019).

Besides smoking, waterpipe (also known as hookah or shisha) use has become popular among university students (Maziak et al., 2004, 2015; Daradka et al., 2019). This rise in the popularity of waterpipe is due in part to the misconception that waterpipe filters smoke and makes it less harmful than other forms of tobacco use (Akl et al., 2015). Waterpipe tobacco smoke contains polycyclic aromatic hydrocarbons, which can cause lung tumors and toxic aldehyde compounds that cause lung inflammation, high levels of carbon monoxide, which can cause cardiovascular diseases, and carcinogens, including nicotine, which can cause addiction (Cobb et al., 2014). Therefore, waterpipe use can cause cancer, lung diseases, cardiopulmonary disease, addiction, and other diseases (Eissenberg & Shihadeh, 2009; Khabour et al., 2016). For this reason, since waterpipe use threatens public health, effective policies should be implemented to control it (Daradka et al., 2019; Khabour et al., 2012).

The tobacco industry's targeted marketing strategies toward young people should not be overlooked when discussing smoking behaviors. The marketing, advertising, and packaging in which smoking is portrayed as a glamorous or challenging activity are intended to appeal to the younger generation. These strategies have the potential to significantly alter how young people view and feel about smoking. (Henriksen, 2012). In order to protect young people from the manipulation of the tobacco industry, it is essential that policymakers and health organizations work together to counter these marketing strategies and introduce more stringent legislation.

This study was conducted to investigate the habit of using tobacco and tobacco products [electronic cigarette (liquid), waterpipe, and electronic waterpipe] among Üsküdar University students.

Methods

Study Design and Data Collection

A cross-sectional study was conducted between January 2021 and February 2021 by using an online questionnaire created on Google Forms. The language of the questionnaire was Turkish. This form was created to assess the use habits of tobacco and tobacco products among students. While creating the form, the research conducted by Nasser et al. among university students in 2019 was used (Nasser & Zhang, 2019). The questions were adapted and updated based on the questionnaire developed by Nasser et al. in 2019, and additions and deletions were made as needed for our survey. The study was conducted according to the guidelines of the Declaration of Helsinki and approved by the Research Ethics Committee of Üsküdar University (61351342/2020-578, approval date 26/11/2020). All participants gave informed consent before answering the questionnaire. The questionnaire was administered to undergraduate and associate degree students from three faculties and one Vocational Higher School at Üsküdar University. Two of the faculties and the vocational schools participating in the study were in the field of health disciplines (Faculty of Medicine, Faculty of Health Sciences, and Vocational Higher School of Health) and one of them was outside of this field (Faculty of Engineering and Natural Sciences). There was no class requirement for the students to participate since the Faculty of Medicine is a newly opened faculty; first- and second-year students participated in the study. The faculties and school were chosen both in the field of health and outside the field of health in order to compare the percentages of tobacco product use among students according to their fields of study. The participants of the questionnaire were undergraduate and associate degree students at Üsküdar University. A total of 1282 students voluntarily participated in the study with the sharing of class representatives and departments in the universe of 13,125 students. The participation rate is 9.77%. Participants were reminded once about the survey. In order to avoid re-answers, it was ensured that the questionnaire was filled out once from each device. Participants were informed that the data collected would be used for academic purposes and were required to provide informed consent before starting the survey. To measure the accuracy of the answers on the questionnaire, six control questions were included. In the control questions, the participants were asked to mark the answer given in the question. Each control question was periodically asked differently, and it was observed whether the participants read the questions carefully. Twenty-eight students gave incorrect answers to these control questions and were excluded from the study. As a result, the study was concluded with 1254 students, achieving an accepted response percentage of 97.82%. The questionnaire comprised 5 sections and a total of 56

questions, including multiple-choice and open-ended questions. The first section (eight questions) had common questions about the sociodemographic characteristics of students (age, gender, faculty/school, education level, marital status, place of residence, and use of tobacco and tobacco products). In the next section, students were asked different questions based on their habits of using tobacco products. The study was conducted over four different scenarios: using cigarettes, using waterpipe/electronic waterpipe, using both cigarettes and waterpipes/electronic waterpipes, and using neither tobacco nor tobacco products. In this way, each student answered questions according to their habits.

Statistical Analysis

The study was conducted to investigate the use of tobacco products by Üsküdar University students. In this context, students' use of cigarettes, waterpipes, and both cigarettes and waterpipes were examined. For this purpose, students' age at starting tobacco products, their daily use, attempts to quit, the person they smoked with for the first time, the longest duration of abstinence from smoking, and help-seeking behaviors for quitting tobacco products were examined. Descriptive statistics were represented by frequency and percentage values, and chi-square analysis was used to examine the relationship between categorical variables. In distributions where the expected value in any cell in the chi-square distribution was less than 5, only the frequencies and percentages were interpreted. Independent samples *t*-test and/or Wald test were used to compare the monthly expenditures of students on tobacco products according to their tobacco use status. The results of the independent samples *t*-test were evaluated in cases where the assumption of the homogeneity of variances was met, and in cases where it was not met, the results of the Wald test were evaluated. The Statistical Package for the Social Sciences Statistics 22 (IBM SPSS Corp.; Armonk, NY, USA) software package was used in the analysis of the data, and the level of significance was determined as $\alpha = .05$.

Results

Table 1 shows statistics about the descriptive characteristics of participants. Of the 1254 university students who participated in the study, 77.2% were female and 22.8% were male. Students in the study were from the faculty of engineering and natural sciences (13.3%), the faculty of health sciences (34.4%), the faculty of medicine (4.4%), and the health vocational higher school (47.9%). The majority of students (97.8%) were single, 46.6% were first-year students, and 37.5% were second-year students. The majority of students were living with their families (85.1%). Regarding tobacco use, 71.3% were found to not use cigarettes or waterpipes, while 23% used cigarettes, 2.1% used waterpipes, and 3.7% used both cigarettes and waterpipes.

Eight hundred ninety-five students who participated in the study stated that they did not use any tobacco products. While 9.8% of these students stated that they had smoked before, 57% of them stated that they smoked/tried even once. About 46.8% of those who do not use tobacco products stated that they have smoked or tried waterpipe even once (not included in the tables).

Table 2 shows the findings of the chi-square analysis regarding the tobacco use status of students according to their sociodemographic characteristics. There was a significant relationship between tobacco use and gender ($\chi^2 = 93.237$, $p < .001$). The percentage of smoking was found as 32.5% in males and 20.1% in females. The percentage of waterpipe/electronic waterpipe use was found as 3.5% in males and 1.7% in females. The percentage of both cigarette and waterpipe use was 11.2% in males and 1.4% in females. While the percentage of those who did not use any tobacco products was 52.8% in males, it was 76.8% in females.

Table 1.
Descriptive Statistics of Participants

	n	%
Gender		
Female	968	77.2
Male	286	22.8
Faculty		
Faculty of Engineering and Natural Sciences	167	13.3
Faculty of Health Sciences	431	34.4
Faculty of Medicine	55	4.4
Health Vocational Higher School	601	47.9
Marital status		
Single	1226	97.8
Married	28	2.2
School year		
1	584	46.6
2	470	37.5
3	111	8.9
4	89	7.1
Place of residence		
Family home	1067	85.1
Hostel/dormitory	65	5.2
Alone/sharing a house with friends	122	9.7
Use of tobacco		
Cigarettes	288	23.0
Waterpipe/electronic waterpipe	26	2.1
Cigarettes and waterpipe/electronic waterpipe	46	3.7
Non-smoker	894	71.3
Age	20.81 ± 3.01	
Total	1254	100.0

The engineering and natural sciences faculty (28.7%) and health vocational higher school (26%) had the highest smoking percentage, while the lowest smoking percentage was found in the faculty of medicine (12.7%).

When tobacco use was examined according to the school year, it was seen that as the school year increased, the percentage of smoking also increased, while the percentage of both cigarette and waterpipe use decreased. The percentage of those who did not use any tobacco products decreased as the school year increased.

Table 2.
Students' Tobacco Use According to Their Sociodemographic Characteristics

	Tobacco Use										
	Cigarettes		Waterpipe		Cigarettes and Waterpipe		Nonsmoker		Total		
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	χ^2
Gender											93.237[a]***
Female	195	20.10	16	1.70	14	1.40	743	76.80	968	100	
Male	93	32.50	10	3.50	32	11.20	151	52.80	286	100	
Faculty											[b]
Faculty of Engineering and Natural Sciences	48	28.70	6	3.60	20	12.00	93	55.70	167	100	
Faculty of Health Sciences	77	17.90	5	1.20	8	1.90	341	79.10	431	100	
Faculty of Medicine	7	12.70	0	0.00	3	5.50	45	81.80	55	100	
Health Vocational Higher School	156	26.00	15	2.50	15	2.50	415	69.10	601	100	
Marital status											[b]
Single	280	22.80	26	2.10	45	3.70	875	71.40	1226	100	
Married	8	28.60	0	0.00	1	3.60	19	67.90	28	100	
School year											[b]
1	129	22.10	11	1.90	24	4.10	420	71.90	584	100	
2	105	22.30	11	2.30	16	3.40	338	71.90	470	100	
3	27	24.30	3	2.70	4	3.60	77	69.40	111	100	
4	27	30.30	1	1.10	2	2.20	59	66.30	89	100	
Place of residence											[b]
Family home	226	21.20	21	2.00	33	3.10	787	73.80	1067	100	
Hostel/ dormitory	17	26.20	0	0.00	1	1.50	47	72.30	65	100	
Alone/ with friends	45	36.90	5	4.10	12	9.80	60	49.20	122	100	
Total	288	23.00	26	2.10	46	3.70	894	71.30	1254	100	

Note: [a]Pearson chi-square (χ^2) value.
[b]The chi-square value could not be calculated because the expected value in the cells was less than 5.
***$p < .001$.

When the tobacco use of students was examined according to the place of residence, the highest percentage of smoking was seen in those living alone or with friends at 36.9%, while the lowest percentage was in those living with their family at 21.2%. While waterpipe use was mostly seen in students staying alone or with friends at a percentage of 4.1%, it was not seen in those living in dormitories at all. The use of both cigarettes and waterpipe was mostly seen in those living alone or with friends at 9.8%, while the lowest percentage was in those living in dormitories at 1.5%.

Table 3 shows the results of the chi-square analysis conducted to compare the cigarette, waterpipe, and cigarette and waterpipe use of students with their sociodemographic characteristics.

According to the age of starting smoking, there was a significant relationship between the use of cigarettes and the use of cigarettes and waterpipes ($\chi^2 = 7.033$; $p < .05$). While 58.33% of students who smoked only cigarettes and 41.3% of those who smoked both cigarettes and waterpipes started smoking between the ages of 14 and 18, 10.07% of those who smoked only cigarettes and 21.74% of those who smoked both cigarettes and waterpipes started smoking before the age of 14. In other words, it is seen that those who smoked both cigarettes and waterpipes started smoking at a younger age.

The highest number of cigarettes smoked daily was 1 – 5 (37.15%) in students who only smoked cigarettes, while it was 11 – 20 (34.78%) in students who both smoked cigarettes and waterpipes. It is seen that the number of cigarettes smoked per day was higher in those who smoked both cigarettes and waterpipes.

Regarding the person with whom students smoked for the first time, 68.75% of those who only smoked cigarettes and 56.52% of those who smoked both cigarettes and waterpipes were found to have experienced it with a friend. It is seen that the percentage of smoking the first cigarette alone was higher in those who smoked both cigarettes and waterpipes.

There was a significant relationship between smoking cigarettes and smoking both cigarettes and waterpipes according to the

Table 3.
Distribution of Students in Terms of Smoking

	Smoking Only Cigarettes		Smoking Both Cigarettes and Waterpipes			
	n	%	*n*	%	χ^2/t	*p*
Age at onset of smoking						
<14	29	10.07	10	21.74	7.033[a]*	.030
14 – 18	168	58.33	19	41.30		
>18	91	31.60	17	36.96		
Number of cigarettes smoked a day						
1 – 5	107	37.15	15	32.61	[b]	
6 – 10	82	28.47	12	26.09		
11 – 20	68	23.61	16	34.78		
One package and/or more	31	10.76	3	6.52		
Are you addicted to smoking?						
Yes	164	56.94	23	50.00	.776[a]	.425
No	124	43.06	23	50.00		
Have you ever tried to quit smoking?						
Once-twice	102	35.42	14	30.43	.440[a]	.803
≥3 times	71	24.65	12	26.09		
Never	115	39.93	20	43.48		
Who did you smoke your first cigarette with?						
Friend	198	68.75	26	56.52	[b]	
Family	11	3.82	3	6.52		
Alone	79	27.43	17	36.96		
The longest duration of smoking abstinence						
1 – 7 days	132	45.83	22	47.83	6.091[a]*	.048
1 week – 3 months	88	30.55	7	15.22		
≥3	68	23.61	17	36.96		
Did you get help to quit smoking?						
Yes	26	9.03	5	10.87	22.460[a]***	.000
Yes, and I accept help.	143	49.65	6	13.04		
No, and I do not accept help.	119	41.32	35	76.09		
Do you use electronic cigarettes (liquid)?						
Yes	4	1.39	14	30.43	[b]	
I used to/tried.	85	29.51	22	47.83		
No	199	69.10	10	21.74		
Monthly expenditure on tobacco products (TL)	257.46 ± 213.90		325.67 ± 304.59		−1.882[c]	.150
Total	288	23.0	46	100.00		

Note: [a]Pearson chi-square (χ^2).
[b]The chi-square value could not be calculated because the expected value in the cells was less than 5.
[c]Wald test *t* value.
*$p < .05$.
**$p < .01$.

longest duration of smoking abstinence ($\chi^2 = 6.091$, $p < .05$). While it was observed that the majority of students in both groups avoided smoking within the range of 1 – 7 days at most, it was observed that the length of smoking abstinence between 1 week and 3 months was higher in students who smoked only cigarettes and that the percentage of those who did not smoke for 3 months, or more, was in the group that smoked both cigarettes and waterpipes.

There was a significant relationship between smoking cigarettes and smoking both cigarettes and waterpipes according to the status of getting help for quitting smoking ($\chi^2 = 22.460$, $p < .001$). While the percentage of students who got help for quitting was very close in both groups, 49.65% of those who smoked only cigarettes stated that they could get help. This percentage dropped to 13.04% in those who smoked both cigarettes and waterpipes. The percentage of those who stated that they would not accept help was 41.32% in those who smoked only cigarettes, and 76.09% in those who smoked both cigarettes and waterpipes. In other words, it is seen that those who smoked both cigarettes and waterpipes had a lower percentage of considering getting help to quit smoking.

The use of electronic cigarettes (liquid) was 1.39% in students who smoked only cigarettes and 30.43% in those who smoked both cigarettes and waterpipes. Similarly, the percentage of those who did not use electronic cigarettes was higher in those who smoked only cigarettes. In other words, it is seen that those who smoked both cigarettes and waterpipes were more prone to using electronic cigarettes.

Table 4 presents the results of the chi-square analysis conducted to compare the students' waterpipe use and waterpipe and cigarette use according to the waterpipe use characteristics.

According to the age at onset of smoking waterpipes, 7.69% of those who only smoked waterpipes were found to start it before

Table 4.
Distribution of Students Who Smoked Waterpipes

	Smoking Only Waterpipes		Smoking Both Cigarettes and Waterpipes		
	n	**%**	***n***	**%**	χ^2/t
Type of waterpipe used[a]					
Waterpipe	26	100.00	38	82.61	[b]
Electronic waterpipe	0	0.00	23	50.00	
Age at onset of waterpipe smoking					
<14	2	7.69	10	21.74	[b]
14 – 18	15	57.69	35	76.09	
>18	9	34.62	1	2.17	
Places of waterpipe smoking[a]					
School	0	0.00	7	15.22	[b]
Cafe/restaurant	16	61.54	42	91.30	
Home	19	73.08	21	45.65	
Frequency of waterpipe smoking					
Several times a week	6	23.08	15	32.61	.731[c]
Several times a month	20	76.92	31	67.39	
People with whom waterpipe is smoked[a]					
Friends	23	62.16	38	82.61	[b]
Family	7	18.92	1	2.17	
Alone	7	18.92	7	15.22	
Are you addicted to waterpipe smoking?					
Yes	1	3.85	7	15.22	[b]
No	25	96.15	39	84.78	
Did you get help for quitting waterpipe?					
Yes	0	0.00	5	10.87	[b]
No, but I would accept it.	8	30.77	6	13.04	
No, and I would not accept it.	18	69.23	35	76.09	
Monthly expenditure (TL)	54.81 ± 54.14		325.67 ± 304.59		−5.870***[d]
Total	26	100.00	46	100	

Note: [a]Items with multiple selection.
[b]The chi-square value could not be calculated because the expected value in the cells was less than 5.
[c]Pearson chi-square (χ^2) value,
[d]Wald test *t* value.
***$p < .001$.

the age of 14, and 57% of them started between the ages of 14 and 18. On the other hand, 21.74% of those who smoked both cigarettes and waterpipes started it before the age of 14, and 74.09% of them started between the ages of 14 and 18. In other words, it is seen that those who smoked both cigarettes and waterpipes started smoking waterpipes much earlier.

Regarding the places where waterpipe is smoked, it was found that while 73.08% of the students who smoked only waterpipe used them at home, 91.30% of those who smoked both cigarettes and waterpipes used them in restaurants and cafes.

It is seen that the majority of students who smoked only waterpipes and those who smoked both cigarettes and waterpipes smoked waterpipes with their friends.

When the status of being a waterpipe addict was examined, 3.85% of those who smoked only waterpipes and 15.22% of those who smoked both cigarettes and waterpipes considered themselves addicted. In other words, it is seen that the addiction percentage was higher in students who smoked both cigarettes and waterpipes.

When the status of getting help for quitting waterpipe smoking was examined, 30.77% of waterpipe users stated that they would accept help for quitting, while 69.23% stated that they would not. The percentage of accepting help in students who smoked both cigarettes and waterpipes was 13.04%, and the percentage of those who would not accept help was 76.09%. In other words, it is seen that the percentage of getting help for quitting waterpipe smoking in those who smoked both cigarettes and waterpipes was lower.

Discussion

When we compare the results of our study with similar studies seen in the literature review, the following results were found. In a study among university students in Hong Kong, the prevalence of non-smokers was 68.0% (Lee et al., 2020). In a study conducted in Palestine, it was observed that the use of tobacco products was around 30% among students, 12.4% of students who smoked both waterpipes and cigarettes, and 12% of students who only used waterpipes (Tucktuck et al., 2017). In our study, the percentage of students using both cigarettes and waterpipes is higher than those who use only waterpipes. When the use of waterpipes according to gender is examined, it was seen in the study conducted in Palestine that it was 36.4% in men and 12.9% in women (Tucktuck et al., 2017). In a study conducted among Jazan University students, it was seen that the prevalence of waterpipe smoking is high and it is mostly seen in men, having family and friends who smoke, and having wrong thoughts and beliefs are among the effective factors.(Salih et al., 2020). In the study we conducted among Üsküdar University students, 14.7% of men and 3.1% of women used waterpipe. In all three studies, it was determined that men consume waterpipe at a higher percentage than women. In a study conducted in Arab countries, the prevalence of smoking and hookah smoking among university students was alarmingly high. It has been observed that the results differ among students due to ancestry and multiculturalism, depending on the nature of the region and the customs and traditions that vary from country to country (Nasser et al., 2020). When we compare our study with the study conducted in Hong Kong, a significant relationship is also observed regarding people who smoke waterpipe. While 96.7% of the students in Hong Kong smoked waterpipe with their friends, this percentage was 73.5% in our university (Lee et al., 2020). These results show us that there is an effect of friend relations on waterpipe consumption.

In this study, the majority of participants were female, and the high percentage of students living with their families is thought to decrease smoking. It was determined that the most common age for starting smoking was during adolescence. Also, it was found that 57% of students had even smoked a cigarette and 46.8% had smoked a waterpipe once correlated with the sense of curiosity in adolescence directly. The fact that students who smoked both cigarettes and waterpipes accepted that they were addicted showed that 39.3% of them between 50.00% and 56.94% had never tried to quit smoking, indicating that they did not view tobacco and tobacco products as dangerous for their health or that they accepted addiction. As a result of the study, it was found that the percentage of those who started smoking cigarettes and waterpipes with their friends for the first time was 56.52%, which shows the importance of the influence of friends in starting tobacco and tobacco products. The fact that nearly half of the students who smoke cigarettes indicate that they could accept help to quit smoking highlights the importance of support to be provided in this regard. Psychological support and rehabilitation studies demonstrate that effective results can be achieved in ending tobacco addiction.

When we evaluated all the results, it was found that the use of tobacco and tobacco products decreased in students living with their families and females. In addition, it was found that adolescence and their circle of friends were effective in the use of tobacco and tobacco products. About 21.74% of the sample consisted of students who started smoking before the age of 14, which is an important finding. As the school year increased, the percentages of smoking increased, while the percentages of dual use of cigarettes and waterpipes decreased. This trend indicates that tobacco use may escalate as students progress in their academic studies, highlighting the importance of targeted interventions to prevent tobacco initiation and encourage cessation among upper-level students. The percentage of students who acknowledged their addiction and who did not seek help was high, which indicates that students need help and information about quitting smoking. About 32.05% of smokers use or have tried electronic cigarettes, battery-operated devices that people use to inhale an aerosol (NIDA,2020), indicating a resort to alternative methods to smoking. In a study conducted in China, awareness and use of e-cigarettes and current regulations for marketing e-cigarettes were investigated. The existence of regulations for e-cigarette use and its unrestricted application was thought to encourage the increase in e-cigarette identification and misconceptions about the benefits of e-cigarette use (Wang et al., 2019). Excessive use of electronic cigarettes leads to increased use of other tobacco products by students. At this point, it shows that students do not have much knowledge about the harms of electronic cigarette or heated tobacco consumption. In a study conducted, it was found that heated tobacco products emit significantly higher levels of several substances that are not recognized as harmful or potentially harmful by the Food and Drug Administration compared to

traditional cigarette smoke. Twenty-two harmful or potentially harmful substances were found to be over 200% higher than reference cigarette smoke, and seven substances were found to be over 1000% higher (Helen et al.,2018) It also suggests that the use of electronic cigarettes has started to gain popularity among young people compared to tobacco use. All forms of tobacco and nicotine products are harmful to health. It is wrong to turn to various alternative products such as heated tobacco or electronic cigarettes, which are consciously and falsely presented as reduced harm or harmless, in order to quit smoking. It is highly important and necessary to seek professional support to quit smoking or other tobacco products.

In conclusion, it was found that students at Üsküdar University did not use tobacco and tobacco products to a significant extent. This may be due to the fact that the majority of students were living with their families and the majority of them were from health-related fields, such as the Faculty of Health Sciences and the Health Vocational Higher School. Students in the study mainly started smoking during adolescence and under the influence of their friends. In this regard, students should be encouraged not to use cigarettes and tobacco products, and they should be taught how to quit. Students can be encouraged to quit smoking via various social activities. They should be informed that the perception that waterpipe tobacco is harmless compared to cigarettes or that electronic cigarettes are not harmful is incorrect. In our university, the dangers of addiction are constantly emphasized through various activities and club activities, and it is planned to start a project in the future under the name of a smoke-free campus to keep students away from tobacco and tobacco products.

Limitations and Directions/Suggestions for Future Research

One of the limitations of our study is that only Üsküdar students participated in this study. Therefore, a precise comparison with other universities or groups cannot be made. For future research, a study with a larger group of participants with different sociocultural characteristics, in which questions about addiction prevention and rehabilitation studies are asked, can be recommended.

Ethics Committee Approval: Ethical committee approval was received from the Ethics Committee of Üsküdar University (Approval No: 61351342/2020-578, Date: 26/11/2020).

Informed Consent: Written informed consent was obtained from all participants who agreed to take part in the study.

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