

Smoking among university students: characteristics and associated factors

Üniversite öğrencilerinde sigara kullanımının özellikleri ve ilişkili faktörleri

Ayşenur Dağışan¹, Elifsu Götürler², Günel Mahmudova³, Demet Taş⁴

¹Medical Student, Faculty of Medicine, Ankara Yıldırım Beyazıt University, Ankara, Türkiye

²Student, Department of Psychology, Ankara Yıldırım Beyazıt University, Ankara, Türkiye

³Medical Student, Faculty of Medicine, Ankara Yıldırım Beyazıt University, Ankara, Türkiye

⁴Division of Adolescent Medicine, Department of Pediatrics, Ankara Bilkent City Hospital, Ankara Yıldırım Beyazıt University, Ankara, Türkiye

ABSTRACT

Background: Tobacco use remains a major public health problem worldwide, with university students representing a high-risk group due to increased autonomy, stress, and peer influence. This study aimed to assess smoking prevalence and identify factors associated with regular smoking among first- and final-year university students.

Methods: This prospective cross-sectional study was conducted among 334 undergraduate students enrolled in first- and final-year programs at a university in Türkiye. Data were collected using a structured, anonymous online questionnaire assessing sociodemographic characteristics, smoking status, smoking initiation timing, tobacco-related knowledge, and psychosocial factors.

Results: The overall prevalence of regular smoking was 29.3%, with no significant difference between female (27.1%) and male (35.5%) students. Among smokers, 61.2% initiated smoking before university, whereas 38.8% started during university education ($p < 0.001$). In multivariable logistic regression analysis, a history of psychiatric therapy (OR = 2.62), presence of smokers in the household (OR = 2.33), and hookah use (OR = 6.33) were identified as independent risk factors for regular smoking, while studying in a health-related faculty was found to be a protective factor (OR = 0.49). Awareness of tobacco-related educational activities at the university was higher among non-smokers, whereas awareness of the national smoking cessation hotline (171) was significantly higher among smokers ($p < 0.001$). Additionally, 57.1% of smokers reported having attempted to quit smoking at least once. The proportion of students who initiated smoking during university did not differ significantly by gender or any of the other parameters examined ($p > 0.05$).

Conclusions: This study demonstrates that smoking remains a prevalent behavior among university students and is shaped by a combination of psychosocial and environmental factors rather than gender alone. The

✉ Demet Taş • demettas@gmail.com

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increasing prevalence of smoking among females is considered a cause for concern. Accordingly, tobacco control interventions in university settings should move beyond traditional health-focused approaches and be tailored in a gender-sensitive manner to better engage young people.

Keywords: smoking, university students, tobacco, prevalence

öz

Amaç: Tütün kullanımı dünya genelinde önemli bir halk sağlığı sorunu olmaya devam etmektedir. Üniversite öğrencileri; artan özerklik, stres ve akran etkisi nedeniyle yüksek riskli bir gruba oluşturmaktadır. Bu çalışmada, üniversite birinci ve son sınıf öğrencileri arasında sigara kullanım sıklığının belirlenmesi ve düzenli sigara kullanımıyla ilişkili faktörlerin değerlendirilmesi amaçlanmıştır.

Yöntem: Bu prospektif kesitsel çalışma, Türkiye'deki bir üniversitenin lisans programlarının birinci ve son sınıflarında öğrenim gören 334 öğrenciyle gerçekleştirildi. Veriler; sosyodemografik özellikleri, sigara kullanım durumunu, sigaraya başlama zamanını, tütünle ilişkili bilgi düzeyini ve psikososyal faktörleri değerlendiren yapılandırılmış ve anonim bir çevrim içi anket aracılığıyla toplandı.

Bulgular: Düzenli sigara kullanım sıklığı genel olarak %29,3 olup kadın (%27,1) ve erkek (%35,5) öğrenciler arasında anlamlı bir fark saptanmadı. Sigara kullanan öğrencilerin %61,2'si üniversiteye başlamadan önce, %38,8'i ise üniversite eğitimi sırasında sigara kullanmaya başlamıştı ($p < 0,001$). Çok değişkenli lojistik regresyon analizinde psikiyatrik tedavi öyküsü ($OR = 2,62$), hane içinde sigara kullanan bireylerin bulunması ($OR = 2,33$) ve nargile kullanımı ($OR = 6,33$) düzenli sigara kullanımı açısından bağımsız risk faktörleri olarak belirlendi. Sağlıkla ilişkili bir fakültede öğrenim görmek ise koruyucu bir faktör olarak saptandı ($OR = 0,49$). Üniversitede düzenlenen tütünle ilişkili eğitim etkinliklerinden haberdar olma oranı sigara kullanmayan öğrencilerde daha yüksekken, ALO 171 Sigara Bırakma Danışma Hattı'nı bilme oranı sigara kullanan öğrencilerde anlamlı olarak daha yüksekti ($p < 0,001$). Ayrıca sigara kullanan öğrencilerin %57,1'i en az bir kez sigarayı bırakmayı denediğini bildirdi. Üniversite eğitimi sırasında sigara kullanmaya başlayan öğrencilerin oranı cinsiyete veya incelenen diğer parametrelere göre anlamlı farklılık göstermedi ($p > 0,05$).

Sonuç: Bu çalışma, sigara kullanımının üniversite öğrencileri arasında hâlen yaygın olduğunu ve yalnızca cinsiyetten değil, psikososyal ve çevresel etmenlerin bir araya gelmesinden etkilendiğini göstermektedir. Kadın öğrenciler arasında sigara kullanım sıklığının artması endişe vericidir. Bu nedenle, üniversitelerde uygulanacak tütün kontrolü müdahaleleri yalnızca sağlığa odaklanan geleneksel yaklaşımların ötesine geçmeli; gençlere daha etkili biçimde ulaşabilmek için cinsiyete duyarlı şekilde planlanmalıdır.

Anahtar kelimeler: sigara kullanımı, üniversite öğrencileri, tütün, prevalans

Introduction

Tobacco and tobacco products are among the most well-known causes of preventable diseases and deaths. According to the World Health Organization (WHO), more than 8 million people die each year due to tobacco-related causes.¹ Based on the 2020 Global Burden of Disease (GBD) data, approximately 32.6% of adult males and 6.5% of adult females regularly use some form of tobacco product.² The 2022 WHO European Region report indicates that the prevalence of tobacco use

among adults is 32% in males and 18% in females.³ Findings from the Turkish Statistical Institute (TURKSTAT) 2022 Health Survey show that the prevalence of daily tobacco product use among individuals aged 15 years and older is 28.3%, with 41.3% in males and 15.5% in females.⁴ While the use of conventional cigarettes has gradually declined in developed countries over time, it has shown an increasing trend in developing countries.⁵

In a study conducted among university students in Türkiye, the lifetime prevalence of tobacco use was

reported as 40.2%, while current use was 34.1%. Another study among medical school students found that the lifetime prevalence of cigarette use was 44.4%, with 28.1% currently smoking. Stress, peer influence, and the presence of smokers in the family were identified as the most significant factors influencing tobacco use among medical students.^{6,7}

University life represents a period characterized not only by transition into professional development and individualization but also by a heightened sense of autonomy for many young adults. The more permissive environment of the university setting reduced parental supervision, and perceived independence may lead to an increase in risk behaviors, particularly cigarette and alcohol use.⁸ Furthermore, changing course requirements, examination pressure, and increased personal responsibility may elevate stress levels. Environmental factors and peer influence may contribute to the perception of smoking as a means of stress management, thereby encouraging both initiation and continuation of smoking.⁹ In one study, university students reported that having peers who smoke and drink alcohol, as well as concerns about experiencing stress or anger when not smoking, made quitting more difficult.¹⁰

Given the high prevalence of smoking among university students, it is considered important to investigate the influence of university initiation on smoking behavior. Therefore, this study aimed to evaluate smoking status and the factors affecting smoking among first and final year university students.

Methods

This study was conducted using a prospective, cross-sectional design. Ethical approval was obtained from the Ankara Bilkent City Hospital Ethics Committee. Permission to conduct the

study was obtained from the relevant institutional board. Participation was voluntary, and informed consent was obtained from all participants.

Participants and Sample Size

The target population included first- and final-year students enrolled in four-, five-, and six-year undergraduate programs at the university, consisting of both Turkish and international students. The sample size, determined as 330, was calculated using G*Power software. In the calculation, a medium effect size (Cohen's $w = 0.30$), a 95% confidence level ($\alpha = 0.05$), and 80% statistical power ($1 - \beta = 0.80$) were assumed. The minimum required sample size for the relevant statistical test (e.g., chi-square test) was determined based on these parameters. Data collection began on March 9, 2024, and was completed on June 6, 2024, when the target sample size was achieved.

Data Collection Procedure and Measures

A structured questionnaire was developed in Turkish and English by the student researchers, based on the relevant literature.^{6,7,9} The questionnaire consisted of multiple-choice items and was distributed online to students' mobile phones. Students who agreed to participate voluntarily completed the survey, whereas those who did not wish to participate declined to do so. The questionnaire consisted of 29 anonymous items designed to assess students' sociodemographic characteristics and smoking status. In addition, participants who self-identified as smokers were asked to complete additional questions addressing smoking behavior and potential influencing factors.

The questionnaire collected data on age, gender, perceived family income, number of siblings, the presence of smokers in the household, parental education level, and maternal employment status. Participants were also asked whether they had any known chronic illness (defined as

a condition requiring regular follow-up or long-term medication use) or psychiatric disorder. Furthermore, all students were assessed for their awareness of tobacco-related education within the university and their knowledge of the national smoking cessation hotline (171). Among smokers, questions addressed whether smoking initiation occurred before or during university and whether they had attempted to quit smoking.

Statistical Analysis

All statistical analyses were performed using SPSS version 26.0 (IBM Corp., Armonk, NY, USA). The distribution of continuous variables was assessed using the Shapiro–Wilk test. Continuous variables that were not normally distributed were presented as medians with interquartile ranges (IQRs) and compared between groups using the Mann–Whitney U test. Categorical variables were expressed as frequencies and percentages and were compared using the chi-square test or Fisher’s exact test, as appropriate. For logistic regression analyses, regular smoking status (smoker vs. nonsmoker) was defined as the dependent variable. Factors potentially associated with regular smoking were first examined using univariable logistic regression analyses. Variables showing an association at a significance level of $p < 0.20$ in univariable analyses, together with those considered clinically relevant, were entered into the initial multivariable logistic regression model. Before model construction, multicollinearity among the candidate independent variables was assessed using the variance inflation factor (VIF) and tolerance values. All variables had VIF values below 2 and tolerance values above 0.5, indicating the absence of significant multicollinearity. The final multivariable logistic regression model was constructed using the backward likelihood ratio (backward LR) method. Model fit was evaluated using the Hosmer–Lemeshow goodness-of-fit test, with a p -value > 0.05 considered to indicate acceptable model fit. Adjusted odds ratios (ORs)

with 95% confidence intervals (CIs) were reported. All statistical tests were two-sided, and a p -value < 0.05 was considered statistically significant.

Results

The study was completed with a total of 334 participants. Of these, 72% ($n=240$) were females and 28% ($n=94$) were males. The median age (IQR) was 21 (19–23) years among non-smokers and 22 (20–23.2) years among smokers.

Regular smoking was reported by 27.1% ($n=65$) of female students and 35.5% ($n=33$) of male students, resulting in an overall prevalence of 29.3% ($n=98$). Of the 98 students who reported smoking, 61.2% ($n = 60$) initiated smoking before university, while 38.8% ($n = 38$) started during university ($p < 0.001$). Furthermore, 57.1% ($n = 56$) of these students indicated that they had attempted to quit at least once.

Smoking prevalence was significantly higher among students enrolled in non-health-related faculties ($p < 0.001$). Similarly, the proportion of smokers was significantly higher among those with a history of psychiatric medication or therapy. However, no statistically significant difference was observed in smoking behavior between first-year and final-year students. The distribution of smoking status according to sociodemographic variables is presented in Table 1.

The proportion of students who also reported using hookah (waterpipe) was 2.11% ($n=5$) among non-smokers and 12.24% ($n=12$) among smokers, indicating a statistically significant difference between the groups ($p < 0.001$). Awareness of the national smoking cessation hotline (171) was significantly higher among smokers compared to non-smokers ($p < 0.001$). Regarding knowledge about the harmful effects of tobacco products, smokers reported a higher level of awareness than non-smokers; however, this difference was not statistically significant ($p = 0.061$).

Table 1. Distribution of smoking status by sociodemographic characteristics

Study variables	Non-smokers (%) n=236	Smokers (%) n=98	p
Gender			
Female	175 (74)	65 (66)	0.148
Male	61 (26)	33 (34)	
Number of siblings			
None	11 (5)	11 (11)	<0.001
One	85 (36)	49 (50)	
Two or more	140 (59)	38 (39)	
Mother's educational level			
Primary school	83 (35)	31 (32)	0.758
High school	64 (27)	30 (31)	
University	89 (38)	37 (37)	
Mother's employment status			
Employed	93 (39)	44 (45)	0.353
Unemployed	143 (61)	54 (55)	
Father's educational level			
Primary school	55 (23)	21 (21)	0.198
High school	57 (24)	33 (34)	
University	124 (53)	44 (45)	
Family relationship quality			
Moderate	65 (28)	34 (35)	0.193
Good	171 (72)	64 (65)	
Perceived household income level			
Moderate	155 (66)	60 (61)	0.439
Good	81 (34)	38 (39)	
Presence of chronic disease			
Yes	37 (16)	10 (10)	0.190
No	199 (84)	88 (90)	
Faculty			
Medicine/Health sciences	142 (60)	40 (41)	<0.001
Others	94 (40)	58 (59)	
Current residence			
Family home	92 (39)	33 (34)	0.361
Dormitory/student housing	144 (61)	65 (66)	
History of psychiatric medication or therapy			
Yes	46 (19)	37 (38)	<0.001
No	190 (81)	61 (62)	
Academic year			
Preparatory/1st year	139 (59)	48 (49)	0.096
Final year	97 (41)	50 (51)	

Table 2. Distribution of smoking status by tobacco-related factors

Study variables	Non-smokers n=236 (%)	Smokers n=98 (%)	p
Presence of smokers in the household			0.002
Yes (at least one person)	130 (55.1)	72 (73.4)	
No	106 (44.9)	26 (26.6)	
Hookah (waterpipe) use			<0.001
Yes	5 (2.0)	12 (12.0)	
No	231 (98.0)	86 (88.0)	
Awareness of the “171” national smoking cessation hotline			<0.001
Yes	130 (55.0)	78 (80.0)	
No	106 (45.0)	20 (20.0)	
Level of knowledge regarding the harms of tobacco products			0.061
Moderate	93 (39.0)	28 (29.0)	
Significant level	143 (61.0)	70 (71.0)	
Awareness of tobacco-related education at the university			0.032
Yes	105 (44.0)	31 (32.0)	
No	131 (56.0)	67 (68.0)	

Conversely, the proportion of students who were aware of educational or informational activities at the university regarding the harms of tobacco products or tobacco control was significantly higher among non-smokers than among smokers ($p = 0.032$). These findings are presented in Table 2.

Among students who initiated smoking at university, 68.4% were in their final year, whereas 31.6% were in their first year. This difference was statistically significant ($p = 0.008$).

Among students who initiated smoking during university, no significant gender-based differences were observed in terms of current residence, either in a dormitory or student accommodation (females: 65.5%, males: 44.4%) versus living at the family home, and in attending a health-related faculty (females: 37.9%, males: 55.6%) compared with a non-health-related faculty ($p = 0.450$ and $p = 0.436$, respectively). Furthermore, no significant gender differences were identified for the other parameters assessed among students who started smoking during university ($p > 0.05$). The

distribution of smoking initiation at the university according to these variables is presented in Table 3.

Risk factors for regular smoking were examined. In the univariable analysis, older age, having fewer than two siblings, a history of psychiatric medication or therapy, the presence of at least one smoker in the household, and hookah (waterpipe) use were found to be significantly associated with regular smoking. In contrast, studying in a health-related faculty and having received tobacco-related education or information at the university tended to reduce the likelihood of smoking.

According to the multivariable logistic regression analysis, increasing age, the presence of a chronic disease, a history of psychiatric medication or therapy, having a smoker in the family, and hookah use were identified as independent predictors of regular smoking. Conversely, having two or more siblings and studying in a health-related field were identified as protective factors associated with a lower likelihood of smoking. While awareness of tobacco-related education or information at the university was significant in the univariable

Table 3. Distribution of smoking initiation (before vs. during university) based on student-related variables

Study variables	Prior to university enrollment n=60 (%)	During university education n=38 (%)	p
Gender			0.096
Female	36 (60.0)	29 (76.3)	
Male	24 (40.0)	9 (23.7)	
Presence of chronic disease			0.548
I do	7 (11.7)	3 (7.9)	
I don't	53 (88.3)	35 (92.1)	
Faculty			0.836
Medicine and Health science	24 (40.0)	16 (42.1)	
Others	36 (60.0)	22 (57.9)	
Hookah (waterpipe) use			0.014
Yes	12 (20.0)	1 (2.6)	
No	48 (80.0)	37 (97.4)	
Awareness of the "171" national smoking cessation hotline			0.868
Yes	48 (80.0)	30 (78.9)	
No	12 (20.0)	8 (21.1)	
History of psychiatric medication or therapy			0.442
Yes	21 (34.4)	16 (42.1)	
No	40 (65.6)	22 (57.9)	
Grade			0.008
1st grade and Foundation year	36 (59.0)	12 (31.6)	
Senior Year	25 (41.0)	26 (68.4)	
Current Residence			0.306
Family house	18 (29.5)	15 (39.5)	
Dormitory/student housing	43 (70.5)	23 (60.5)	
Level of knowledge regarding the harms of tobacco products			0.054
Moderate	22 (36.7)	7 (18.4)	
Significant level	38 (63.3)	31 (81.6)	
Awareness of tobacco-related education at the university			0.073
Yes	22 (36.7)	10 (26.3)	
No	33 (55.0)	28 (73.7)	
I don't know	5 (8.3)	0 (0.0)	

analysis, it lost significance in the multivariable model. Other variables, including parental education, maternal employment status, income level, family relationship quality, and academic year, were not significantly associated with regular smoking. The univariable and multivariable logistic regression analysis of factors associated with regular smoking is presented in Table 4.

Discussion

The factors related to smoking among university students were examined in this study. Approximately 30% of the students were identified as regular smokers. Although no significant gender differences were observed in smoking prevalence, the notable proportion of female smokers in our

Table 4. Univariate and multivariable logistic regression analysis of factors associated with regular cigarette use

Parameters	Univariable			Multivariable		
	OR	CI	p	OR	CI	p
Age	1.132	1.028-1.246	0.012	1.171	1.049-1.308	0.005
Gender (male vs female)	1.46	0.874-2.426	0.149			
Number of siblings (≥ 2 vs < 2)	0.659	0.518-0.839	< 0.001	0.658	0.505-0.857	0.002
Mother's educational level (university vs primary school/high school)	1.001	0.785-1.276	0.994			
Mother's employment status (unemployed vs employed)	0.798	0.496-1.285	0.353			
Father's educational level (university vs primary school/high school)	0.858	0.677-1.187	0.204			
Family relationship quality (good vs moderate)	0.716	0.432-1.195	0.193			
Perceived household income level (good vs moderate)	1.212	0.745-1.973	0.439			
Presence of chronic diseases (yes vs no)	1.636	0.779-3.437	0.194	2.600	1.138-5.941	0.023
Faculty (health sciences vs others)	0.457	0.238-0.738	< 0.001	0.487	0.286-0.831	0.008
Current Residence (student housing vs family house)	1.258	0.768- 1.862	0.362			
History of psychiatric medication or therapy (yes vs no)	2.505	1.489-4.215	< 0.001	2.616	1.468-4.663	< 0.001
Grade (senior year vs first year/foundation year)	1.493	0.930-2.396	0.097			
Presence of smokers in the household (yes vs no)	2.258	1.347-3.785	0.002	2.330	1.306-4.157	0.004
Hookah (waterpipe) use (yes vs no)	6.447	2.206-18.836	< 0.001	6.330	1.986-20.179	0.002
Level of knowledge regarding the harms of tobacco products (significant level vs moderate)	1.626	0.976-2.708	0.062			
Awareness of tobacco-related education at the university (yes vs no)	0.577	0.351-0.949	0.030			

For categorical variables, odds ratios were calculated using the second category listed in parentheses as the reference group.

sample may reflect a broader increasing trend in tobacco use among females. This finding is consistent with previous studies reporting rising smoking rates among females students in recent years.¹¹ In one study conducted in a non-health-related faculty, smoking rates were found to be similar between female and male students.¹²

However, most studies report that smoking prevalence is higher among male university students compared to females.¹³

In our study, students enrolled in a faculty within the health sciences were found to smoke at a lower rate compared with those studying in other fields. However, this difference was not statistically significant when considering those who started smoking after entering university. While greater health awareness would be expected to widen this gap in favour of students in health-related

programs, the difference between the groups was no longer statistically significant. In the study conducted by Vatansev et al., the prevalence of smoking was reported to be 50% among students in the Faculty of Communication, whereas it was markedly lower (11.5%) among medical students.¹² In a multicenter study conducted across 12 medical faculties in Germany, Italy, Poland and Spain, the prevalence of smoking among medical students was found to be higher than expected when compared with the general population. This finding was attributed to inadequate anti-tobacco education within the medical curriculum.¹⁴

A reassuring finding of our study was that the vast majority of smokers were aware of 171, the national smoking cessation helpline. More than half of the smokers had made at least one quit attempt, and it is likely that they will contact the

cessation support line when their motivation to quit re-emerges. The fact that non-smokers were more frequently aware of tobacco-related informational activities at the university, whereas smokers were less aware, suggests that smokers may tend to ignore or be less responsive to such announcements. At the same time, in our study, smoking students were more aware of the harmful effects of smoking compared to non-smokers. Although these young smokers are aware of the harms of smoking and familiar with the national quitline, their lack of interest in tobacco-related warnings or announcements within the university environment may be attributed to the strong addictive potential of nicotine. Similarly, the literature shows that although students are aware of smoking-related diseases, 41.5% do not perceive themselves as addicted and demonstrate low engagement in intervention programs.¹⁵

In our study, no difference in smoking prevalence was observed between students living in family homes and those residing in dormitories or shared student housing, both in the overall sample and when stratified by gender. Likewise, living in student housing or dormitories did not influence smoking initiation during university. The nationwide prohibition of smoking in all public and private student dormitories in Türkiye may have contributed to this finding. In contrast, a recent study reported that residing in student houses or dormitories was associated with smoking behaviour.¹⁶

In the group of smokers, the prevalence of hookah use was 12%, which, as expected, was higher than among non-smokers. Interestingly, among those who started smoking at university, the regular use of hookah was significantly lower compared with individuals who initiated smoking before university. This finding may suggest that younger adolescents are more likely to spend time in hookah cafés, whereas students who begin smoking at university may be less inclined to engage in

social interactions within such environments. Unfortunately, venues where hookah is consumed are often frequented during the same period in which cigarette experimentation typically occurs.

In addition, the perceived harm of hookah use is low among young people, and such venues are commonly visited for socialisation purposes. In a study conducted among high school students, those who had tried hookah at least once were found to be more likely than never-users to have previously smoked cigarettes, to be aware of a hookah café in their surroundings, and to believe that hookah is safer and more socially acceptable than cigarettes.¹⁷ In a study conducted among university students from Western cultures, the current prevalence of hookah use was reported to be 6%, whereas in Eastern Mediterranean and Middle Eastern countries this rate was found to be substantially higher, reaching at least 40%.^{18,19}

In our study, students with at least one smoker in the family had a higher prevalence of smoking. This finding is consistent with the literature indicating that exposure to tobacco use within the family increases the risk of smoking initiation from childhood onward.²⁰ Individuals with smoking parents have been shown to exhibit higher rates of tobacco use and to possess a lower perceived risk regarding smoking.²¹ Although our study found a higher prevalence of smoking among students without siblings, it is difficult to claim that this finding is representative of the general population. There is evidence suggesting that intra-household social support mechanisms may play a protective role against smoking. In line with this, a study conducted in South Korea reported that adolescents without siblings were at a higher risk of smoking and alcohol use compared with those who had multiple siblings.²² In addition, no difference was observed in smoking prevalence based on parental educational level or perceived family income status. Consistent with our findings, a similar study from Türkiye reported that medical

students with higher family income had higher smoking rates, while no significant association was found between parental educational level and smoking behaviour.²³

In this study, smoking was found to be more prevalent among students who were using psychiatric medication or receiving psychological therapy. This suggests that psychological disorders may increase the likelihood of smoking, and that smoking may be adopted as a coping strategy for stress. The presence of psychological counselling centres on university campuses may provide essential support for these young individuals. A review reported that young adults with psychiatric problems may be more susceptible to nicotine dependence symptoms, even if they smoke only a small number of cigarettes.²⁴

Our study has several limitations. Firstly, the number of participants differed by gender, and the distribution of students according to academic departments was not homogeneous. Secondly, the information regarding smoking status was entirely based on self-report, which may limit the accuracy of the prevalence estimates. Another limitation of this study is that dual use of conventional cigarettes and e-cigarettes was not evaluated. Finally, these findings reflect data from a single university and may not be generalizable to all universities in Türkiye.

In conclusion, our study demonstrated that approximately one-third of university students were regular smokers, with no significant difference in smoking prevalence between female and male students. A substantial proportion of smokers reported having attempted to quit at least once, and awareness of the national smoking cessation hotline (171) was notably high among smokers, indicating an existing motivation for cessation within this group.

Our findings also suggest that living arrangements, including residence in dormitories or student housing, were not associated with smoking initiation, which may reflect the impact of national smoke-free policies and restrictions on indoor smoking environments in Türkiye.

Given the notable proportion of female smokers observed in our sample and the evidence of increasing smoking rates among females, further research involving larger and more representative populations is warranted to better elucidate gender-specific determinants of tobacco use.

Additionally, the relatively low awareness among smokers of university-based tobacco control activities highlights the need for more effective engagement strategies. In this context, university-based smoking prevention and cessation interventions that focus on the short-term, immediately relevant consequences of smoking rather than long-term health effects are needed to better capture students' attention and engagement.

Ethical approval

This study has been approved by the Ankara Bilkent City Hospital (approval date: 27.12.2026, number: E2-23-5890). Written informed consent was obtained from the participants.

Author contribution

Study conception and design: AD, EG; data collection: AD, EG, GM; analysis and interpretation of results: EG; draft manuscript preparation: AD, EG, GM. The author(s) reviewed the results and approved the final version of the article.

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Conflict of interest

The authors declare that there is no conflict of interest.

Etik kurul onayı

Bu çalışma Ankara Bilkent Şehir Hastanesi Etik Kurulu tarafından onaylanmıştır (onay tarihi: 27.12.2023, numarası: E2-23-5890). Çalışmaya katılan tüm katılımcılardan yazılı bilgilendirilmiş onam alınmıştır.

Yazarlık katkısı

Çalışma konsepti ve tasarımı: AD, EG; veri toplama: AD, EG, GM; sonuçların analizi ve yorumlanması: EG; makaleyi hazırlama: AD, EG, GM. Yazar(lar) sonuçları gözden geçirmiş ve makalenin son halini onaylamıştır.

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