Correlation Between Suicidal Behavior and Depression, Anxiety, Stress Levels and Sociodemographic Characteristics in University Students

Üniversite Öğrencilerinde İntihar Davranışının Depresyon, Anksiyete, Stres Düzeyleri ve Sosyodemografik Özellikler ile İlişkisi

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ABSTRACT

Aim: Studies conducted on university students have reported high levels of depression, anxiety and stress as well as suicidal thoughts and suicide attempts. This study aimed to determine the correlation between suicidal behavior and depression, anxiety, stress levels and sociodemographic characteristics in university students.
Method: Participants who agreed to participate in this online study were asked to fill in the sociodemographic data form and the Depression Anxiety Stress Scale-21 (DASS-21). Among the 530 participants, 517 (97.6%), having read information about the study, agreed to participate, while 13 (2.4%) declined.
Results: In this study, 36% of the participating university students had a history of major suicidal ideation, 6.4% currently experienced major suicidal ideation and 14.7% had attempted suicide. Depression, anxiety and stress scores were found to be higher in university students who had attempted suicide or currently experienced major suicidal ideation compared to those who had/did not (p≤0.001). With regard to sociodemographic factors; perceived and actual academic performance levels, socioeconomic status, current dieting status, sleep problems, smoking, daily time spent online, chronic diseases, and past or current psychiatric treatment were found to be common risk factors for both current major suicidal ideation and suicide attempt status (p≤0.05).
Conclusion: Having found high levels of depression, anxiety and stress among university students in this study, we consider that it is necessary to investigate the factors associated with suicidal ideation and suicide attempts, and that comprehensive psychosocial support units and programs should be developed to protect students' mental health and reduce risk of suicide.

Keywords: Suicide, university students, depression, anxiety, stress, sociodemographic characteristics

ÖZ

Amaç: Üniversite öğrencileri ile yapılan çalışmalarda, depresyon, anksiyete ve stres düzeylerinin, intihar düşünce ve girişimlerinin yüksek oranlarda olduğu bildirilmektedir. Bu çalışmada üniversite öğrencilerinde intihar davranışının depresyon, anksiyete, stres düzeyleri ve sosyodemografik özellikler ile ilişkilisinin belirlenmesi amaçlanmıştır.
Yöntem: İnternet ortamında gerçekleştirilen çalışmada, araştırmaya katılmayı kabul eden katılımcılardan sosyodemografik veri formu ve Depresyon Anksiyete Stres Ölçeği-21 (DASÖ-21) ölçeklerini doldurmaları istenmiştir. Çalışmaya katılan 530 katılımcının 517'si (%97,6) çalışma hakkındaki bilgilendirmeyi okuyup, çalışmaya katılmayı kabul ederken 13'ü (%2,4) çalışmaya katılmayı reddetmiştir.
Bulgular: Çalışmamızda üniversite öğrencilerinin %36'sında geçmişte ciddi intihar düşüncesi, %6,4'ünde mevcut ciddi intihar düşüncesi ve %14,7'sinde intihar girişimi olduğu tespit edilmiştir. İntihar girişiminde bulunan veya mevcut ciddi intihar düşüncesi olan üniversite öğrencilerinde olmayanlara kıyasla depresyon, anksiyete ve stres puanları daha yüksek olarak belirlenmiştir (p≤0,001). Sosyodemografik etkenlerdense akademik başarı düzeyi ve algısı, sosyoekonomik düzey, güncel diyet yapma durumu, uyku sorunu varlığı, sigara kullanımı, günlük internet kullanım süresi, kronik hastalık varlığı, geçmişte veya halen psikiyatrik tedavi alma durumu hem mevcut ciddi intihar düşüncesi hem de intihar girişiminde bulunma durumu için ortak risk faktörleri olarak belirlenmiştir (p≤0,05).
Sonuç: Üniversite öğrencilerinde depresyon, anksiyete ve stres düzeylerini yüksek olarak saptadığımız çalışmamızda intihar düşüncesi ve girişimi ile belirlenen ilişkili faktörlerin araştırılmasının gerekli olduğunu, öğrencilerin ruh sağlığını korumak ve intihar riskini azaltmak amacıyla kapsamlı psikososyal destek birimleri ve programlarının geliştirilmesi gerektiğini düşünmekteyiz.

Anahtar kelimeler: İntihar, üniversite öğrencileri, depresyon, anksiyete, stres, sosyodemografik özellikler

Introduction

University years are a period of transition from adolescence to adulthood during which individuals face many social, economic, academic, emotional and societal psychosocial challenges [1,2]. Students may also experience various mental problems such as depression and anxiety disorders, as well as attention deficit hyperactivity disorder, social media addiction, sleep problems, alcohol and substance use disorders. Depression, anxiety and stress symptoms are reported to be common in university students, although they vary depending on gender, economic status and other sociodemographic variables [2]. In a study conducted by Bayram and Bilgel (2008) in Turkey, the prevalence of depression, anxiety and stress in university students was found to be 27.1%, 47.1% and 27%, respectively [3]. A study conducted in Malaysia on university students (2013) found that 37.2% of the participants had depression, 63% anxiety and 23.7% stress [4]. Depression and anxiety can cause university students to feel sad, anxious, guilty and worthless, lead to loss of interest, sleep problems and impaired concentration, thereby creating problems such as poor academic performance [5]. Stress is defined as an individual's physical, mental or emotional response to conflicts, pressures and environmental tensions [6]. In addition to the fact that anxiety and stress have common biological bases, the stress experienced by students may increase their anxiety levels and facilitate the emergence of anxiety disorders [7]. Factors such as family problems, economic difficulties, academic failure, lack of social support and chronic physical illness may increase the risk of developing depression and anxiety symptoms, and negatively affect quality of life. In studies on suicide, it is stated that university students are in a more risky group in terms of suicide due to their age. In addition, it is stated that university students with suicidal behaviour experience more stressful life events in their lives than those without suicidal behaviour [8].

It has been reported in the literature that high levels of depression, anxiety and stress increase the likelihood of suicide attempts in university students [9]. According to the World Health Organization (WHO), suicide is the second most common cause of death among young people [10]. We hypothesised that, university students experience more stress, anxiety and depression and therefore have a higher risk of suicidal behaviour and also factors such as romantic relationship status, perceived academic failure and low socioeconomic status have an effect on students suicidal behaviour. In this study, it was aimed to determine the relationship between suicidal behavior and depression, anxiety and stress levels and sociodemographic characteristics among the students of a state university. Identifying students' mental problems (depression, anxiety, suicidal thoughts/suicide attempts, etc.) and supporting them psychosocially will contribute positively to their academic and social lives.

Methods

Students of Alanya Alaaddin Keykubat University were included in this study conducted between January 2024 and March 2024. The link to the survey form was shared on the homepage of Alanya Alaaddin Keykubat University website and also sent to students' e-mail addresses under the university domain. Students who gave written consent to participate in the study were asked to fill out the Sociodemographic data form and the Depression Anxiety Stress Scale-21 (DASS-21).

Permission for the study was obtained from the Clinical Research Ethics Committee of Alanya Alaaddin Keykubat University on January 9, 2024 under decision no. 2024/04, and the Declaration of Helsinki was complied with. Among the 530 students who participated in the study, 517 (97.6%), having read the information about the study, agreed to participate, while 13 (2.4%) declined. Students who were 18 years of age or older and still continuing their education at the university were accepted. The study sample consisted of the 517 students who agreed to participate.

Data collection tools

Sociodemographic data form

The sociodemographic data form created by the researcher surveys information such as age, gender, romantic relationship status, faculty satisfaction, overall weighted grade point average

(OWGP), perception and level of course success, socioeconomic level, accommodation, internet usage time, body mass index, past and current psychiatric treatment status, smoking and alcohol use, and past and current major suicidal ideation and suicide attempts.

DASS-21

The first version of the scale developed by Lovibond and Lovibond in 1995 included a total of 42 items to measure depression, stress and anxiety under 14 items each [10]. In 2005, Henry and Crawford modified the scale into a short version with 21 items. The resulting DASS-21 has 7 items each for the depression, anxiety and stress sub-dimensions.

Each item in the scale has a 4-point Likert-type rating namely "0" did not apply to me at all, "1" applied to me to some degree, "2" applied to me to a considerable degree and "3" applied to me very much, consisting of 21 questions in total. The adaptation, validity and reliability of the scale into Turkish were conducted by Sarıçam (2018) [11].

Statistical analysis

The statistical analyses were conducted by the SPSS Statistics 27.0 software package. In the assessment of data, in addition to descriptive statistical techniques (mean, standard deviation), categorical characteristics of the groups were compared using chi-square or Fisher's test. Independent samples t-test was used to compare two groups for quantitative data with normal distribution, whereas nonparametric Mann-Whitney U test was used for non-normally distributed data. In the comparison of more than two groups, ANOVA and post-hoc Tukey test were used for normally distributed data, and Kruskal Wallis test was used for non-normally distributed data. Statistical significance level was accepted as $p \leq 0.05$ in all tests.

Results

A total of 517 university students participated in the study. The mean age of the participants was 21.85±3.47 years, among whom 62.7% were female and 37.3% were male. One-fifth of the students were employed, and about half of them lived in dormitories. It was determined that 32.5% of the students had received psychiatric treatment in the past, and 12.4% were currently under psychiatric treatment. 36% percent of the students reported experiencing major suicidal ideation in the past, 6.4% percent of students still have serious suicidal ideation, and 14.7% reported having attempted suicide. The Depression Anxiety Stress Scale-21 (DASS-21) was performed on the participants as a result of which the mean scores of depression, anxiety and stress were found to be 9.98±6.10, 8.42±5.76 and 11.25±5.14, respectively. In the DASS-21, 31.5% of the students scored very severe depression, 39.3% very severe anxiety, and 17.6% very severe stress. Information on the sociodemographic characteristics of the students is summarized in Table-1.

Comparisons were made between students with and without current major suicidal ideation in terms of sociodemographic and clinical variables. Faculty dissatisfaction (p=0.019) perceived academic failure (p=0.004), poor socioeconomic status (p=0.035), current diet status (p=0.043), sleep problems (p<0.001), smoking (p<0.001), high internet use time (p=0.023), presence of chronic diseases (p<0.001), past psychiatric treatment status (p=0.005), and current psychiatric treatment status (p=0.001) were found to be associated with current serious suicidal ideation. Depression scores 6.59 (p<0.001), anxiety scores 5.76 (p<0.001), and stress scores were 2.94 (p=0.001) points higher in university students with current serious suicidal ideation compared to those without. In addition, the overall weighted grade point average (GPA) of these students was 0.38 points lower (2.42 & 2.80) (p<0.001). The comparison of students with and without current serious suicidal ideation in terms of sociodemographic and clinical variables is summarized in Table-2.

When students with and without previous suicide attempts were compared in terms of sociodemographic and clinical variables; variables such as having a romantic relationship (p=0.049), perceived academic failure (p=0.012), poor socioeconomic status (p=0.014), parental divorce (p<0.001), current dieting status (p<0.001), past dieting status (p=0.030), sleep problems (p<0.001), smoking (p<0.001), and daily time spent online (p=0.031), chronic disease status

Table 1. The sociodemographic characteristics and clinical scale scores of the participants

		N / Mean	% / SD
Gender	Female	324	62.7
	Male	123	37.3
Age		21.85	3.47
Emotional Relationship	Yes	232	44.9
	No	285	55.1
Working Status	Working	59	11.4
	Part-time	43	8.3
	Not-Working	415	80.3
Faculty Satisfaction	Satisfied	153	30
	Partly	271	53.1
	Not-Satisfied	86	16.9
Perception of Academic Performance	High	150	29
	Moderate	294	56.9
	Low	73	14.1
OWGP		2.78	0.58
Socioeconomic Status	High	75	14.5
	Moderate	342	66.2
	Low	100	19.3
Accommodation	Alone	45	8.7
	With Friend	100	19.3
	With Family	96	18.6
	Private Dormitory	34	6.6
	State Dormitory	242	46.8
Parental Marriage Status	Married	432	83.6
		85	16.4
BMI		22.92	4.22
Current Diet Status	Yes	90	17.4
	No	427	82.6
Past Diet Status	Yes	240	46.4
	No	277	53.6
Sleep Problems Status	Yes	216	41.8
	Partly	182	35.2
	No	119	23
Smoking	Yes	204	39.5
	No	313	60.5
Cigarettes Per a Day	0	312	60.3
	1-10	86	16.6
	11-20	80	15.5
	+21	39	7.5
Alcohol Usage	Yes	247	47.8
	No	270	52.2
Frequency of Alcohol Use	Never	226	43.7
	Sometimes	157	30.4
	Oftenly	113	21.9
	Usually	21	4.1
Substance Missuse	Yes	3	0.6
	No	514	99.4

Daily Usage of İnternet	Less than one hour	24	4.7
	1-3 hours	185	36.3
	3-6 hours	211	41.5
	More than six hours	89	17.5
Presence of Chronic Diseases	Yes	85	16.4
	No	432	83.6
Past Psychiatric Treatment	Yes	168	32.5
	No	349	67.5
Current Psychiatric Treatment	Yes	64	12.4
	No	453	87.6
Past serious suicidal ideation	Yes	186	36
	No	331	64
Attempted Suicide	Yes	76	14.7
	No	441	85.3
Current Serious Suicidal İdeation	Yes	33	6.4
		484	93.6
DASS-Depression Point		9.98	6.10
DASS-Anxiety Point		8.42	5.76
DASS-Stress Point		11.25	5.14
DASS Depression Score	Normal	112	21.7
	Mild	54	10.4
	Moderate	122	23.6
	Severe	66	12.8
	Extremely Severe	163	31.5
DASS Anxiety Score	Normal	124	24
	Mild	61	11.8
	Moderate	68	13.2
	Severe	61	11.8
	Extremely Severe	203	39.3
DASS Stress Score	Normal	101	19.5
	Mild	91	17.6
	Moderate	109	21.1
	Severe	125	24.2
	Extremely Severe	91	17.6

N. number of participants; SD. standard deviation; DASS. Depression. Anxiety. and Stress Scale. OWGP. overall weighted grade point; BMI. body mass index

Table 2. The comparison of students with and without current major suicidal ideation in terms of sociodemographic and clinical variables

		N / With Current Serious Suicidal İdeation	N / Without Current Serious Suicidal İdeation	N / Total/ Mean Differance	Chi Squared Value / F	p
Gender	Female	18	306	324	0.994	0.319a
	Male	15	178	193		
	Total	33	484	517		
Age		21.64±1.71	21.86±3.56	0.225	2.187	0.720b
Emotional Relationship	Yes	11	221	232	1.898	0.168a
	No	22	263	285		
	Total	33	484	517		

Working Status	Working	8	51	59	5.923	0.052a
	Part-time	3	40	43		
	Not-Working	22	393	415		
	Total	33	484	517		
Faculty Satisfaction	Satisfied	6	147	153	7.902	0.019a
	Partly	15	256	271		
	Not-Satisfied	11	75	86		
	Total	32	478	510		
Perception of Academic Performance	High	6	144	150	11.077	0.004a
	Moderate	16	278	294		
	Low	11	62	73		
	Total	33	484	517		
OWGP Mean ±SD		2.42±0.56	2.80±0.57	-0.38	0.058	<0.001b
Socioeconomic Status	High	3	72	75	6.710	0.035a
	Moderate	18	324	342		
	Low	12	88	100		
	Total	33	484	517		
Accommodation	Alone	2	43	45	1.012	0.908a
	With Friend	8	92	100		
	With Family	7	89	96		
	Private Dormitory	2	32	34		
	State Dormitory	14	228	242		
		33	484	517		
Parental Marriage Status	Married	24	408	432	3.010	0.083a
	Divorced	9	76	85		
	Total	33	484	517		
BMI Mean±SD		24.43±5.64	22.81±4.09	1.62	6.902	0.114b
Current Diet Status	Yes	10	80	90	4.077	0.043a
	No	23	404	427		
	Total	33	484	517		
Past Diet Status	Yes	20	220	240	2.851	0.091a
	No	13	264	277		
	Total	33	484	517		
Sleep Problems Status	Yes	28	188	216	27.103	<0.001a
	Partly	4	178	182		
	No	1	118	119		
	Total	33	484	517		
Smoking	Yes	22	182	204		
	No	11	302	313		
	Total	33	484	517		
Cigarettes Per a Day	0	11	301	312	2.326	0.127a
	1-10	7	79	86		
	11-20	7	73	80		
	+21	8	31	39		
	Total	33	484	517		
Alcohol Usage	Yes	20	227	247	4.216	0.239a
	No	13	257	270		
	Total	33	484	517		

Frequency of Alcohol Use	Never	12	214	226		
	Sometimes	8	149	157		
	Oftenly	10	103	113		
	Usually	3	18	21		
	Total	33	484	517		
Substance Missuse	Yes	1	2	3		
	No	32	482	514		
	Total	33	484	517		
Daily Usage of İnternet	Less than one hour	4	20	24	9.487	0.023a
	1-3 hours	10	175	185		
	3-6 hours	9	202	211		
	More than six hours	10	79	89		
	Total	33	476	509		
Presence of Chronic Diseases	Yes	13	72	85	13.518	<0.001a
	No	20	12	432		
	Total	33	484	517		
Past Psychiatric Treatment	Yes	18	150	168	7.813	0.005a
	No	15	334	349		
	Total	33	484	517		
Current Psychiatric Treatment	Yes	10	54	64	10.441	0.001a
	No	23	430	453		
	Total	33	484	517		
Past serious suicidal ideation	Yes	32	154	186	56.932	<0.001a
	No	1	330	331		
	Total	33	484	517		
Attempted Suicide	Yes	16	60	76	32.087	<0.001a
	No	17	424	441		
	Total	33	484	517		
DASS-Depression Point Mean±SD		16.15±3.58	9.56±6.01	6.59	11.666	<0.001b
DASS- Anxiety Point Mean±SD		13.82±5.60	8.05±5.59	5.76	0.100	<0.001b
DASS-Stress Point Mean±SD		14.00±4.58	11.06±5.13	2.94	1.101	0.001b
DASS Depression Score	Normal	0	112	112	41.041	<0.001a
	Mild	0	54	54		
	Moderate	2	120	122		
	Severe	5	61	66		
	Extremely Severe	26	137	163		
	Total	33	484	517		
DASS Anxiety Score	Normal	3	121	124	23.226	<0.001a
	Mild	1	60	61		
	Moderate	2	66	68		
	Severe	1	60	61		
	Extremely Severe	26	177	203		
	Total	33	484	517		
DASS Stress Score	Normal	1	100		10.680	0.030a
	Mild	5	86			
	Moderate	6	103			
	Severe	10	115			
	Extremely Severe	11	80			
	Total	33	484	517		

N. number of participants; SD. standard deviation; DASS. Depression. Anxiety. and Stress Scale. OWGP. overall weighted grade point; BMI. body mass index. pa statistical signifance p ≤0.05 Chi-square test. pb statistical signifance p ≤0.05 t test for independent groups. * Chi-square test not applied.

Table 3. The comparison of students with and without previous suicide attempts in terms of sociodemographic and clinical variables

		N / With Current Serious Suicidal İdeation	N / Without Current Serious Suicidal İdeation	N / Total/ Mean Differance	Chi Squared Value / F	p
Gender	Female	55	269	324	3.583	0.058a
	Male	21	172	193		
	Total	76	441	517		
Age		21.47±3.00	21.91±3.55	-0.43	0.572	0.312b
Emotional Relationship	Yes	42	190	232	3.887	0.049a
	No	34	251	285		
	Total	76	441	517		
Working Status	Working	8	51	59	0.099	0.952a
	Part-time	6	37	43		
	Not-Working	62	353	415		
	Total	76	441	517		
Faculty Satisfaction	Satisfied	18	135	153	1.573	0.456a
	Partly	44	227	271		
	Not-Satisfied	13	73	56		
	Total	75	435	510		
Perception of Academic Performance	High	18	132	150	8.825	0.012a
	Moderate	39	255	294		
	Low	19	54	73		
	Total	76	441	517		
OWGP Mean ±SD		2.62±0.64	2.80±0.56	-0.17	2.889	0.016b
Socioeconomic Status	High	10	65	75	8.606	0.014a
	Moderate	42	300	342		
	Low	24	76	100		
	Total	76	441	517		
Accommodation	Alone	8	37	45	3.680	0.451a
	With Friend	18	82	100		
	With Family	9	87	96		
	Private Dormitory	4	30	34		
	State Dormitory	37	205	242		
		76	441	517		
Parental Marriage Status	Married	54	378	432	10.144	0.001a
	Divorced	22	63	85		
	Total	76	441	517		
BMI Mean±SD		23.01±4.56	22.90±4.16	0.11	1.162	0.831b
Current Diet Status	Yes	26	64	90	17.495	<0.001a
	No	50	377	427		
	Total	76	441	517		
Past Diet Status	Yes	44	196	240	4.715	0.030a
	No	32	245	277		
	Total	76	441	517		
Sleep Problems Status	Yes	51	165	216	24.415	<0.001a
	Partly	18	164	182		
	No	7	112	119		
	Total	76	441	517		

Smoking	Yes	49	155	204	23.339	<0.001a
	No	27	286	313		
	Total	76	441	517		
Cigarettes Per a Day	0	27	285	312	26.380	<0.001a
	1-10	19	67	86		
	11-20	17	63	80		
	+21	13	26	39		
	Total	76	441	517		
Alcohol Usage	Yes	44	203	247	3.657	0.056a
	No	32	238	270		
	Total	76	441	517		
Frequency of Alcohol Use	Never	26	200	226	6.423	0.093a
	Sometimes	23	134	157		
	Oftenly	21	92	113		
	Usually	6	15	21		
	Total	76	441	517		
Substance Missuse	Yes	1	2	3		*
	No	75	439	514		
	Total	76	441	517		
Daily Usage of İnternet	Less than one hour	4	20	24	8.870	0.031a
	1-3 hours	21	164	185		
	3-6 hours	29	182	211		
	More than six hours	22	67	89		
	Total	76	433	509		
Presence of Chronic Diseases	Yes	22	63	85	10.144	0.001a
	No	54	378	432		
	Total	76	441	517		
Past Psychiatric Treatment	Yes	46	122	168	31.915	<0.001a
	No	30	319	349		
	Total	76	441	517		
Current Psychiatric Treatment	Yes	18	46	64	10.498	0.001a
	No	58	395	453		
	Total	76	441	517		
Past serious suicidal ideation	Yes	69	117	186	116.217	<0.001a
	No	7	324	331		
	Total	76	441	517		
DASS-Depression Point Mean±SD		13.04±5.41	9.45±6.06	3.588	2.612	<0.001b
DASS- Anxiety Point Mean±SD		13.16±5.50	7.60±5.41	5.557	0.039	<0.001b
DASS-Stress Point Mean±SD		13.88±4.51	10.79±5.11	3.088	1.816	<0.001b
DASS Depression Score	Normal	5	107	112	21.495	<0.001a
	Mild	4	50	54		
	Moderate	18	104	122		
	Severe	11	55	66		
	Extremely Severe	38	125	163		
	Total	76	441	517		
DASS Anxiety Score	Normal	5	119	124	48.562	<0.001a
	Mild	5	56	61		
	Moderate	4	64	68		
	Severe	5	56	61		
	Extremely Severe	57	146	203		
	Total	76	441	517		

DASS Stress Score	Normal	4	97	101	23.263	<0.001a
	Mild	9	82	100		
	Moderate	18	91	109		
	Severe	20	105	125		
	Extremely Severe	25	66	91		
	Total	76	441	517		

N. number of participants; SD. standard deviation; DASS. Depression. Anxiety. and Stress Scale. OWGP. overall weighted grade point; BMI. body mass index.
pa statistical signifance p ≤0.05 Chi-square test. pb statistical signifance p ≤0.05 t test for independent groups. * Chi-square test not applied.

(p=0.001), past psychiatric treatment history (p<0.001) and current psychiatric treatment status (p=0.001) were determined to be associated with attempted suicide. Depression scores 3.58 (p<0.001), anxiety scores 5.55 (p<0.001) and stress scores were 3.08 (p=0.001) points higher in university students who attempted suicide compared to those who did not. In addition, the overall weighted grade point average (GPA) of these students was 0.17 points lower (2.62 & 2.80) (p=0.016). The comparison of students with and without previous suicide attempts in terms of sociodemographic and clinical variables is summarized in Table-3.

Discussion

In this study investigating the relationship between suicidal behavior and depression, anxiety and stress levels and sociodemographic characteristics in university students, depression, anxiety and stress levels were found to be higher in university students with current serious suicidal ideation or suicide attempt. In addition, faculty satisfaction, romantic relationship status, overall weighted grade point average, perceived and level of academic performance, socioeconomic status, parental divorce, past and current dieting status, sleep problems, smoking, internet usage time, presence of chronic disease, past and current psychiatric treatment status were determined as factors associated with suicidal behavior.

It was found that 12.8% of the students in this study had severe and 31.5% very severe depression, 11.8% had severe and 39.3% very severe anxiety, and 24.2% had severe and 17.6% very severe stress scores. Our results were higher compared to the results of the study conducted by Bayram and Bilgel (2008) in Turkey using the DASS for depression, anxiety and stress levels in university students (severe depression 6.1% and very severe depression 22%, severe anxiety 14.5% and very severe anxiety 6.3%, and severe

stress 6.1% and very severe stress 0.8%) [3]. This difference may be attributed to factors such as the different sociodemographic structures of the students participating in the study, the methods used in the data collection process and the characteristics of the measurement tools. The use of the online survey method in our study may have caused students with higher psychiatric complaints (32,5% past psychiatric treatment, 12,4% current psychiatric treatment) to show interest in the survey. As for studies conducted worldwide, it was found that 9.7% of university students in Malaysia had severe or very severe depression, 29% had severe or very severe anxiety, and 5.1% had severe or very severe stress [4]. Our study results are in parallel with the findings of the study conducted abroad, but the high anxiety levels are particularly noteworthy. The unique cultural, economic, educational and social dynamics of each country may affect individuals' stress, anxiety and depression levels, and coping styles.

This study determined that 36% of university students had a history of serious suicidal ideation, 6.4% had current serious suicidal ideation, and 14.7% had a history of suicide attempts. Another study conducted among university students in Turkey (Gürkan B et al, 2009), in parallel with our results, determined suicidal ideation and suicide attempt rates to be high (serious suicidal ideation 12.99% and attempted suicide 5.5%) [12].

In our study, when the sociodemographic characteristics of university students with and without serious suicidal ideation were compared, no significant relationship was found between gender and suicidal ideation. This finding coincides with some studies in the literature showing that the effect of gender on suicidal ideation is not always significant [13,14]. In our study, it was determined that the rates of suicidal ideation and suicide attempts were higher in students with

lower socioeconomic status compared to those with higher socioeconomic status. Students with lower socioeconomic status may experience higher levels of stress due to financial difficulties and problems concerning living standards, which may increase symptoms of depression and anxiety [15]. Thus, lower socioeconomic status may indirectly influence suicidal ideation and suicide attempts.

It was determined that 39.5% of the students who participated in this study smoked cigarettes and 47.8% consumed alcohol, and suicidal behavior was higher in students who smoked cigarettes. In a study conducted at Ege University, smoking and alcohol consumption rates were reported as 43.3% and 52.5%, respectively. The results of both studies were similar in terms of the frequency of smoking and alcohol consumption and revealed that smoking and alcohol consumption were common among university students [16]. Although smoking and alcohol are commonly used to cope with stress, it is known that especially heavy alcohol consumption may trigger risky behavior and suicide attempts [17]. In our study, it was determined that approximately one fifth of the students daily spent more than 6 hours online, and similar to the literature, suicidal thoughts and suicide attempts were more common in this group. [18]. Although internet use can be beneficial for students in terms of social connections and access to information, excessive use can lead to social isolation and various mental problems such as depression, anxiety and suicidal behavior [18].

Eating habits and mental health are known to be related [19]. Our study revealed that 46.4% of the students had been on a diet at some point in their lives and 17.4% were still dieting, and suicidal behavior was more common in those students who were currently on a diet. Some studies in the literature have shown that students who remain on a diet for a long time or who are at risk of eating disorders have high levels of depression and anxiety, which may be associated with suicidal thoughts [19]. In our study, it was found that suicide attempts were significantly more common in students whose parents have separated. However, no significant difference was observed in terms of current suicidal ideation. Other studies in the literature on the role of family

structure in suicidal behavior among university students found that serious suicidal ideation was more common in students whose parents were divorced or separated. This result reveals that parental separation may negatively affect the mental health of students [20]. On the other hand, there are also studies reporting that continuation of parental unity does not always have a protective effect, on the contrary, may increase suicidal behaviors in some cases [21]. Parental separation may have contributed to an increase in major suicide attempts in the past, but in our study, we found that it did not have a direct effect on current suicidal thoughts. This suggests that not only family structure, but also other factors may play an important role in the formation of suicidal thoughts. In our study, it was observed that suicidal behavior was more common in students with lower faculty satisfaction, lower perceived and level of academic performance. In the literature, it is emphasized that students who are satisfied with their faculty have lower levels of depression, anxiety and stress, and are therefore less prone to suicidal thoughts [22]. The feeling of academic failure may lead students to feel inadequate, hence negatively affect their mental health and trigger suicidal thoughts [22].

In our study, 16.4% of university students had chronic diseases and 41.8% had sleep problems, and there was a significant relationship between the presence of chronic diseases and sleep problems and suicidal behavior. Chronic diseases and sleep disorders may negatively affect the general mental health of individuals [23]. The constant physical and mental stress caused by chronic diseases can increase depression and anxiety levels, making individuals more prone to suicidal thoughts [23]. Similarly, it has been reported in the literature that sleep disorders disrupt emotional regulation and increase stress levels, hence may trigger suicidal behavior [23].

In our study, suicidal behavior was found to be higher in students who had romantic relationships. The literature reports that this situation may develop due to stress sources such as conflicts experienced during the relationship process and separation anxiety, and emotional fluctuations experienced by individuals while in a relationship, hence the resulting increased anxiety levels may

affect suicidal behavior [24]. In our study, students with a history of receiving psychiatric treatment in the past or currently were found to have higher levels of depression, anxiety and stress and more suicidal thoughts and suicide attempts. These students may have difficulty coping with stressful life events. Individuals with a history of psychiatric treatment may have a higher risk of suicidal thoughts, especially when they encounter similar stressful life events again [25].

This study has some limitations. Since it is a cross-sectional study, a cause-and-effect relationship cannot be established for the results. The scales were performed online rather than face-to-face. In addition, our sample includes the students of only one state university. This study concluded that depression, anxiety and stress levels are high in university students, and depression, anxiety and stress levels may be related to suicidal thoughts and attempts. In addition, it was concluded that various individual factors such as faculty satisfaction, romantic relationship status, perception and level of academic performance, past or current dieting status, sleep problems, smoking, internet usage time, presence of chronic disease and past or current psychiatric treatment status, and various environmental factors such as parental separation and socioeconomic level may be associated with suicidal thoughts and attempts. Considering our research results, we conclude that it is necessary to establish psychosocial support units where students can get help with the problems identified. It seems necessary that these units should provide social and psychological support to students and be organized in a way to provide intervention especially in vital crisis situations such as suicidal thoughts/suicide attempts.

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