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RESEARCH ARTICLE

AN INVESTIGATION OF STRESS, ANXIETY AND DEPRESSION STATES OF UNIVERSITY STUDENTS DURING THE COVID-19 PANDEMİC

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ABSTRACT

Introduction: This study was planned to investigate stress, anxiety, and depression states of university students during the COVID-19 pandemic.
Material and Methods: This research was designed as a descriptive and cross-sectional study. The study group comprised students who were studying at the university, were over the age of 18 years, and agreed to participate in the research. An online survey was introduced to 540 university students (sample). Dependent variables were stress, anxiety, and depression. Independent variables included sociodemographic variables, chronic disease, having acquaintances with a diagnosis of COVID-19, presence of an at-risk individual in the home, participants' thoughts regarding the preventive measures, their hopes for the future, feeling rested upon awakening, and types of anxiety and problems experienced during the COVID-19 period. An introductory information form developed by the research authors was used along with the Depression, Anxiety, and Stress Scale (DASS-21). Kolmogorov–Smirnov, Mann–Whitney U test, Kruskal–Wallis VA, Post-Hoc Analysis, Odds Ratio (OR) and The Point-Biserial Correlation Coefficient tests were used in the study.
Results: The majority of students were women (73.2%); undergraduate students comprised the majority of the sample (64.9%); more than half (54.8%) were ages 20–21 years; and more than a third (34.6%) had a low or very low-income level. Nearly all the students (96.3%) stayed with their families during the pandemic, and one-fifth lived in villages. Related to their situations during the pandemic, most university students reported depression (79.7%), anxiety (61.4%), and stress (68.6%). Sex (p=.001), income (p=.001), chronic disease (p=.001), presence of an at-risk individual (persons with a chronic disease, a healthcare worker, etc.) (p=.025), lack of hope for the future (p=.001), and feeling unwell after sleep (p=.001) were found to be factors affecting the students' DASS-21 total score. A positive correlation was found between future anxiety and depression (rpb=.088, p=.035) as well as future anxiety and stress (rpb=.105, p=.012).
Conclusion: The results of the present study suggest that the COVID-19 pandemic has had a significant psychosocial effect on university students.

Key Words: COVID-19, student, depression, anxiety, stress

INTRODUCTION

The 2019 coronavirus (COVID-19) has affected billions of people globally and is now a public health crisis (1). The outbreak was rapidly declared a global pandemic (2) as COVID-19 displayed all the typical characteristics of one (1).

During past decades, humankind has witnessed the emergence of new diseases in widespread geographic areas, with pathogens such as the Ebola, Zika, and Nipah viruses, and various coronaviruses (CoVs) (3, 4). Although it has been suggested that COVID-19 had a zoonotic origin (from an animal host) and subsequently spread via human-to-human infection, other routes such as foodborne transmission may also have spread the disease (3).

In December 2019, Chinese experts reported the outbreak of an epidemic to the World Health Organization (WHO); the epidemic started to spread rapidly in Wuhan, the capital city of Hubei Province in China (5). Identified as COVID-19 (SARS-CoV-2 infection) (6), this virus belongs to the same group that causes severe acute respiratory syndrome (SARS) and the Middle East respiratory syndrome (MERS). The virus causes serious acute respiratory infections with asymptomatic, mild, or severe symptomatic progress (7), and the outbreak was declared to be a pandemic by WHO. The first case of COVID-19 was identified in Turkey on March 11, 2020 (8,9).

The effects of the pandemic are not limited to the risk of death attributable to infection; they have included intolerable psychological pressure both in China and globally (10). The pandemic's psychological effects were seen in the public, patients, medical staff, children, and university students among others (11), and the serious implications of COVID-19 have been observed particularly in public institutions and universities (2).

When faced with such a serious and critical situation, it is quite possible to experience mental health problems such as stress, anxiety, and depression as a society. As part of this process, an increasing number of positive and suspicious cases, reports about the number of daily deaths caused by the virus, the alteration of daily routines, and the concern that individuals might soon become sick themselves may result in emotional problems due to the deterioration of a sense of trust in the environment in which individuals live.

Widespread preventive measures at the governmental level included school closures, social restrictions (e.g., shutdowns of cafes, restaurants, malls), limitations regarding the movements of people and, so-called sanitary cordons (i.e., city- or region-wide quarantines) (12). As of March 17, 2020, in Turkey, the activities of theaters, cinemas, restaurants, coffee shops, internet cafes, outdoor children's playgrounds, and hairdressers were suspended (13). At short notice, millions of university faculty members in China had to use online learning tools to deliver their course materials remotely, while students had to stay home and continue their academic studies via the internet (14). The mode of education for university students changed, and this transition to distance learning occurred in Turkey beginning on March 23, 2020, as well as in other formal educational institutions globally. With the introduction of distance-learning educational systems, students' customary learning style had to change (15).

In addition to those complexities that arise from adolescence and young adulthood, the university years are those during which individuals experience many other problems and challenging adjustments, including separation from home and family, adaptation to a new environment, deciding on a profession, and uncertainty about finding a job. The intensity of these problems may interfere with young people's abilities to make sound evaluations and lead to certain issues. At this time of confusion, which has been further complicated by the emergence of a global crisis, an investigation into the levels of stress, anxiety, and depression becomes important among this high-risk group.

It has been suggested that the COVID-19 outbreak, which has disrupted human life, has also become a major source of stress and a serious concern for university students, as well as the rest of society. The results of this research will be an important asset for evaluating the mental health burden of university students.

This study was planned to investigate stress, anxiety, and depression states of university students during the COVID-19 pandemic.

MATERIAL AND METHODS

Study Group

This research was designed as a descriptive and cross-sectional study. The study group comprised st

udents who were studying at the university, were over the age of 18 years, and agreed to participate in the research. Students were enrolled in the study using a random sampling method that is among non-probability sampling methods. An online survey was distributed to 540 university students (study sample). The majority were from the province of Denizli and the others were from the provinces of Istanbul, Ankara, Aydin, Nigde, and Izmir in Turkey.

Data Collection

Data for the study were collected between May 7 and May 21, 2020, via social media or e–mail. A face-to-face interview method was not used due to COVID-19 precautions. The study questionnaire given to participants included a description of the study, the purpose of the research, and the content of the study forms. In addition, study participants were assured that the information collected from them would remain confidential and that the study data would be used only for scientific research. Informed consent was obtained from all participants before the study was initiated.

Variables

Dependent variables were stress, anxiety, and depression. Independent variables included sociodemographic variables, chronic disease, having acquaintances with a diagnosis of COVID-19, presence of an at-risk individual in the home, participants' thoughts regarding the preventive measures, their hopes for the future, feeling rested upon awakening, and types of anxiety and problems experienced during the COVID-19 period. To collect the data for this study, an introductory information form developed by the researchers was used in addition to the Depression, Anxiety, and Stress Scale (DASS-21).

Depression, Stress, and Anxiety Scale (DASS–21*)*

The Depression, Stress, and Anxiety Scale (DASS-21) was designed to measure the negative emotional states of depression, anxiety, and stress by means of a set of three self–report scales. Its goal is to provide improved understanding and differentiation of depression, anxiety, and stress, the most commonly reported difficulties, through a 42-item self-report inventory. The DASS-21 comprises a total of 21 items under three subscales that include seven items each. It uses a four-point Likert-type scale with responses to each item being scored between 0 and 3. Higher scores are associated with higher symptom levels for each domain, and the total score of all items indicates a measure of the respondent's psychological distress. Reliability scores for the depression, anxiety, and stress subscales were found to be α=.91, α=.84, and α=.90, respectively (16).

In the original paper in which the scale was developed, the authors reported that the short version of the scale, comprising 21 items, could be used. In the short 21-item version, 7 items belong to the depression subscale, 7 items to the anxiety subscale, and 7 items to the stress subscale. Henry and Crawford (2005) suggested that Cronbach's alpha internal consistency reliability coefficient values for the depression subscale, the stress subscale, and the entire scale were 0.88, 0.90, and 0.93, respectively (17).

The Turkish adaptation of the scale, with a validity and reliability study, was performed by Yıldırım et al. (2018). In the Turkish version, internal consistency coefficients were found to be α=.89 for depression, α=.87 for anxiety, and α=.90 for stress (18, 19). The scale may prove to be a convenient tool for mental health nurses and other first-line psychiatric professionals in need of a short, feasible, and valid instrument for the purposes of everyday care (20). Based on Cronbach's alpha, for the present study, internal consistency value for the entire DASS-21 was .94 and .88, .86, and .86, for the depression, anxiety, and stress subscales, respectively.

Statistical Analysis

Data were analyzed using the Statistical Package for the Social Sciences 24.0. A descriptive statistics analysis was performed with the aim of showing the demographic and other characteristics of the study participants. Kolmogorov–Smirnov, Mann–Whitney U test, Kruskal–Wallis VA, Post-Hoc Analysis, Odds Ratio (OR) and The Point-Biserial Correlation Coefficient tests were used in the study. A two-tailed $p<.05$ was considered statistically significant.

Ethical Approval

Ethical permission was obtained from Pamukkale University Non-Invasive Clinical Research Ethics Committee for this research (Approval date: 06.05.202, Number: 60116787-020/28664). Informed consent was provided by all study participants and collected along with the information provided to the respondents prior to data collection.

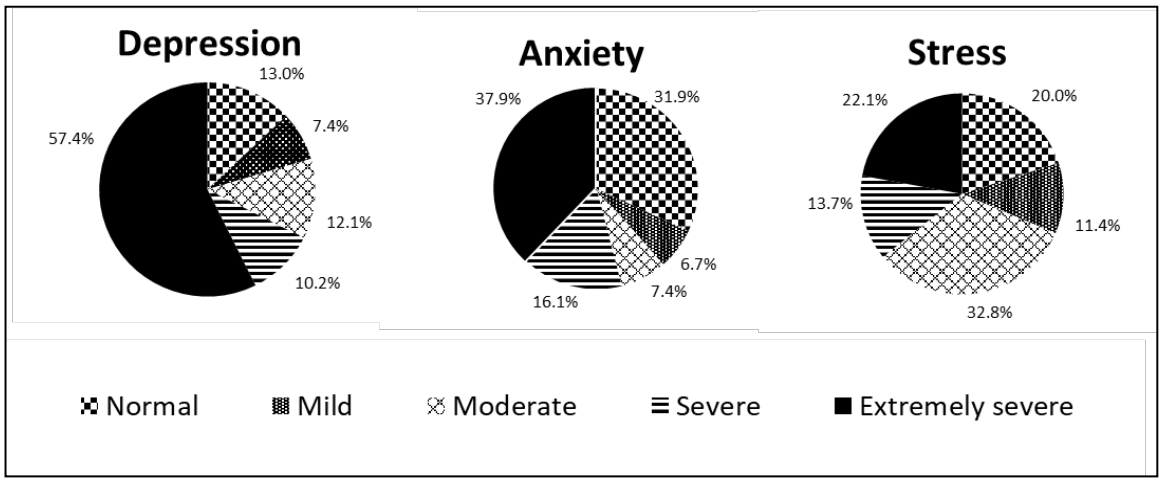

Figure 1. University students' depression, anxiety, and stress levels (n=570)

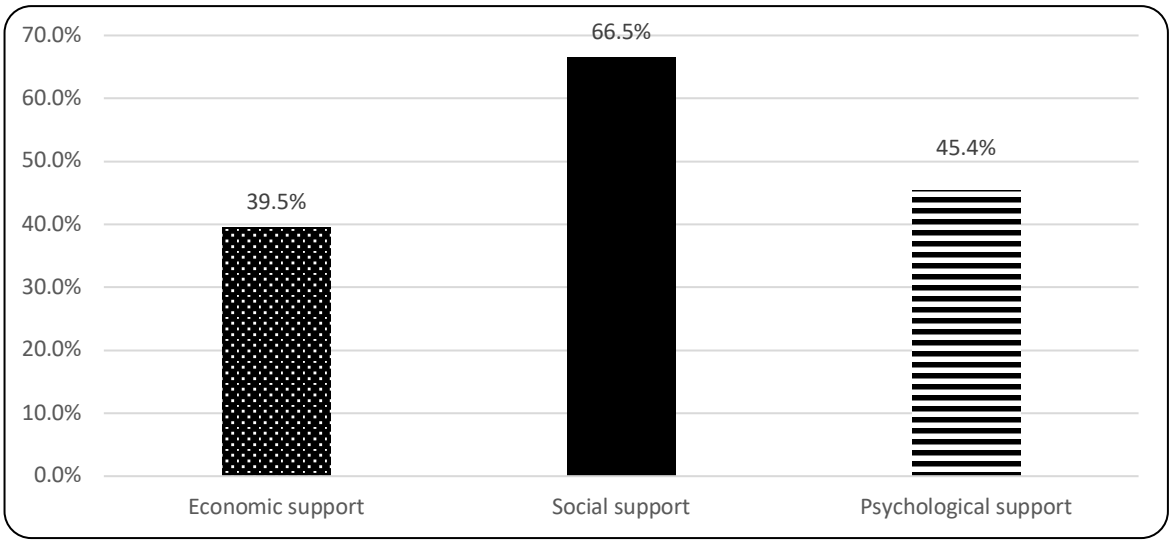

Figure 2. Types of support required by the university students during the COVID-19 (n=570)

RESULTS

The majority of the study participants were female (73.2%) and undergraduate (64.9%) students. The average age of students was 20.7±1.18 years, and more than half were ages 20–21 years (54.8%). One-third of the respondents (34.6%) had a low or very low-income level. Most students stayed with their families (96.3%) during the pandemic, and one-fifth 21.8%) lived in villages (Table 1).

The depression, anxiety, and stress scores of the female participants were statistically significantly higher than those of the male participants ($p<.05$). Those students with a very high-income level were found to have a lower DASS-21 score (7.33±8.06) compared to those with very low income (20.0±9.73). The differences between students with a very high, high, low, and very low-income status were found to be statistically significant ($p<.05$). Tamhane analysis revealed a difference in depression scores between those with very low or high incomes ($p=.018$) and those with very high ($p=.007$) incomes. In addition, depression scores were found to be statistically significant in those respondents with a low income or a high income ($p=.002$), as well as in students with a very high income ($p=.034$). This analysis further revealed a significant difference regarding the anxiety scores of respondents with a very low or a high-income level ($p=.025$), as well as those with a very high-income level ($p=.001$). In addition, the differences in anxiety scores were found to be statistically significant among respondents with low incomes and those with very high incomes ($p=.002$).

Table 1. DASS-21 scores by sociodemographic of university students during COVID-19 (n=570)

Sociodemographic	N (%)	Subscale Depression Median (min-max)	Anxiety Median (min-max)	Stress Median (min-max)	Total Scale Median (min-max)
Sex					
Female	417(73.2)	16(0-42)	8(0-42)	12(0-40)	18(0-57)
Male	153(26.8)	12(0-38)	6(0-32)	10(0-38)	13(0-44)
		U=24094.50, ***p*=.001**	U=27560.50, ***p*=.012**	U=23726.50, ***p*=.001**	U=24502.00, ***p*=.001**
Age (18–38, 20.77±1.18)					
18–19 years	117(20.5)	16(0-38)	8(0-38)	12(0-34)	17(2-44)
20–21 years	312(54.8)	14(0-42)	8(0-34)	10(0-38)	15(0-53)
22+	141(24.7)	14(0-42)	6(0-42)	10(0-40)	15(0-57)
		χ^2=1.393, *p*=.498	χ^2=4.003, *p*=.135	χ^2=4.161, *p*=.125	χ^2=3.841, *p*=.141
Education					
College student	200(35.1)	14(0-42)	6(0-38)	12(0-34)	15(0-44)
Bachelor's student	370(64.9)	14(0-42)	8(0-42)	10(0-40)	16(0-57)
		U=35721.00, *p*=.448	U=33821.00, *p*=.075	U=36315.50, *p*=.707	U=35658.00, *p*=.474
Income					
Low	168(29.5)	16(0-42)	8(0-42)	12(0-40)	17(0-57)
Very low	29(5.1)	18(6-42)	14(0-38)	20(2-36)	25(4-53)
High	364(63.9)	14(0-38)	8(0-32)	10(0-36)	15(0-44)
Very high	9(1.6)	4(0-22)	0(0-10)	0(0-18)	2(0-23)
		χ^2=23.275, ***p*=.001**	χ^2=20.816, ***p*=.001**	χ^2=29.354, ***p*=.001**	χ^2=27.588, ***p*=.001**
Lives with…					
Living alone	13(2.3)	18(0-32)	12(0-32)	16(0-28)	24(0-44)
Lives with parents	550(96.3)	14(0-42)	8(0-42)	10(0-40)	15(0-57)
Lives with friends	7(1.2)	10(0-22)	16(0-20)	10(0-24)	17(0-28)
		χ^2=2.773, *p*=.250	χ^2=3.557, *p*=.169	χ^2=.719, *p*=.698	χ^2=1.139, *p*=.566
Place of residence					
Province	275(48.5)	16(0-40)	8(0-34)	10(0-36)	16(0-52)
Town	171(30.0)	14(0-42)	8(0-42)	12(0-40)	15(0-57)
Village	124(21.8)	14(0-42)	8(0-34)	10(0-38)	14(0-53)
		χ^2=.728, *p*=.695	χ^2=1.507, *p*=.471	χ^2=.852, *p*=.653	χ^2=.957, *p*=.620

Tamhane analysis also showed statistically significant differences regarding stress scores between respondents with very low incomes and those with high (p=.005) or very high incomes (p=.001). Additionally, there were statistically significant differences between respondents with low incomes and high incomes (p=.001) and very high incomes (p=.019) (Table 1).

Table 2 suggests that during the COVID-19 pandemic the depression (p=.001), anxiety (p=.001), and stress (p=.001), scores of those students with a chronic disease were higher than those without a chronic disease. The depression (p=.042) and anxiety (p=.031) scores of those respondents who lived at home with at-risk individuals (age 65 years or older, healthcare workers, individuals with chronic illness, etc.) were found to be significantly different from those who did not. Depression (p=.001), anxiety (p=.001), and stress (p=.001) scores decreased when respondents felt hopeful about the future, and this decrease was found to be statistically significant. Games–Howell post-hoc analysis revealed a difference in students' depression, anxiety, and stress scores with hope for future that was statistically highly significant (p=.001). Depression (p=.001), anxiety (p=.001), and stress (p=.001) scores decreased when respondents felt rested after sleeping. According to the Games–Howell analysis, the differences in respondents' depression, anxiety, and stress scores when they felt rested were statistically highly significant (p=.001).

Depression levels of the university students during the COVID-19 pandemic were found to be moderate for 12.1%, severe for 10.2%, and extremely severe

Table 2. DASS-21 scores of university students according to certain variables during COVID-19 (n=570)

		Subscale			Total Scale
		Depression	**Anxiety**	**Stress**	
	n(%)	Median (min-max)	Median (min-max)	Median (min-max)	Median (min-max)
Chronic disease					
Yes	45(7.9)	22(0-40)	12(0-42)	14(0-40)	23(0-57)
No	525(92.1)	14(0-42)	8(0-38)	10(0-38)	15(0-53)
		U=6021.50, ***p*=.001**	U=7113.00, ***p*=.001**	U=6743.00, ***p*=.001**	U=6154.00, ***p*=.001**
Relative or acquaintance infected by COVID-19					
Yes	105(18.4)	14(0-38)	8(0-38)	12(0-36)	16(0-44)
No	437(76.7)	14(0-42)	8(0-42)	10(0-40)	15(0-57)
Suspected	28(4.9)	16(0-38)	10(0-26)	13(0-32)	19(0-39)
		χ^2=1.554, *p*=.460	χ^2=2.823, *p*=.244	χ^2=2.449, *p*=.294	χ^2=3.294, *p*=.193
At-risk individual at place of residence					
Yes	240(42.1)	16(0-42)	8(0-38)	12(0-38)	16(0-53)
No	330(57.9)	14(0-42)	8(0-42)	10(0-40)	15(0-57)
		U=35656.50, ***p*=.042**	U=35433.50, ***p*=.031**	U=36371.50, *p*=.094	U=35259.50, ***p*=.025**
View regarding precautions					
Adequate	298(52.3)	13(0-38)	6(0-42)	10(0-40)	14(0-57)
Inadequate	272(47.7)	16(0-42)	8(0-38)	12(0-369	17(0-53)
		U=31769.00, ***p*=.001**	U=34158.00, ***p*=.001**	U=32170.50, ***p*=.001**	U=32000.50, ***p*=.001**
Hope for the future					
Yes	128(22.5)	8(0-34)	6(0-30)	8(0-32)	10(0-40)
No	203(35.6)	18(0-42)	8(0-42	14(0-40)	20(0-57)
Partially	239(41.9)	14(0-38)	8(0-32)	10(0-34)	15(0-42)
		χ^2=101.526, ***p*=.001**	χ^2=31.712, ***p*=.001**	χ^2=70.099, ***p*=.001**	χ^2=76.272, ***p*=.001**
Feeling rested after sleep					
Yes	111(19.5)	8(0-34)	4(0-28)	8(0-38)	10(0-44)
No	229(40.2)	18(0-42)	10(0-42)	14(0-40)	20(0-57)
Partially	230(40.4)	14(0-36)	8(0-24)	10(0-34)	14(0-42)
		χ^2=100.51, ***p*=.001**	χ^2=63.11, ***p*=.001**	χ^2=82.676, ***p*=.001**	χ^2=94.657, ***p*=.001**

for 57.4% of respondents. Their anxiety levels were found to be moderate for 7.4%, severe for 16.1%, and extremely severe for 37.9%. Comparatively, students' stress levels were moderate for 32.8%, severe for 13.7%, and extremely severe for 22.1% (Figure 1). A positive correlation was found between future anxiety and depression (rpb=.088, p=.035) as well as future anxiety and stress (rpb=.105, p=.012) (Table 3).

Figure 2 illustrates that 39.5% (n=225) of university students needed economic support, 66.5% (n=379) needed social support, and 45.4% (n=259) needed psychological support (some students may have marked only a single option) during the COVID-19 epidemic in Turkey.

As a result of the epidemic in their country, most students (68.9%) stated that they experienced confusion and/or impairment regarding their concentration as well as burnout. Nearly half reported that they experienced fear (41.1%) and lethargy (45.1%), whereas about a third of the students experienced anger (32.1%) and anxiety-related insomnia (32.6%) (Table 4).

Factors of significance obtained during the univariate analysis were incorporated into the ordered logistic regression analysis. In the model test, a value of p<.05 suggested that the OR value of at least one variable was statistically significant. The results further suggested that the likelihood of depression was present in those students who reported feelings of drowsiness, burnout, and confusion and was higher compared to those who did not report such feelings. Feeling guilty, mourning, and anxiety-related insomnia were also found to increase the likelihood of anxiety compared to students who did not report such conditions. In addition, those students who reported experiencing anger, anxiety, insomnia, fear, burnout,

Table 3. Relationship between types of anxiety among students during the pandemic and their depression, anxiety, and stress scores (n=570)

		Subscale					
		Depression		Anxiety		Stress	
Types of Anxiety	**n(%)**	r_{pb}	***p***	r_{pb}	***p***	r_{pb}	***p***
No	67(11.8)	-.010	.808	-.059	.162	-.044	.292
Finding a job	162(28.4)	.036	.386	.060	.149	.062	.137
Vital anxiety	199(34.9)	.056	.178	.072	.088	.070	.096
Educational anxiety	272(47.7)	.035	.410	.053	.206	.027	.519
Parents' COVID-19 potential	280(49.1)	.012	.783	.019	.655	.018	.661
Anxiety about future	305(53.5)	.088*	**.035**	.057	.173	.105*	**.012**

NOTE: More than one option could be marked.
* r_{pb} (Point-Biserial Correlation Coefficient) is significant at the 0.05 level (2–tailed).

and confusion were found to have an increased likelihood of stress compared to those who did not report these difficulties (Table 4).

Table 5 presents the university students' methods of coping with stress during the COVID-19 pandemic. Nearly half the students reported that they read books, did physical exercise, watched movies (40.4%), and prayed (47.0%) during this period. The percentage of those who tried not to adapt to the situation was 47.2%; the percentage of those who fulfilled their relevant responsibilities was 57.2%; and the percentage of those who hoped that this situation would improve was 58.6% (Table 5).

DISCUSSION

This study found that stress, anxiety levels, and depression scores during the COVID-19 pandemic were higher among women, those who reported living in poor economic conditions, and those with chronic diseases. Similar studies have suggested that anxiety and depression rates are higher among women, students, those with symptoms suggestive of COVID-19 itself, and those with a negative impression of their health (21,22). Being young, having a negative impression of one's economic situation, and having a negative perception regarding one's physical health are stressors for the individual and support the fact that these are at-risk groups in regard to experiencing anxiety and depression. These findings are particularly important in relation to the development of support programs for these at-risk groups in universities. Contrary to the findings of the present study, certain other studies have suggested that there was no difference in anxiety and depression levels between men and women (4,23).

Hopelessness—the belief that there are no alternatives or options for solving problems or achieving certain desired goals—has a direct relationship with depression. It has also been suggested that there is a link between insomnia and the inability to rest or sleep due to anxiety. Individuals with intense anxiety may also experience sleep problems. In addition, despite all the measures taken, being unable to relax is generally observed in anxious individuals (24). In support of the foregoing, the present study indicated that those who reported living with an at-risk individual regarding COVID-19, those who thought that measures being taken to prevent its spread were insufficient, those who stated that they felt hopeless, and those who did not feel rested after sleeping had higher stress, anxiety, and depression scores.

It was determined that depression, anxiety, and stress levels were severe among those who participated in this study. In their study, Wang et al. (2020) determined that, among the general population in China, the average DASS-21 score was 20.16±20.42 during the pandemic. In addition, Wang et al. (2020) found that 12.2% of individuals reported moderate depressive symptoms, and 4.3% reported severe to extremely severe depressive symptoms; furthermore, 20.4% reported moderate anxiety, while 8.4% reported severe to extremely severe anxiety levels (25). Comparatively, Cao et al. (2020) reported that respondents who experienced severe anxiety, moderate anxiety, and mild anxiety constituted 0.9%, 2.7%, and 21.3% of their study's respondents, respectively (23). In a study conducted in China with a sample of 1,074 Chinese people, the majority of whom were from Hubei Province, anxiety levels were reported as mild in 10.1% of individuals, moderate in 6.0%, and severe in 12.9%, whereas depression levels were reported as being mild in 10.2% of individuals, moderate in 17.8%, and severe in 9.1% of (4). In the present study, students' depression,

anxiety, and stress scores were found to be higher compared to those of the other studies.

Another study indicated that university students already have considerable concerns about their post-graduate employment and their future (26). The change in the mode of education after the COVID-19 outbreak caused uncertainties to increase even further due to the radical change in social life and curfews. In regard to the present study and its student participants, a positive relationship was found between finding a job and stress, as well as between future anxiety and depression and anxiety. Similarly, in a study by Elmer et al. (2020), it was suggested that university students worried about missing out on their social life, health, family, friends, and their future, which created stress among this cohort (27).

Along with a deterioration in nationwide health status, the pandemic would also pose a significant risk for the domestic economy and working individuals (28). The world's focus has shifted to those preventive measures aimed at mitigating human-to-human transmission and the economic aftermath of the COVID-19 pandemic (29). This situation is expected to have a negative financial impact on students related to an increase in their likelihood of missing out on employment opportunities (2). A stable family income is also a significant factor in regard to anxiety among students during this health crisis (23). Isolation and substantial financial difficulties have resulted in many people becoming psychologically troubled (4). In this study, which was conducted in parallel with the literature, university students stated that they most needed social, psychological, and economic support during the pandemic. Social support not only reduces psychological pressure during crises such as epidemics but also changes attitudes toward social support and help-seeking methods (23).

In the literature, the crisis is explained as preventing the individual from pursuing life-related goals or his or her inability to use known problem-solving strategies. The pandemic has resulted in people experiencing a global crisis, and they may experience emotions and problems including guilt, anger, insomnia, fear, drowsiness, burnout, and an inability to concentrate. As a result of the persistence of such problems and failure to activate effective coping mechanisms, the level of stress and anxiety in people may increase and, therefore, individuals may feel depleted and subsequently become depressed (24). In this study, the problems experienced by the students were similar to those found in other studies. It was further determined that there was a relationship between the problems experienced by individuals and their stress, anxiety, and depression scores. During this public health crisis, excessive and incorrect information circulating on the internet has affected mental health and well-being, leading to problems that can increase stress levels (30-32).

Coping with stress is the cognitive and behavioral effort exerted by individuals as a result of their assessment of whether or not internal or external demands arising from their interaction with the environment exceed their own resources. Coping has two important functions: dealing with the problem (problem-focused coping) that leads to trouble and organizing emotions associated with the problem (emotion-focused coping). Problem-focused coping, on one hand, involves calm, rational, and planned efforts toward solving the problem and effective

Table 5. University Students' methods for coping with stress during COVID-19 (n=570)

Coping Methods	n(%)
Ignoring the situation	20(3.5)
Frequent alcohol use	7(1.2)
Frequent smoking	62(10.9)
Crying	69(12.1)
Trying to forget	119(20.9)
Frequent eating	134(23.5)
Frequently talking about the situation with relatives and friends	145(25.4)
Reading, physical exercise, watching films	230(40.4)
Praying	268(47.0)
Trying to adapt to the situation	269(47.2)
Fulfilling one's responsibilities	326(57.2)
Hoping the situation will improve	334(58.6)

NOTE: More than one option could be marked.

interpersonal effort to change one's situation. On the other hand, emotion-focused coping involves setting a distance, providing self-control, seeking social support, taking responsibility, and positive reevaluation. It is problem-focused coping that is both desired and effective when attempting to manage stress (33). In this study, it can be said that the students generally applied emotion-focused coping. Contrary to the findings of the present study, one of the most frequently adopted coping methods of individuals in China throughout the pandemic was reported to be alcohol use; it has been stated that this usage has now reached the level of alcohol dependence or abuse (4). The fact that the coping methods of the individuals were in the specified manner suggests that a substantial majority of the respondents were Muslim because alcohol is haram.

Limitations of the Study

This study has several limitations. The most important is the lack of representation of the universe. The cross-sectional design, the use of a non-probability sampling method, and the involvement of only volunteers who participated in an online survey are among the study's other limitations. Second, the information obtained from university students was restricted to the specified dates. Therefore, a potential change in students' moods may have occurred as the processes related to this pandemic have progressed further. Third, due to the small amount of research on this subject, the discussion part of this study was based on limited support from the literature.

CONCLUSION

As a result, stress, anxiety, and depression scores were found to be higher in women, those who had a negative impression of their economic status, those with a chronic disease, those who reported that they lived with an at-risk individual, those who stated that the measures taken against COVID-19's spread were inadequate, those who expressed a feeling of hopelessness, and those who stated that they did not feel rested after sleeping. The study found that the stress, anxiety, and depression levels of university students during part of the COVID-19 epidemic were extremely high. A positive relationship was found between job anxiety and stress, as well as between future anxiety and stress, and anxiety and depression. Furthermore, a relationship between feeling depleted, exhausted, and having impaired concentration and depression was also determined herein. In this study, it was also determined that there was a relationship between feeling guilty, mourning, and insomnia and anxiety. Anger, fear, burnout, and impaired concentration were associated with stress. More than half the students hoped that the situation would improve, seeing this as a method of coping with stress.

According to these results, it is necessary to create opportunities for students to express their negative emotions. It is especially important to motivate students to consult mental health professionals. In addition, providing robust, free Wi-Fi networks and mobile phones, chargers, electrical outlets, and internet access will enable students to communicate directly with their loved ones and, thereby, reduce their stress, anxiety, and depressed feelings. In addition, it may be useful to provide students with online or smartphone-based psychoeducation about the virus outbreak.

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