

Psychological Status of College Students During COVID-19 Pandemic: A Cross-Sectional Study in Saudi Arabia

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Purpose: This study aimed to assess the prevalence and associated factors of depression, anxiety, and stress among college students in Saudi Arabia during the COVID-19 outbreak.

Methods: This cross-sectional study was conducted between February 10th to April 10th, 2021. An online self-administered questionnaire was emailed to college students at a large institution in Saudi Arabia. The questionnaire consisted of sociodemographic, educational backgrounds, and the Depression Anxiety Stress Scale-21 (DASS-21).

Results: The study included 311 university students (62.7% female and 39.3% male). The prevalence of higher than moderate level in each of the depression, anxiety, and stress were (n= 164, 52.7%), (n= 222, 71.4%), and (n= 112, 36%), respectively. Further analysis revealed that females, younger age, history of depression, history of being quarantined by a health authority, and having contact with a confirmed case of COVID-19 were associated with a greater level of depression, anxiety, and stress.

Conclusion: Depression, anxiety, and stress were highly prevalent among college students during the outbreak. There was a significant association between demographic characteristics and the DASS 21 score. Researchers are recommended to concentrate their future studies on establishing strategies to enhance students' flexibility and adaptability in the face of future catastrophes.

Keywords: COVID-19, DASS-21, psychological effect, depression, anxiety, stress, students

Introduction

The COVID-19 pandemic increased not only the risk of physical harm from the virus but also caused undesirable mental effects on the population. Several studies were conducted to report the psychological impact of this epidemic on the general population, healthcare providers, and patients.¹⁻⁴ To stop the disease from spreading, China and all other countries followed the strategy of lockdowns, either nationwide or in specific areas which are at risk. Educational institutions, financial institutions, economic activity centers, and recreation centers have closed indefinitely. As of April 2020, more than 300 million students were affected by COVID-19 globally.⁵ Consequently, many schools and colleges have decided to close or resort to distance learning worldwide. Celebrations and public gatherings were prohibited. Patients with severe infections were treated in hospitals, while those with less severe conditions were placed in quarantine centers. These measures successfully limited the spread of the COVID-19 disease, and they were like those that were successful during the H1N1 pandemic and the SARS outbreak.⁶

However, aside from the risk of infection and physical complications, the pandemic places enormous psychological strain on the population worldwide. Several research has examined the epidemics' short- and long-term consequences on the population's social and psychological health. Even after they have recovered, those who have tested positive for COVID-19 were stigmatized, discriminated, and isolated in their community.⁷ Long quarantine duration, fears of infection, frustration, restricted supplies, poor communication, financial loss, and discrimination were among the psychological stressors experienced by those quarantined.⁸

Furthermore, anxiety among college students is already a public health issue. Many previous studies have examined students' anxiety, depression, stress, and factors that may affect students' mental health globally. In a systematic review study concerning the mental disorders of the students during COVID-19 in Bangladesh, mild to severe symptoms of depression, anxiety, and stress were highly prevalent among the studied cohort.⁹ Furthermore, systematic review and meta-analysis results revealed that COVID-19 poses mental health risks to young people and college students.^{10,11} According to Li et al, depression and anxiety significantly increased during the COVID-19 pandemic among college students.

Looking at students in Saudi Arabia, Amr et al found that 20% of college-level Saudi students are anxious.¹² Al-Gelban (2009) claimed that 14.3% of secondary school students have anxiety.¹³ In contrast, Al-Gelban (2007) found significantly higher anxiety levels (48.9% and 66.2%, respectively) among high school students.¹⁴ In another study, Alenazi found that the prevalence of depression, anxiety, and stress among 375 respondents was 56.3%, 56%, and 41.9%, respectively.¹⁵

Given the widespread of COVID-19 and the transfer to virtual education are extraordinary and new experiences in Saudi Arabia; therefore, significant psychological challenges among the students are anticipated. The distress of having the virus or transmit it to loved ones, combined with the need to adjust to the new education and assessment strategies, would have enormous stress on the students. In addition to the new strategies of teaching, educational institutions must assess the students' psychological well-being to take appropriate measures to assist students in coping with unprecedented changes.¹⁶ Therefore, it is imperative to examine the impacts of COVID-19 pandemic on the mental health of the general population and specifically on high-risk groups, including students who are at a greater risk for psychological disorders compared to others.¹⁷ Hence, this study examined the prevalence and associated factors of depression, anxiety, and stress among college students in Saudi Arabia during the COVID-19 pandemic.

Materials and Methods

Research Design, Setting, and Sample

Design

A cross-sectional design with qualitative methods was used in this study.¹⁸

Setting

This study was conducted at one of the largest governmental universities in Saudi Arabia. This university is specialized in health sciences and has 14 colleges on three university campuses in three different regions: Riyadh, Jeddah, and Al-Ahsa. The total number of students who are enrolled in this university as of 2021 is approximately 14,000.

Sample

G power software was used to calculate the minimum sample size to produce statistical power of 80%. Based on the criteria of a confidence level of 95%, a margin error of 5%, using a population size of approximately 14,000 university students, and the expected frequency of depression, anxiety, and stress as primary outcomes at 50%, the required sample size is 134 college students. However, the sample size was doubled to 300 college students to be a more representative sample. Students were recruited by a convenience sampling strategy, where the invitations to participate were sent to all students through their university's emails.

Data Collection Procedure and Timeline of the Survey

Data were collected through e-link using Google forms between February 10th to April 10th, 2021. The author chose to address this date, while the COVID-19 concern is at its peak rather than waiting until the end of summer. By email, the students were invited to participate in the study, informed on the aims of the study, and assured anonymity and confidentiality of their participation. Those who agreed to participate have electronically consented. Our procedures were comparable to those obtained using the standard data collection techniques. This method also promotes self-disclosure among research participants, which is especially important for sensitive topics like depression, anxiety, and stress.¹⁹

Research Instruments and Measurements

This study's instrument included a structured self-reported questionnaire that covered different areas: (1) sociodemographic data, (2) medical history, (3) COVID-19 contact history, and (4) mental health status, including depression, anxiety, and stress.

Sociodemographic variables comprised gender, age, marital status, college and region, year of education, residence, living with parents, and household income. The medical history included personal and family history, such as a history of chronic medical conditions, hospitalization, quarantine by a health authority, COVID-19 testing, and diagnoses of COVID-19 status. Contact history with COVID-19 variables included questions about any direct and indirect communication history with a suspected and positive case of COVID-19.

The mental health status (depression, anxiety, and stress) was assessed using the short version of Lovibond and Lovibond's (1995) 42-item scale, which is the Depression, Anxiety, and Stress Scales-21 (DASS-21).^{20,21} DASS-21 was used to measure the negative emotional states of depression, anxiety, and stress. The DASS-21 is a self-report scale with three subscales with 7 Likert scale items ranging from 0 (Did not apply to me at all) to 3 (Applied to me very much or most of the time). Final scores were calculated by adding the items per (sub)scale and multiplying them by 2. Thus, the total scores for the DASS-21-total scale ranged between 0 and 120, and those for each subscale ranged between 0 and 42. Scores for each subscale were classified into five severity ranges: normal, mild, moderate, severe, and extremely severe. The cut-off points for each category were as follows: for depression subscale, normal (0–9), mild (10–13), moderate (14–20), severe (21–27), and extremely severe (28 and more); for anxiety subscale, normal (0–7), mild (8–9), moderate (10–14), severe (15–19), and extremely severe (20 and more); for the Stress subscale, normal (0–14), mild (15–18), moderate (19–25), severe (26–33), and extremely severe (34 and more).^{20,21}

Since this study was conducted in a health-specialized governmental university that has an English exam before enrolling students in the programs, all students are expected to know English very well; therefore, the instrument was administered in its original language, English.

The DASS-21 scale has been used in the literature to measure our variables of interest (depression, anxiety, and stress), and it has been shown to have high internal consistency among various populations before and during the COVID-19 epidemic.^{22–25} The DASS-21 scale is a reliable and valid tool with reliability coefficients of 0.91, 0.85, and 0.89, respectively.²⁶ Moreover, the DASS-21 was validated for use among the population in Saudi Arabia and college students.^{27,28}

Ethical Considerations

The ethics committee approved this study of the KSAU-HS and the King Abdullah International Medical Research Center (KAIMRC) with approval number [RYD-21-419812-21674]. The participants provided electronic informed consent. All methods were performed per the KAIMRC and the international guidelines and regulations.

Data Management and Analysis Plan

The data were coded and entered into a data entry file using the Statistical Package for the Social Sciences, version 27 (SPSS). Descriptive statistics and frequency distributions were utilized to describe the sociodemographic data. Depression, anxiety, and stress were described as mild to extremely severe based on the scoring system described above. Spearman correlation was used to detect the correlations between the dependent variables of interest and the continuous independent variable (age). A *t*-test and ANOVA compare mean tests were implemented to examine depression, anxiety, and stress concerning sociodemographic and health characteristics for categorical variables. The variables with a *p*-value of less than 0.25 were entered into three separate linear regression models after the assessment of collinearity prior to adding variables in the final model. The critical value of the significance in all the analyses was set at $p < 0.05$ and a 95% confidence interval. For assumptions of normality, Shapiro–Wilk tests were used for each numeric variable. Second, based on Levene's test results, we identified that the variance of the groups was not statistically different.

Results

Levels and Prevalence of Depression, Anxiety, and Stress

A total of 311 students participated in the questionnaire. As results showed in Figure 1, the prevalence of depression, anxiety, and stress were, respectively, 15.8%, 5.8%, and 12.2% for at least mild symptoms, 23.5%, 13.2%, and 19.6% for

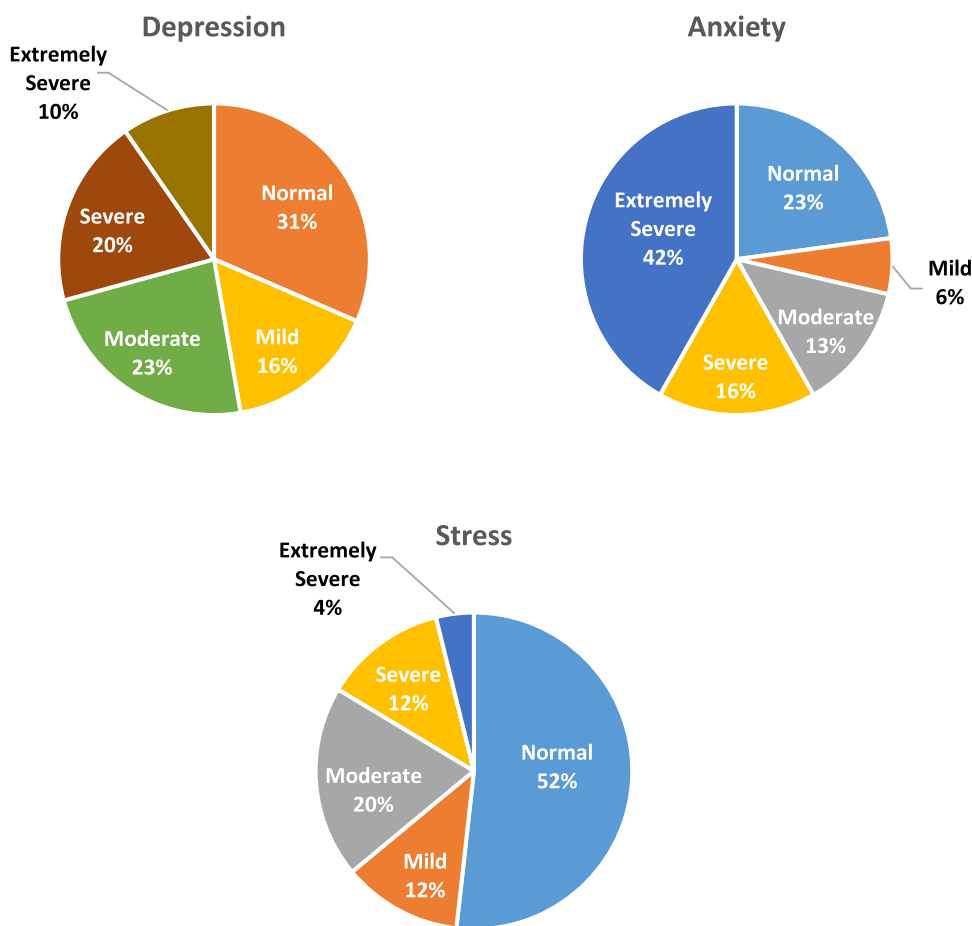


Figure 1 Stress, anxiety, and depression levels among the participants (N = 311).

Notes: Scores for each subscale were classified into five levels: normal, mild, moderate, severe, and extremely severe. For depression subscale, normal, 0–9; mild, 10–13; moderate, 14–20; severe, 21–27; and extremely severe, 28 and more. For anxiety subscale, normal, 0–7; mild, 8–9; moderate, 10–14; severe, 15–19; and extremely severe, 20 and more. For the Stress subscale, normal, 0–14; mild, 15–18; moderate, 19–25; severe, 26–33; and extremely severe, 34 and more.

at least moderate symptoms, 19.6%, 16.4%, and 12.5% for at least severe symptoms and 9.6%, 41.8% and 3.9% for at least extremely severe symptoms.

Sociodemographic Characteristics

Of the total participants, 195 (62.7%) were female with a mean age of 21.32 (SD = 1.97), ranging between 18–34 years old. Most of the participants were living with their parents (n = 298, 95.8%), single (n = 294, 94.5%), and never quarantined by health authority (n = 270, 86.8%) or diagnosed with COVID-19 (n = 282, 90.7%). Other characteristics of the participants are reported in Table 1.

Associations Between Depression, Anxiety, and Stress with Sociodemographic Characteristics

Spearman correlation was computed to assess the relationship between age and each of the depression, anxiety, and stress. The results revealed that there was a negative correlation between age and anxiety, $r(309) = -0.121$, $p = 0.034$, and stress, $r(309) = -0.119$, $p = 0.037$. There was no correlation between age and depression, $r(309) = -0.086$, $p = 0.129$.

Further analysis revealed that the average total score for depression, anxiety, and stress was significantly higher among female students than male students, for depression ($M = 15.96$, $SD = 8.87$) vs ($M = 12.74$, $SD = 9.36$), $t = -3.033$, $p = 0.003$, anxiety ($M = 17.98$, $SD = 9.84$) vs ($M = 14.77$, $SD = 10.75$), $t = -2.689$, $p = 0.008$, and stress ($M = 16.09$, $SD = 9.60$) vs ($M = 12.78$, $SD = 9.99$), $t = -2.689$, $p = 0.004$. Moreover, the average total score for depression, anxiety, and stress was significantly higher among students

Table 1 Sociodemographic and Health Characteristics and Their Associations with Depression, Anxiety, and Stress (N = 311)

	N	%	Depression		Anxiety		Stress	
			Mean (SD)	P-value	Mean (SD)	P-value	Mean (SD)	P-value
Gender								
Male	116	37.3	12.74 (9.36)	0.003	14.77 (10.75)	0.008	12.78 (9.99)	0.004
Female	195	62.7	15.96 (8.87)		17.98 (9.84)		16.09 (9.60)	
Living with family								
Yes	298	95.8	14.78 (9.88)	0.733	16.69 (10.33)	0.414	14.72 (9.22)	0.550
No	13	4.2	16.46 (9.58)		19.07 (9.52)		15.61 (8.23)	
Marital Status								
Single	294	94.5	14.73 (9.24)	0.640	16.74 (10.37)	0.855	14.93 (9.97)	0.843
Married	14	4.5	14.29 (7.88)		17.14 (9.39)		13.36 (8.11)	
Divorced	3	1.0	19.67 (10.69)		20.00 (8.72)		15.33 (9.5)	
Academic Year								
First	41	13.2	16.05 (9.65)	0.348	18.61 (10.28)	0.422	16.29 (9.85)	0.647
Second	35	11.3	16.74 (9.96)		18.06 (10.18)		15.83 (10.08)	
Third	91	29.3	15.19 (9.48)		17.38 (11.17)		15.33 (10.92)	
Fourth	79	25.4	14.23 (8.60)		16.13 (9.72)		14.44 (9.31)	
Fifth	36	11.6	12.56 (9.69)		14.19 (10.52)		12.86 (9.76)	
Sixth	29	9.3	13.41 (7.11)		15.86 (8.72)		13.79 (7.78)	
Income								
<5000 SR	48	15.4	14.12 (8.10)	0.542	16.52 (9.15)	0.540	14.33 (8.81)	0.607
5000 RS –10,000 SR	54	17.4	13.37 (8.57)		15.07 (10.43)		13.41 (9.96)	
10,000 RS –20,000 SR	94	30.2	15.11 (9.94)		17.01 (10.96)		15.45 (10.40)	
>20,000 SR	115	37.0	15.40 (9.26)		17.53 (10.16)		15.28 (9.83)	
Quarantined by a health authority								
Yes	41	13.2	17.80 (10.37)	0.022	19.65 (11.10)	0.056	17.44 (10.12)	0.072
No	270	86.8	14.30 (8.92)		16.36 (10.12)		14.47 (9.79)	
History of CVD								
Yes	2	99.4	13.00 (14.14)	0.786	13.00 (9.89)	0.602	11.00 (11.31)	0.580
No	309	0.6	14.77 (9.17)		16.81 (10.31)		14.88 (9.87)	
History of depression								
Yes	69	22.2	21.01 (8.57)	<0.001	24.17 (8.40)	<0.001	22.72 (8.67)	<0.001
No	242	77.8	12.98 (8.56)		14.68 (9.82)		12.61 (9.01)	
Diagnosed with COVID-19								
Yes	29	9.3	17.00 (10.64)	0.168	18.86 (11.59)	0.25	17.03 (10.50)	0.213
No	282	90.7	14.53 (9.00)		16.58 (10.15)		14.63 (9.79)	
Contact with a confirmed case of COVID-19								
Yes	160	51.4	15.82 (9.13)	0.035	17.61 (10.23)	0.151	15.65 (9.77)	0.146
No	151	48.6	13.63 (9.12)		15.93 (10.32)		14.02 (9.93)	

who had history of depression, for depression ($M = 21.01$, $SD = 8.57$) vs ($M = 12.98$, $SD = 8.56$), $t = 6.876$, $p < 0.001$, anxiety ($M = 24.17$, $SD = 8.40$) vs ($M = 14.68$, $SD = 9.82$), $t = 7.299$, $p < 0.001$, and stress ($M = 22.72$, $SD = 8.67$) vs ($M = 12.61$, $SD = 9.01$), $t = 8.287$, $p < 0.001$. Students who are quarantined by a health authority have significantly higher depression than who did not ($M = 17.80$, $SD = 10.37$) vs ($M = 14.30$, $SD = 8.92$), $t = 2.294$, $p = 0.022$. Also, the average total score for depression was significantly higher among students who had contact with a confirmed case of COVID-19 compared to who did not contact any positive case ($M = 15.82$, $SD = 9.13$) vs ($M = 13.63$, $SD = 9.12$), $t = 2.114$, $p = 0.035$. Levels of depression, anxiety, and stress did not vary significantly based on the rest of the sociodemographic characteristics (refer to Table 1).

Predictors of Depression, Anxiety, and Stress

Further analysis was conducted to find out the predictor variables of depression, anxiety, and stress (Table 2). The variables with a p -value of less than 0.25 were entered into three separate linear regression models after the assessment of

Table 2 Linear Regression Model on Predictors of Depression, Anxiety, and Stress

Variables	Depression			Anxiety			Stress		
	B	Beta	95% CI	B	Beta	95% CI	B	Beta	95% CI
Age	-0.441	-0.094	26.27; 55.39	-0.631	-0.121	-1.168; -0.09	-0.551	-0.110	-1.06; -0.04
Gender (female)	2.19	0.12	0.21; 4.17	1.93	0.09	-0.29; 4.14	1.06	0.10	-0.10; 4.07
Quarantined by a health authority (Yes)	-2.47	-0.09	-5.47; 0.53	-2.126	-0.07	-5.48; 1.22	1.60	-0.06	-4.81; 1.49
History of depression (Yes)	-7.55	-0.34	-9.88; -5.23	-9.24	-0.373	-11.84; -6.64	1.24	-0.42	-12.29; -7.41
Diagnosed with COVID-19 (Yes)	0.07	0.002	-3.43; 3.57	0.249	0.007	-3.66; 4.16	1.87	0.00	-3.62; 3.73
Contact with a confirmed case of COVID-19 (Yes)	-1.65	-0.09	-3.56; 0.25	-1.148	-0.056	-3.28; 0.985	1.02	-0.05	-3.03; 0.98
(Constant)	40.83			48.75			45.40		
F	10.55			11.05			13.54		
R-squared	0.172			0.179			0.211		
Adjusted R Square	0.156			0.163			0.195		
Sig	≤0.001			≤0.001			≤0.001		

Abbreviations: B, unstandardized coefficients; Beta, standardized coefficients; CI, confidence interval.

collinearity prior to adding the variables to the final model to find their effect on each of the depression, anxiety, and stress. All entered independent variables have a variance inflation factor (VIF) of less than 2, indicating no multi-collinearity among the independent variables.

As shown in Table 2, the linear regression model accounted for a significant portion of the variance in depression [$R^2 = 0.172$ (Adj $R^2 = 0.156$), F-change = 10.55, $P \leq 0.001$], anxiety [$R^2 = 0.179$ (Adj $R^2 = 0.163$), F-change = 11.05, $P \leq 0.001$], and stress [$R^2 = 0.211$ (Adj $R^2 = 0.195$), F-change = 13.54, $P \leq 0.001$].

Discussion

University students generally have poor psychological quality and bearing capacity. The major factors affecting university students' mental health are the public health emergency caused by COVID-19, the sudden and public uncertainty it has caused, and the potential for serious harm. According to one study, unexpected public health events challenge psychological adaptability, particularly in college students.^{29–31} Therefore, the purpose of this study was to assess the prevalence and associated factors of depression, anxiety, and stress among college students in Saudi Arabia. Our survey of 311 students in a large university located on three campuses in three different regions of Saudi Arabia revealed that depression, anxiety, and stress were highly prevalent among the participants. More than half of the participants experienced higher than moderate levels of depression and anxiety, while the least was stress reported among 36% of the students for more than moderate level. Therefore, anxiety was the highest, followed by depression and stress.

Several research findings have found that college students in Saudi Arabia exhibit similar anxiety symptoms and stress, with a predominance of depression and anxiety ranging from 14 to 50%.^{12,14,32} In general, our study results were similar to Radwan et al study, as our results showed that the prevalence of depression, anxiety, and stress at the different levels were 68.5%, 77.2%, and 48.2%, respectively. Moreover, severe or extremely severe symptoms of depression, anxiety, and stress were 29.2%, 58.2%, and 16.4% of the participants, respectively. The findings of Radwan et al (2021) study revealed that most students experienced moderate-to-severe anxiety levels (89.1%) and depression (72.1%).³² In contrast, only 36% experienced moderate-to-severe stress.³²

In contrast to the general population in Saudi Arabia during the pandemic, college students have a greater level of depression, anxiety, and stress. For instance, among the general population in Saudi Arabia, only 17% experienced a moderate-to-severe depressive symptoms, 10% experienced moderate-to-severe anxiety symptoms, and 12% experienced moderate-to-severe stress.³³ Furthermore, in the general population, a study conducted by Alyami et al, among the population in Saudi Arabia revealed that the prevalence of depression and anxiety was 9.4% and 7.3%, respectively.³⁴

On the other hand, studies before the pandemic reported moderate levels of depression, anxiety, and stress among college students.³⁵ According to a systematic review study, the prevalence of anxiety among students ranged between 34.9% and

65%.³⁶ Therefore, there has been a noticeable increase in the prevalence of these mental health conditions during the pandemic, mainly due to the fear of the unknown virus (COVID-19) and the fear of the future, especially for the young generation.³⁷

Furthermore, our study investigated the associated factors of depression, anxiety, and stress during the COVID-19 epidemic. Our findings revealed that being female, younger age, having a history of depression, being quarantined by a health authority, and having contact with a confirmed case of COVID-19 were associated with a greater level of depression, anxiety, and stress. Our results were similar to the results of the study conducted by Alamri et al, Qiu et al, and Shigemura et al, as the findings highlighted that being female was associated with greater level of depression, anxiety, and stress, which is consistent with another study by Radwan et al who found that depression, anxiety, and stress scores were significantly different across gender, and age groups.^{32,33,38,39} At the same time, our results echoed other evidence in international literature indicating that females are more susceptible to stress and post-traumatic symptoms.^{32,33,38,39}

The present study found an association between college-age students with stress and anxiety. Our results were quite similar to the study by Alkhamees et al that showed age was associated with depression, anxiety, and stress. Indeed, according to Alkhamees et al study, 28.3%, 24%, and 22.3% of the population in Saudi Arabia had moderate-to-severe depression, anxiety, and stress related to age, respectively.¹ These differences might be because college students are young adults, and they are at higher risk for depression, anxiety, and stress. Therefore, these findings align with previous findings that revealed younger age is associated with higher stress, anxiety, and depression.³³ Given these results, it can be concluded that depression, anxiety, and stress might be increased among college students in Saudi Arabia during the COVID-19 epidemic.

Moreover, the present study found that a history of depression positively relates to depression, anxiety, and stress. This finding echoes previous research demonstrating that a history of depression is associated with greater psychological distress during pandemic situations. This finding aligns with earlier studies by Wang et al and Cuthbertson et al, showing that depression or a self-report of poor health status is associated with increased psychological distress.^{40,41} A possible clarification for this result is that individuals with a history of depression or other psychological distress who perceive their health as poor might feel more vulnerable to fighting a new disease.

Finally, this study showed that participants who were quarantined by a health authority or who were exposed to a positive case of COVID-19 experienced a higher level of depression. This result is also consistent with the literature. For instance, Alkhamees et al and Hossain et al reported that psychological distress, including depression, has been associated with quarantine by a health authority.^{1,42-44} This might be due to the feeling of loneliness and self-isolation. Moreover, our findings regarding the exposure to positive cases are similar to other studies' results that were conducted earlier in Saudi Arabia. According to Alamri et al, individuals who reported direct contact with COVID-19 patients had experienced a higher level of depression.³³ Moreover, according to Zhao et al, individuals who were exposed to positive cases of COVID-19 experienced high levels of depression and fatigue.⁴⁵ A possible explanation is that students who are exposed to positive cases were forced to self-isolation and repeated virus testing. In addition, they might be afraid of transmitting the virus to their family members or close relatives. Moreover, discriminations and stigma linked to COVID-19, plus social isolation, are already risk factors for an increased level of depression.^{46,47} This requests more emphasis on students' mental health, especially as the pandemic progresses or future pandemics occur.

Limitations and Recommendation

This study had some limitations that should be considered. This study did not have any baseline information about the participants' psychological status before the COVID-19 outbreak; therefore, no pre- and post-epidemic evaluations were available. Longitudinal studies are recommended to determine whether this information will last for a more extended time. Another limitation of this study is that because the universities were closed due to the COVID-19 pandemic and students were not physically available, data were collected through the e-survey technique. Interview studies are recommended to obtain in-depth information.

Conclusion and Implications for Practice

Depression, anxiety, and stress are prevalent among college students during the COVID-19 outbreak in Saudi Arabia. This study highlighted some subgroups of students who are at higher risk. For instance, younger age, females, and history of depression were significantly related to stress and anxiety scores. The depression level was significantly higher among

females, and participants with a history of depression had been quarantined by a health authority, or had contact with a positive case of COVID-19. Future interventions should concentrate on developing strategies that promote the students' mental health and well-being. Moreover, community health and mental care should be accessible to all students, especially those at higher risk for psychological distress. Furthermore, each educational institution is recommended to start focusing on the student's mental well-being activities and promote their health-seeking behaviors. Collaboration between Well Students Centers and colleges is urgently needed to create programs targeting students' mental health. Arranging periodic webinars on mental health promotion might empower the students to face future challenges.

In summary, the psychological status of college students in Saudi Arabia is significantly impacted by a public health outbreak. Therefore, they require immediate attention, assistance, and support. It is recommended that government and colleges collaborate to solve this issue to provide prompt and high-quality psychological support to college students in Saudi Arabia, special consideration must be implemented to the individuals at risk because of their vulnerability towards serious mental disorders.

Disclosure

The author reports no conflicts of interest in this work.

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