Psychological Health and its Correlates during the COVID-19 Pandemic in Pakistan: A Survey of Undergraduate Students

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Abstract

With the outbreak of a global pandemic, people were faced with many difficulties such as financial and health issues, including psychological problems. There was a sharp rise in mental health issues as people were advised to observe social distancing resulting in social isolation. The present study examined three measures of psychological distress among the undergraduate student population: depression, anxiety, and stress. It also sought to study differences in academic years and gender on measures of psychological distress. A convenient and snowball sample of 1032 undergraduate students, aged between 17 and 25 years *(M=21.81, SD = 1.99)*, filled out a survey. DASS – 21 was used to collect data on depression, anxiety, and stress among students. Descriptive statistics showed mild to normal levels of stress ($M = 9.64$), anxiety ($M = 8.17$) and depression ($M = 9.05$). Independent t-tests revealed significantly higher levels of psychological distress among women compared to men. Further, a one-way ANOVA and post hoc analyses showed that only juniors had significantly higher levels of stress compared to freshmen. Factors such as social support and religion have been discussed as possible explanations for lower levels of psychological distress in the overall student population. This research highlights resilience among students and future research should focus on investigating the factors which can help in dealing with difficult situations.

Keywords: Psychological Health, Psychological Distress, COVID-19 Pandemic, Pakistan, Undergraduate Students

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Introduction

Novel Corona Virus (COVID-19) outbreak started in December 2019 from Wuhan, China and rapidly spread across the world. COVID-19 is a contagious illness that is activated with severe acute respiratory syndrome. It is a severe virus transmitted through direct human contact and respiratory droplets of the infected individuals (Wang et al., 2020). The virus can also be transmitted through asymptomatic patients. By the end of April 2020, more than two million people worldwide got affected by COVID-19 and was declared a pandemic by WHO (Zhang et al., 2020).

The fact that COVID-19 has widely and rapidly affected various facets of life (Haleem et al., 2020) and has also resulted in a prevalent fear of the unknown (Gomez-Corona et al., 2021) across the globe is well known and experienced by the masses including Pakistan where first case of COVID-19 was identified on February 26th, 2020 (Abid et al., 2020). It has been more than a year since it was first reported in China, still a conclusive satisfactory treatment has not been discovered despite

all the scientific research carried out (Wu et al., 2020). There have been lockdowns implemented at different levels around the world which has impacted everyone in many ways. Educational institutions, public areas including marketplaces, parks, restaurants were closed, and all commercial activities were barred (Ibarra-Vega, 2020; Javed et al., 2020). Offices providing various facilities and services have been completely or partially closed periodically. Local and international travel has been staggered if not completely barred intermittently to mitigate the spread of the virus and some countries even imposed curfew to restrict unnecessary movement (Chinazzi et al., 2020). There have been cancellations of any large-scale events which would consist of huge gatherings of people, whether it be for a religious or cultural, sports, celebrations, funerals, and get-togethers with loved ones (Badrkhani, 2021; Meyer et al., 2020). With the outbreak of this virus, everyone has struggled to get accustomed to wearing masks, wearing plastic gloves, not shaking hands, repeatedly and effectively washing their hands, and only leaving their homes for essential tasks (Badrkhani, 2021). Apart from resulting in hurdles in the attainment of day-to-day chores and socialization, people have also experienced various unhealthy negative emotions with different severity.

According to Chao et al. (2020), 2,135 participants stated in a national survey in China that boredom was the most experienced emotion, which was followed by other emotions such as worry and anxiety. This boredom may have also led to an excessive and impulsive internet usage among the masses was consequently linked to higher negative psychological health and lower levels of positive mental health (Arslan, 2021; Meyer et al., 2020). The pattern of managing COVID-19 anxiety with the help of excessive usage of screens is believed to further increasing the level of anxiety (Browning et al., 2021).

The COVID-19 pandemic has also affected routine activities of 1.6 billion students around the world. The impact due to closure of schools and all learning spaces has been greater for developing and underdeveloped countries (United Nations, 2020). To ensure uninterrupted provision of quality education, governments all around the world shifted to Information Communication Technology (ICT), requiring teachers to prepare and deliver lessons online (Gewin, 2020; United Nations, 2020). More traditional distant learning modalities such as educational radio and television programs were used in areas with limited access to the internet. However, distance learning in developed countries covers up to 80-85% students, the coverage is even less than 50 % in economically struggling countries (United Nations, 2020). In one study, it was noted that students of varied age groups such as 7-17; 18-22; 23-59 responded differently to online learning. It was found that students belonging to the age group 7-17 spent more time on online classes as compared to the two other groups. Analysis regarding satisfaction with the online learning also showed variation among different age groups. 51 % of students from the age group of 18-22 years have reported dissatisfaction whereas only 31.5% students of age 7-17 years showed dissatisfaction toward online learning (Chaturvedi et al., 2021). In developed countries, the closure of colleges and universities and the consequential shift to online learning has shown to have a negative psychological impact on the students with most students reporting severe levels of psychological distress (Kecojevic et al., 2020; Kibbey et al., 2020; Son et al., 2020; Wang et al., 2020). Whereas in developing countries, surprisingly, the level of psychological distress among college students was lower (Fawaz & Samaha, 2021; Wang et al., 2020).

The difference in learning of students was also evaluated across countries and between different socioeconomic classes

within countries regarding availability/access to technological resources. Approximately 95 % students in developed countries have access to technological devices for their academic work while the same percentage drops to 34% students in developing countries (Li & Lilani, 2020). The economic impact of lockdown has also increased the gap in the educational opportunities among children from lower socioeconomic classes and they are at greater risk of dropping out from primary and lower secondary education than those in the higher socioeconomic classes (United Nations, 2020).

As colleges and universities shifted to virtual teaching and have been striving to attain effective results, the shift might have also led to certain negative emotions in the students, such as anxiety, fears, uncertainty and depression (Al-Maroof et al., 2020). Many students have reported feeling increased stress levels due to the unpredictable nature of their education and concerns over online courses (Browning et al., 2021). It is reported that the anxiety they have experienced may have also resulted as a barrier in adapting to the technology required for online learning. Worry, which happens to be a significant component of anxiety, is experienced at a greater level in times of uncertainty and may lead to physical and mental problems such as insomnia (Scotta, 2020). It is well known that the impact of the coronavirus has been experienced across populations greatly. It is reported that among the entire student population, university students are strongly affected due to general uncertainty that the virus has brought along, regarding academic performance, success, career opportunities and social life (Al-Maroof et al., 2020). According to Browning et al. (2021), students in the age range of 18-24 years of age, had the tendency of being excessively worried about the future, paying college fee and unemployment. Furthermore, during pandemic, other stressors were added such as having to shift to the online medium of learning,

disruption of in-person classes for an indefinite time, connectivity issues etc. Such stressors are considered as barriers in academic success, as it affects the students' motivational levels, concentration and ability to socialize (Son et al., 2020).

COVID-19 pandemic, its consequent challenges including significant changes in academic activities and modes of teaching made the world population vulnerable to many psychological problems, for example, fear of contracting the virus, anxiety, sleep disturbances, stress, depression and triggered the interest of many researchers. Pakistan is no exception in this regard as researchers reported various psychological problems particularly depression, anxiety and stress in general population in times of COVID-19 pandemic (Riaz et al., 2021) whereas adults in Lahore did not seem to show high levels of anxiety or obsessions related to COVID-19 during the early phases of pandemic (Majeed et al., 2021). Generally, developing countries like Pakistan reported to had observed the rise in psychological problems with insufficient health facilities available to deal with these issues (Khalily, 2011) which had certainly become more vulnerable during COVID-19 pandemic.

Researchers also showed interest in studying gender differences in emotional reactions towards COVID-19. As females have been reported to score significantly higher on chronic stress as compared to males. This could be due to minor daily stresses even though there is no significant gender difference in the life events. Females report their life events more negatively and uncontrollable, whereas males exhibit more emotional inhibition. However, females report more psychological symptoms and distress. Moreover, females coping styles are also emotion focused (Matud, 2004). Even during COVID-19, women report experiencing stress more whereas men are higher in resilience to stress. Stress was noted to decrease with increasing age and education (Hou et al., 2020). Young adults

have many challenges in their lives such as career, education and social life which may lead to more disruption and are at greater risk of mental health difficulties as compared to developing stages of life. Overall among undergraduate students, females reported greater emotional distress compared to males during the pandemic (Calvarese, 2015; Dangal & Bajracharya, 2020). They are initially at a higher level of mental health risk because of their economic situation, and domestic responsibilities (Alonzi et al., 2020).

Pakistan is a country with diverse cultural background characterized by some common topographies such as religion and collectivistic culture which certainly has affected the coping towards COVID-19. Islam is the religion of most of the population in Pakistan and Islamic religious values have been inculcated into the lifestyle of Pakistani people for centuries. Islamic religious values and collectivistic culture both value strong family system and promotes close knitted family and social ties among family members and friends. Traditionally, joint family system has been the preferred system (Lodhi et al., 2021) since Pakistan's independence in 1947, however, in Pakistan like many other Asian countries, family nucleation has started creating voids in the traditional joint family for past few decades (Itrat et al., 2007). The nuclear family system is more common in urban areas (Farooq et al., 2015) but most of the families still prefer joint family system due to many benefits particularly emotional and financial support provided by the joint family system (Nazim & Kahlid, 2018). Even when people live in nuclear family system, extended family members remain in close contact and play a significant and influential role in most of the decisions (Saleem & Gul, 2016).

COVID-19 outbreak has exposed Pakistan along with the rest of the world to various psychological problems (Khan et al.,2021; Mukhtar, 2020). Young adults in Pakistan have been identified by many researchers (Asif & Sattar,2020) as one of the groups especially vulnerable towards psychological disorders during COVID-19 (Arsh et al., 2020; Salman et al., 2020). Therefore, it becomes very relevant to study the psychological difficulties of university students. Present research was designed around the following objectives.

Research Objectives
- To determine the level of depression, anxiety, and stress among undergraduate students during COVID-19 pandemic.
- To examine gender differences across all the study variables during COVID-19 pandemic.
- To examine differences in depression, anxiety, and stress across academic years during COVID-19 pandemic.

Method
The present study was designed to explore psychological health and its correlates among undergraduate students in Pakistan during the COVID -19 outbreak. The study was based on cross sectional research design. As the study variables were explored and compared across four groups of undergraduate students i.e., freshmen (semester 1 &2), sophomore (semester 3 & 4), juniors (semester 5 & 6), and seniors (semester 7 & 8). Data was collected online through convenient and snowball sampling technique. Keeping in mind the restrictions of the lockdown, closure of educational institutions and social distancing, it was the most appropriate sampling strategy to reach the desired research participants. The participants of the study were contacted via email and a google survey form comprised of consent form, demographic sheet and Depression, Anxiety, Stress scale (DASS) was sent. The link was also shared with the university students through WhatsApp, Facebook and Instagram and they were further requested to share it with their fellow students. This method was easy and cost effective as the research had no external funding. They were informed about confidentiality and their right to withdraw from the study at any point.

Measures

Demographic Form

Demographic form included questions related to personal attributes of the participants such as age, gender, and academic year.

Depression Anxiety Stress Scale (DASS-21)

Depression Anxiety Stress Scale was developed by Lovibond and Lovibond in 1995 as a self-report measure that aims to assess the affective symptoms related to depression, anxiety and stress of an individual. The scale consists of 3 subscales that are: (i) depression, (ii) anxiety, and (iii) stress. The Depression Anxiety Stress Scale consists of 21 items and assesses the respondents experience of negative feelings over the past week, on a four-point Likert scale with the highest score being 3 (applied to me very much or most of the time), to the lowest score being 0 (did not apply to me at all). Each of DASS subscale has 7 items. The total score for each subscale is calculated by summing up the scores of items related to the subscale. The total score for DAAS-21 is computed by adding the scores on each subscale and multiplying it by 2 (Lovibond & Lovibond, 1995).

Lovibond and Lovibond in 1995 categorized depression, anxiety, and stress into five levels that are: i) normal, ii) mild, iii) moderate, iv) severe and v) extremely severe. For depression, the normal scores range from 0-9 whereas the extreme level of depression falls above the score of 28 for anxiety the normal scores fall into the range of 0-7 and a score above 20 falls into the extreme level for anxiety, normal level of stress ranges from 0-14 whereas score above 34 falls into extreme level of stress.

Various studies have reported good reliability of the overall DASS. Reliability for the current study was also good as measured by Cronbach Alpha ($\alpha = .947$). Depression subscale (.89), Anxiety subscale (.85), and Stress subscale (.86).

Procedure

After planning the study, the Institutional Review Board approval was taken to proceed. The study has been conducted by the Department of Psychology of Forman Christian College (A Chartered University).

The data was collected online through google form. All the ethical principles were taken into consideration during data collection. An informed consent form describing the aim and scope of the study, voluntary participation, right to withdraw, use of information strictly for research and academic purpose and confidentiality and anonymity was included at the very beginning of google form. The participants could proceed only after they have read and understood the informed consent. The google form link was deactivated once the desired number of participants was completed. The data was exported to SPSS and analysis was done to calculate the results.

Data Analysis

Data was analyzed using SPSS Statistics Subscription. To answer the first hypothesis, descriptive statistics were computed for the DASS-21. To answer the second hypothesis, t-tests comparing men and women on levels of depression, anxiety, and stress were computed. One-way ANOVA between groups were computed to compare levels of anxiety, depression, and stress across the four academic years (i.e., Freshman, Sophomore, Junior, Senior).

Results
Table 1
Descriptive Statistics of the Demographic Variables of Age, Gender, and Academic Year

Variables	M (SD)	N (%)	Range
Age	21.81 (1.99)		17-25
Gender			
Male		410 (39.7)	
Female		622 (60.3)	
Academic Year			
First Year		142 (13.8)	
Sophomore		140 (13.6)	
Junior		218 (21.1)	
Senior		532 (51.6)	

Note. M = mean, SD = standard deviation, N = number, % = frequency.

As shown in Table 1, a total of 1032 undergraduate student including 410 (39.7%) men and 622(60.3%) women participated in this study. The age range was 17 to 25 years (M=21.81, SD = 1.99). As further analyses show that most of the participants 532 (51.6%) were in their senior academic year (7th and 8th semesters), 218(21.1%) students were in the junior academic years (5th and 6th semesters), while 140 (13.6%) participants were sophomores (3rd and 4th semesters), and 142 (13.6%) participants were freshmen, in the first year of the university.

Table 2
Descriptive Statistics and Cronbach's of the DASS-21

Variables	M (SD)	Range	Cronbach's α
DASS-21 Overall Score	26.86 (15.35)	0-63	.94
Depression Subscale	9.05 (5.81)	0-21	.89
Anxiety Subscale	8.17 (5.48)	0-21	.85
Stress Subscale	9.64 (5.37)	0-21	.86

Note. M = mean, SD = standard deviation.

Table 2 depicted that overall, students reported normal to mild levels of depression (M = 9.05, SD = 5.81). Their anxiety subscale scores indicated normal levels of anxiety (M = 8.17, SD = 5.48) and their scores on the stress subscale indicated mild levels of stress (M = 9.64, SD = 5.37). These results suggest that the students in this study were not experiencing meaningful levels of depression, anxiety, or stress in the first few weeks of the COVID-19 pandemic. Cronbach Alpha ranging from .85 to .94 shows excellent internal reliability.

Table 3

Gender Differences Among Students Regarding Depression, Anxiety and Stress (N=1032)

Variables	Men (n=410) M(SD)	Women (n=662) M(SD)	95% CI		t	p	Cohen's d
			Lower	Upper			
Depression	8.18(5.69)	9.62(5.82)	-2.16	-.72	-3.93	.001*	-.25
Anxiety	7.06(5.35)	8.90(5.44)	-2.51	-1.16	-5.34	.001*	-.34
Stress	8.54(4.95)	10.36(5.51)	-2.47	-1.17	-5.39	.001*	-.34

*Note. * p <.001*

Independent samples *t*-test was computed comparing men and women on levels of depression, anxiety and stress. The results indicate that women reported significantly higher levels of depression, anxiety, and stress than men. The *t*-test computed to compare men and women on levels of depression, anxiety and stress was significant respectively (t (1030) = -3.93, p <.001); (t(1030) = -5.34, p < .001); and (t(1030) = -5.396, p <.001) with a small effect size for all variables respectively (*Cohen's d* = -.25); (*Cohen's d* = -.34); (*Cohen's d* = -.34). Women (*M* = 9.62, *SD* = 5.82; *M* = 8.90, *SD* = 5.44; *M* = 10.36, *SD* = 5.51) reported higher levels of depression, anxiety and stress respectively than men (*M* = 8.18, *SD* = 5.69; (*M* = 7.06, *SD* = 5.35; *M* = 8.54, *SD* = 4.95).

Table 4

Academic Years Differences Among Students regarding Depression, Anxiety and Stress (N=1032)

Variable	M(SD)	95% CI		F (3, 1028)	p	ηp^2
		Lower	Upper			
Depression				1.36	.252	.004
Freshmen	8.75(6.26)	7.71	9.78			
Sophomores	8.82(5.41)	7.91	9.72			
Juniors	9.75(5.80)	8.97	10.52			
Seniors	8.90(5.78)	8.41	9.40			
Anxiety				1.46	.221	.013
Freshmen	7.47(5.89)	6.50	8.45			
Sophomores	7.81(5.84)	6.84	8.79			
Juniors	8.14(5.43)	7.42	8.87			
Seniors	8.46(5.27)	8.01	8.91			
Stress				2.81	.038*	.008
Freshmen	8.51(5.51)	7.60	9.42			
Sophomores	9.62(5.58)	8.69	10.55			
Juniors	10.14(5.17)	9.45	10.83			
Seniors	9.74(5.32)	9.28	10.19			

*Note. * p <.05*

One-way between groups ANOVAs were computed to compare the four academic years (Freshmen, Sophomores, Juniors & Seniors) on levels of depression, anxiety and stress. Preliminary analyses indicated no missing data or violations of the assumptions of homogeneity of variances or normality. There were no significant multivariate outliers (Mahalanobis distance < .001). Due to differences in group sizes, harmonic mean of the group sizes was used to evaluate group differences. There were no significant differences among the four academic years on levels of depression [F (3, 1028) = 1.36, $p>.05$] or anxiety [F (3, 1028) = 1.46, $p>.05$]; however, the one-way between groups ANOVA comparing stress levels across academic year was significant [$F(3, 1028) = 2.81, p < .05$]. The effect size of this result was very small ($\eta p^2 = .008$). Post-hoc comparisons using Tukey's HSD with harmonic mean identified a difference in levels of stress between freshmen ($M = 8.51$; $SD = 5.51$) and juniors ($M = 10.14$; $SD = 5.32$) only. These results indicate that juniors reported slightly higher levels of stress than freshmen.

Discussion

A public health emergency, such as the COVID – 19 outbreaks, has caused an immense level of psychological distress among the public due to uncertainty, fear and other factors (Pfefferbaum & North, 2020). The undergraduate students can be a high-risk group which may be susceptible to mental health issues during such a time. The present study aimed to examine the psychological health and its correlates in undergraduate students during the pandemic. Data was collected from 1032 undergraduate students at private universities through an online survey. The results revealed that students did not have significant levels of depression, anxiety and stress, however, there was a significant difference in these levels reported between men and women. The results also indicated that there was no difference in levels of depression and anxiety among students in different years of study, however, there was a significant difference in stress between juniors and freshmen.

The first aim of the present study was to examine the levels of depression, anxiety and stress among undergraduate students. The Depression Anxiety and Stress Scale (DASS – 21) was used to collect data and it was found that students experienced normal to mild levels of all three measures of psychological distress. These results are consistent with survey research which also found that adults in Pakistan had relatively low rates of anxiety related to COVID (Majeed et al., 2021). However, Salman et al. (2020) found moderate to severe levels of depression and anxiety among Pakistani undergraduate students. One reason for this dissimilarity may be that in their study, a significant number of students had family members who were infected (Salman et al., 2020). The researchers did not collect data on this; however, the data collection was done in the early phase of the outbreak. Perhaps, the data collection for their study may have been done during the peak when there was a sudden high rise in cases, contributing to higher distress. Similar results were reported by Majeed and Ashraf (2020) that adolescents age ranges from 13 to 18 years stated many symptoms of depression, anxiety and anger. Girls experienced more somatic complaints while boys reported more anger and irritability issues.

Interestingly, results from the present study are not consistent with the findings of researches done in the West particularly in the US, as these reported moderate to high levels of anxiety, stress and depression among college students during the pandemic (Kecojevic et al., 2020; Kibbey et al., 2020; Son et al., 2020; Wang et al., 2020). There could be a number of reasons for this disparity between the literature and the results of the current study. Among

college students in US, high rates of depression were linked to employment losses (Kecojevic et al., 2020). This was a phenomenon observed all over the world as organizations cut down on expenses, several employees were left without a job. It is possible that students in the present study did not have high levels of depression as they may not be the primary breadwinners in their families. Most Pakistani students depend on their parents for financial support, so, not having to worry about rent, groceries and other expenses could be one reason for low levels of psychological distress.

It is also interesting to find that studies conducted in China and Lebanon which aimed to find the level of psychological distress among undergraduate students, during the pandemic, also found very similar levels of psychological distress as in the present study (Fawaz & Samaha, 2021; Wang et al., 2020). The data collection from students in China was done during the initial peak of COVID-19 outbreak in China which was in January 2020 (Wang et al., 2020). This also coincided with the Chinese New Year celebrations during which most students go home and spend time with their families, and this has been discussed as one of the reasons for low psychological distress even during the peak of the pandemic (Wang et al., 2020).

Lebanon and China both have largely collectivist culture where people value tradition and loyalty to the family (Bugh et al., 2021; Fan, 2000). Pakistan also has a collectivist society where many people prefer the joint family system due to benefits such as emotional and financial support (Nazim & Kahlid, 2018). Living with family members may have reduced the household responsibilities, financial burdens, and chores as these may be shared. In addition, family members may provide emotional and financial support when needed which may have decreased stress related to finances faced by many people during the pandemic. So, it is plausible that for these students living close to family

members or having regular contact with family may have alleviated psychological distress as perceived social support has been shown to reduce psychological distress (George et al., 2020).

In addition to having a collectivist culture, Pakistan is also a religious country with Islam as the predominant religion. Most people strictly adhere to religious beliefs and abide by religious practices. Among university students showing religious commitment and engaging in religious practices has been associated with lower levels of psychological distress (Wang et al., 2016). In the present study, the data collection period also coincided with the holy month of Ramadan. During this period as individuals are fasting, there may be a higher frequency of religious practices which may have helped to further reduce the overall psychological distress.

The second aim of the present study was to compare the levels of depression, anxiety and stress among men and women. It was found that women scored significantly higher on all three levels compared to men. These results are consistent with previous literature which reports that women have higher levels of psychological distress, compared to men, even when there isn't a significant difference in the type of life experiences reported by both (Calvarese, 2015; Dangal & Bajracharya, 2020; Gao et al., 2020; Matud., 2004). Specifically, during the pandemic, among undergraduate students, women scored higher on measures of perceived stress compared to men (Kecojevic et al., 2020). Researchers have also found that there is a significant difference in the neurological response to perceived stress between men and women (Wang et al., 2007).

In addition to the neurological differences, there may also be a difference in the expectations of the roles that men and women should play in society. For example, women in Pakistan are expected to contribute towards household chores and assume care giving responsibilities for children and elderly (Kausar & Anwar,

2015), while the same may not be expected of men. So, it is possible that during the lockdown imposed due to the pandemic, the overall workload for women may have increased. Additionally, many families did not allow their household help to come to their houses. So, among university students, women may have had household work in addition to academic workload which may have increased overall psychological distress.

The last aim was to examine if there was a difference in the levels of depression, anxiety and stress among students belonging to different years of study. There were no significant differences in year of study for depression and anxiety. However, one-way ANOVA showed that there was a significant difference in levels of stress between students in different academic years. Post hoc analyses showed that juniors reported significantly higher stress levels compared to freshmen. Similarly, Kecojevic et al., (2020) found that students other than freshmen reported higher levels of anxiety during the initial phase of the pandemic. They explained that the difference may be because students who are older may be more likely to check news, and they may have a greater awareness of the situation. This may also be true for the present sample where juniors may be more likely to stay updated on COVID-19 related facts and news, thereby, increasing the level of stress. Another possible explanation can be that the junior year students are near completing their degree and are all set up to enter the practical life that might have increased their stress during uncertainty caused by the pandemic. Overall, the results of present study are in line with most of the research conducted in Pakistan and other collectivistic cultures. Some contradictory results are also observed that can be attributed to the cultural differences.

Limitations

As the present study used the survey method, we cannot be sure if the measures of psychological distress really reflected distress related to the pandemic. It may have been more helpful if we had baseline measure of depression, anxiety and stress before the pandemic, which could then be compared to current levels. In addition, data was collected from a single institution, so to obtain a more representative sample of Pakistani undergraduate students, data may be collected from different institutions.

Implications

The current study has revealed that undergraduate students in Lahore had relatively lower levels of depression, anxiety, and stress during the initial period of the $COVID - 19$ outbreaks. These results suggest that there might be other variables moderating the impact of psychological distress. Future research could explore what are the factors which help students deal with their anxiety, stress and depression. Another aspect which further research could probe into is whether one's religious beliefs and practices affect their coping ability considering times of crises such as the $COVID - 19$ pandemics. In conclusion, our results indicate that undergraduate students differed according to academic year and gender in their responses to the current pandemic, however, their overall psychological distress was low.

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