Research Paper

Pervasiveness of depression, anxiety and stress among university students during the COVID-19 nationwide block: a cross-sectional web-based survey

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ABSTRACT

Background: The unregulated spread of the 2019 coronavirus (COVID-19) required unprecedented action since the Indian government has quarantined across the country. Quarantine has a huge impact and can cause significant psychological stress. *Aims:* This study means to build up the pervasiveness of mental manifestations among college students. *Configuration and design:* We conducted a cross-sectional study through an online survey for approx. Seven Days (26 May 2020 - 1 June 2020). *Methods and materials:* A total of 274 university students were included in the study based on a convenient sampling method. An online survey based on questionnaires with the scale of depression, anxiety and stress (DASS-21) is applied. *Statistical analysis:* The data were entered in Microsoft Excel, and descriptive statistics were obtained. *Results:* The average age of the students was 23.3 ($\pm$ 2.19) years. The preponderance of depression, anxiety and stress among college students was found at 54%, 74% and 35% respectively. *Conclusions:* The frequency of depression and anxiety among college students during this crisis was observed to be high, whereas stress observed to be slightly decreased.

The outbreak of COVID-19 (coronavirus-19 disease) quickly surrounded the globe and wreaked havoc. COVID-19 was formally announced by the World Health Organization (WHO) a pandemic on 11 March 2020. It was introduced as an epidemic by China and quickly spread to other countries [1]. To date, more than 367,166 deaths have been reported worldwide in 5,934,936 cases (WHO, 2020) [2]. To cope with this crisis, a decision was made on the national blockade to prevent the widespread transmission of this pandemic virus.

This current outbreak affects all segments of human life, including people living in poverty, the elderly and people with disabilities, young people and indigenous peoples [3]. It is evident through many studies that this outbreak of serious illness (COVID-19) induces uncertainty, fear, panic and tension among people [4] and has led to a significant

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deterioration of all aspects of an individual's health involving mental health and social determinants [5, 6].

These psychological anxieties eventually destroyed the lifestyle, daily routine, business, stock market and even the world education system, leading to a significant emotional effect with substantial signs of anxiety, stress and depression [7, 8].

Since these are challenging times, everyone is going through all or some of their problems and, amid its closure of college and university, have caused a tremendous level of stress among students and who are also anxious to evacuate shelters and conclusion planned activities, such as exchange studies and graduation ceremony [9,10]. In the meantime, they are also in a state where they can get infected with this devastating pandemic virus [9]. Some have also lost part-time jobs since the closure of local institutions. During the past few years, students are concerned about the job market, which they will soon enter. The pandemic significantly affected the student's mental state [10].

The direct and indirect psychological and social consequences of the 2019 coronavirus disease pandemic (COVID-19) are clearly widespread and affected mental health now and will in the future [11]. Furthermore, Seshadri SC et al. studied the attitude, practice, behaviour and impact on the mental health of COVID-19 among doctors [12]. In this regard, O. P. Singh shed light on the mental health of migrant workers as they are profoundly affected in the pandemic and lockdown during COVID-19 [6].

On the other hand, González OP et al. studied the psychological effects among students and workers in a Spanish university during the outbreak and blockade of COVID-19. They found that university employees were more affected as compared to students [13]. However, the overall impact of COVID-19 and the blockade on the mental health of college students in India is still unknown.

Since students are under insurmountable pressure, which increases the prevalence and rate of stress, anxiety and depression among them [9], therefore, this study determines the frequency of symptoms of psychological distress among college students during lockdown and COVID-19.

MATERIALS AND METHODS

Sample

This was a cross-sectional, snapshot study carried out among university students in India. A Google form was created, and it was circulated among undergraduate and postgraduate students of India from 26 May 2020 (00:35) to 1 June 2020 (23:59) for approx. Seven days. Questionnaire links were sent via e-mails, WhatsApp, and other social media such as LinkedIn and Instagram. A total of 277 took part in the survey, and the study was carried out with 274 participants. Three respondents had been excluded from the survey because they did not meet the requirements for inclusion.

Instruments

To assess depression, anxiety and stress among Indian college students and graduates, the Depression Anxiety and Stress Scale (DASS-21) were administered. DASS is a reliable method for assessing psychological distress in clinical and non-clinical populations (Lovibond PF, 1995) [14]. The subscales are classified as follows in the Lovibond and

Lovibond DASS-21 versions: (0-9) meant for normal, (10 –12) as mild, (13–20) as moderate, (21–27) as severe and (28–42) as extremely severe in depression; (0–6) meant for normal, (7-9) as mild, (10-14) as moderate, (15-19) as severe and (20–42) as extremely severe anxiety; and (0–10) meant for normal, (11–18) as mild, (19–26) as moderate, (27–34) as severe and (35–42) as extremely severe stress [14] (Table1).

The questionnaire was divided into two sections: the first section covered basic data which included an e-mail address, name, gender, qualification and study area. In the second section, the scale of depression, anxiety and stress DASS-21 has been applied. DASS-21 is based on three subscales of depression, anxiety and stress. There are seven elements on each of the three scales, separated into subscales of similar content. Statements 3, 5, 10, 13, 16, 17 and 21 comprises subscale of depression; Statements 2, 4, 7, 9, 15, 19 and 20 are subscales of anxiety; and statements 1, 6, 8, 11, 12, 14 and 18 are stress subscales. All subscales are marked on a four-point Likert scale ranging from 0 (never) to 3 (almost always).

The English and non-English versions have a high internal consistency (Cronbach alpha scores> 0.7) [12]. The forms with complete answers were finally analyzed. Privacy and anonymity were maintained during data processing.

Table 1- Categorization of the DASS-21 Scale

Meaning	Depression	Anxiety	Stress
Normal	0-9	0-7	0-14
Mild	10-13	8-9	15-18
Moderate	14-20	10-14	19-25
Severe	21-27	15-19	26-33
Extremely severe	28+	20+	34+

Inclusion Criteria
1. Students aged between 18-29 years
2. Students enrolled in undergraduate (UG) and Postgraduate courses

Exclusion criteria
1. Age below 18 years
2. Age above 29 years
3. Former students (UG/PG)

RESULTS

Sample Characteristics
The sample had a mean age of 23.3 (±2.19) years. Most of the participants were females (n = 176, 64%), having undergraduate qualification (n = 170, 62%) [Table 2].

Table 2- Clinical characteristics of the sample

S.no	variables	n	%
1	Age	23.3±2.19	
2	Gender		
	Females	176	64%
	Males	98	36%
3	Qualification		
	Undergraduates	170	62%
	Postgraduates	104	38%

Depression

Of the 274 total samples, 148 (54%) students were depressed, of which 57 (21%) were mild and 47 (17%), 23 (8%), and 21 (8%) students had moderate, severe, and extremely severe depression scores depicted in (Table3), respectively [Figure 1]. Mean subscale depression score was 11.4±9.2 [Table 4].
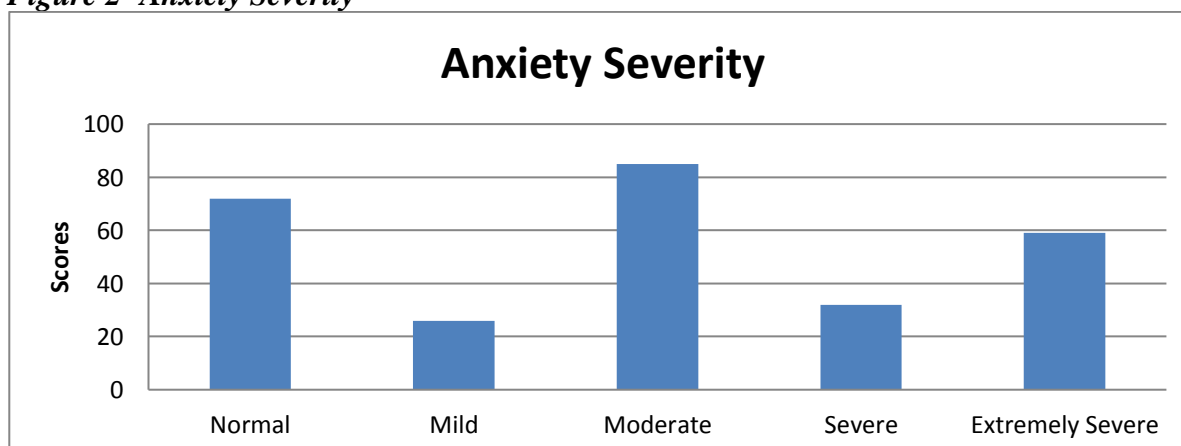
Figure 1- Depression Severity
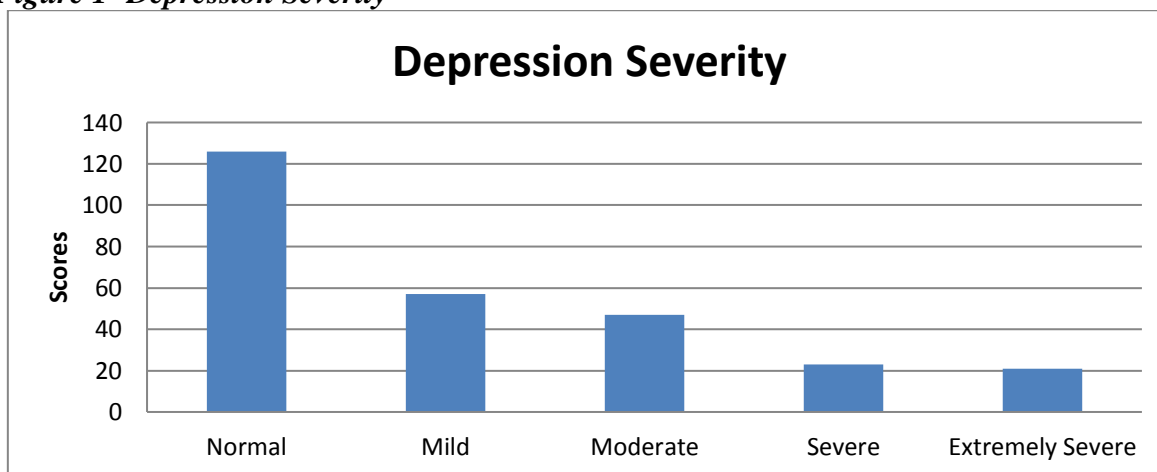
Anxiety

Of the total 274 participants in the study, 202 (74%) were found to have some sort of anxiety, and 26 (9%), 85 (31%), 32 (12%), and 59 (22%) participants had mild, moderate, severe, extremely severe anxiety illustrated in table 3, respectively [Figure 2]. Mean value on the subscale of anxiety was 12.5±8.6 [Table 4].

Figure 2- Anxiety Severity

Stress

Among the 274 total samples, 96 (35%) students were stressed, among which 38 (14%) were mild and 27 (10%), 25 (10%), and 6 (2%) students were having moderate, severe, and extremely severe stress scores depicted in table 3, respectively (Table 3) [Figure 3]. Mean stress subscale score were found to be 13.4±8.3 [Table 4].
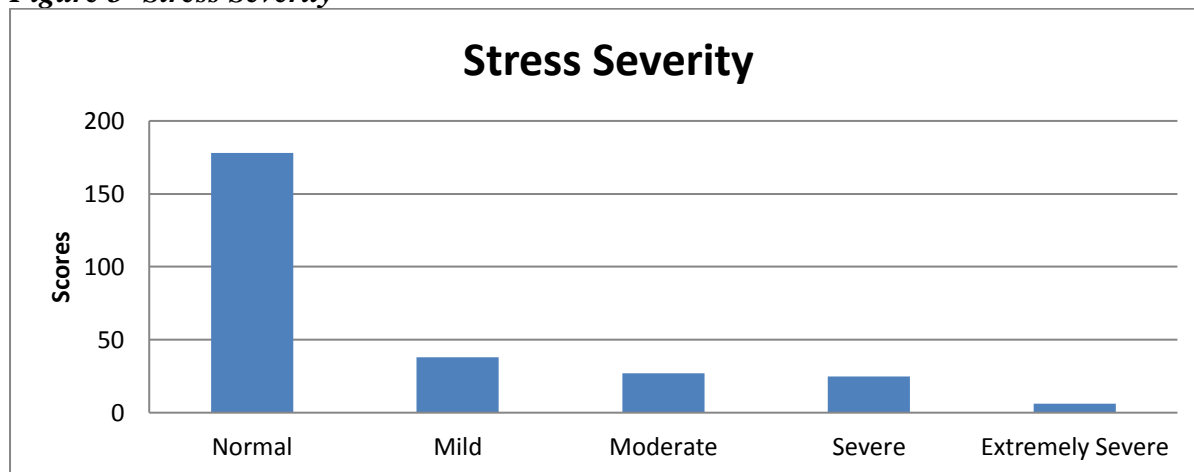
Figure 3- Stress Severity

Table 3- Distribution of study population by the severity of depression, anxiety and stress (n = 274)

S.NO	Tool	Category	Percentage	Frequency (n)
		Normal	46%	126
1	DASS	Mild	21%	57
	(Depression)	Moderate	17%	47
		Severe	8%	23
		Extremely Severe	8%	21
		Normal	26%	72
2	DASS	Mild	9%	26
	(Anxiety)	Moderate	31%	85
		Severe	12%	32
		Extremely Severe	22%	59
		Normal	65%	178
3	DASS	Mild	14%	38
	(Stress)	Moderate	10%	27
		Severe	9%	25
		Extremely Severe	2%	6

Table 4- Mean score of Depression, Anxiety, and Stress scale sub-items

Variable	Mean±S.D.
Depression subscale total	11.4±9.2
Anxiety subscale total	12.5±8.6
Stress subscale total	13.4±8.3
DASS score total	37.3±26.1

DISCUSSION

This study determines the prevalence rate of psychological distress symptoms such as depression, anxiety and stress among college students during this COVID-19 pandemic. A study by Kazmi HSS et al. revealed that Covid-19 creates psychological distress among individuals because they are forced to stay home due to lockdown [15].

Our study observed that the prevalence of depression, anxiety and stress among college students was 54%, 74% and 35% respectively as they are facing uncertainty as regards career and professional life, jobs are at stake. The fear of infection is also creating a panic between them.

Similarly, a cross-sectional study of Srinagar's Naqshbandi reveals that a high prevalence of depression, anxiety and stress was 40%, 50% and 37.5% respectively, in medical students [16]. Another study by Syed A et al. found that depression, anxiety and stress among college physiotherapy students were 48%, 68.54% and 53.2% respectively [17].

The results also showed that women were associated with an increase in anxiety, depression and stress as compared with males may be due to more participation of females in the study. This finding is rational with the findings of previous studies, which concluded that there was a correlation between women and an increase in psychological distress [18].

Strengths

This is an initial study, which determines the frequency of psychological distress in a university setting during the COVID-19 pandemic. It provides valuable information on the current situation, useful for gaining an idea of the situation in possible future crises.

Limitations

First, given the limited resources available and the temporal sensitivity of the COVID-19 epidemic, we have adopted an online investigation method. Further longitudinal studies would be needed to study the impact of this pandemic on students in the near future.

The second is that the study uses self-report tools (DASS-21), which may not be as effective as those assessed by trained mental health professionals, to estimate the psychological impact, depression, anxiety and stress and increase limitations of this study.

CONCLUSION

In conclusion, the current COVID-19 pandemic is causing widespread concern, depression and anxiety among people around the world, including odd jobs, health professionals, and the general population and college students. A sizable portion of college students suffers from stress, anxiety and depression, which reveal their mental health problems that need immediate assistance. On average, we observed a 14% increase in levels of depression & anxiety but a 2% decrease in stress during COVID-19 lockdown period as compared to previous times.

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Conflict of Interest
The author declared no conflict of interest.

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APPENDIX

DASS-21

DASS21   *Name:*   *Date:*

Please read each statement and circle a number 0, 1, 2 or 3, which indicates how much the statement applied to you *over the past week*. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

0 Did not apply to me at all
1 Applied to me to some degree, or some of the time
2 Applied to me to a considerable degree, or a good part of the time
3 Applied to me very much, or most of the time

1	I found it hard to wind down	0	1	2	3
2	I was aware of the dryness of my mouth	0	1	2	3
3	I couldn't seem to experience any positive feeling at all	0	1	2	3
4	I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3
5	I found it difficult to work up the initiative to do things	0	1	2	3
6	I tended to over-react to situations	0	1	2	3
7	I experienced trembling (e.g., in the hands)	0	1	2	3
8	I felt that I was using a lot of nervous energy	0	1	2	3
9	I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
10	I felt that I had nothing to look forward to	0	1	2	3
11	I found myself getting agitated	0	1	2	3
12	I found it difficult to relax	0	1	2	3
13	I felt down-hearted and blue	0	1	2	3
14	I was intolerant of anything that kept me from getting on with what I was doing	0	1	2	3
15	I felt I was close to panic	0	1	2	3
16	I was unable to become enthusiastic about anything	0	1	2	3
17	I felt I wasn't worth much as a person	0	1	2	3
18	I felt that I was rather touchy	0	1	2	3
19	I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)	0	1	2	3
20	I felt scared without any good reason	0	1	2	3
21	I felt that life was meaningless	0	1	2	3