

Students in Pandemic: A Preliminary Study on Anxiety, Stress & Depression with Sociodemographic Variables

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ABSTRACT

Schools and colleges all over the world had been closed due to the spread of COVID 19, restricting students to their residence and online education. The present scenario is for sure something students are not very comfortable with. Additionally, many colleges and universities are still indecisive about the yearly exams and commencement of a new session. It is likely that these factors affect the mental health of the students. The present study is a preliminary study on students (N=79) between the age range of 18 to 28 years (M = 21.62; S.D. =1.88) using snowball sampling technique aimed to explore if mindfulness helps in combating anxiety, stress, and depression. The results show that students who reported practicing mindfulness meditation perceived themselves as less susceptible to COVID 19 threat. The results also indicate that students who practice mindfulness significantly differ from those who do not and are less likely to experience mild ($\chi^2 = 8.166$; $p = 0.01$) levels of stress. When someone the participant knew required treatment significant difference was found in people who reported severe levels of stress ($\chi^2 =$, $p = 0.00$). Moreover, significant differences in severe level of stress ($\chi^2 = 4.162$; $p = 0.04$) was found in work from home situation. Lockdown has definitely affected mental health but this study is preliminary in nature and has a small sample size. More studies with a larger sample size are needed to explore the effects of COVID-19 and lockdown on student's mental health.

Keywords: *Depression, Anxiety, Stress, Mindfulness Practice, Work from Home*

Coronavirus or COVID 19 was declared a pandemic by the World Health Organization (WHO) on 11th March, 2020 after wide spread in China, Europe and some parts of South East Asia, making words like quarantine and lockdown a household name. India also instated complete lockdown on 24th March, 2020 with less than 500 cases to contain the community spread.

The emergence of coronavirus and sudden lockdown affected many people psychologically arising feelings of frustration, stress, anxiety and fear. Amidst the threat of the infectious spread of the virus, mental health is generally ignored, especially in low resource countries (Roy et al. 2020). The world was not prepared to be in lockdown and the restriction in

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movements gave rise to feelings of uncertainty and anxiety. The lockdown and restrictive movement are linked with feelings of fear of contamination of virus, feelings of loneliness and helplessness finally manifesting as symptoms of depression (Serafini et al. 2020). The loss of jobs and poor economic conditions further worsened the situation pushing people into depression and ultimately resulting attempts to suicide (Roy et al. 2020). Additionally, work from home also causes burnout and may result in insomnia, stress and depression (The Economic Times 2020).

A recent study in China, on the students reveal that more than 50% people perceived the outbreak of the virus as severe and about one third students reported experiencing either moderate or severe level of anxiety (Wang et al. 2020). Many other studies also found similar results with initial response to the outbreak of the virus as being anxious or under stress (Chakraborty and Chatterjee 2020; Verma and Mishra 2020). Students especially found the lockdown distressing as the mode of studying shifted to online and not many students are comfortable with the same. Besides, a huge digital divide makes it even more difficult for children with limited resources to access the online mode. Moreover, they were unsure regarding the commencement of exams and beginning of semesters accounting to feelings of anxiety, depression and stress (Times of India 2020).

Mindfulness based practices like MBSR and MBCT are well established through many empirical researchers for reducing depression and anxiety (Serpa, Taylor, and Tillisch 2014; Song and Lindquist 2015). Mindfulness might be seen as a protective shield against the stress and emotional problems caused because of coronavirus and lockdown (Behan 2020).

The current study aims to assess depression, anxiety and stress among students. It also aims to explore if mindfulness practice helps in combating emotional distress. Other variables like working from home and someone known requiring treatment were also assessed exploring if they have any impact on depression, anxiety and stress.

METHODOLOGY

Sample

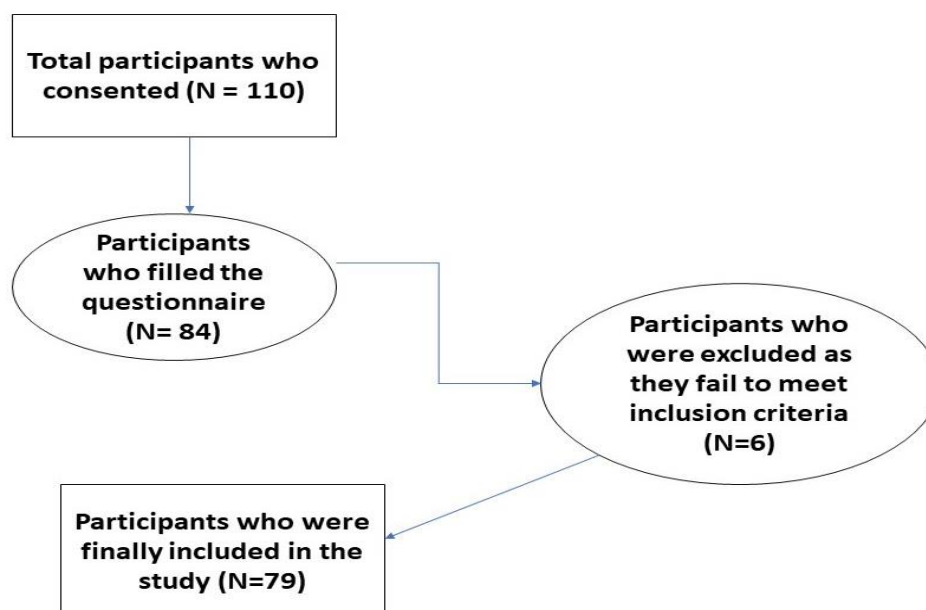
The study follows snowball sampling technique. Total sample size was 79 between 18-28 years of age ($M=21.62$; $S.D. =1.88$). The sample had students who ranged from pursuing bachelors to doctorate in various disciplines, residing in urban areas of Kolkata, Pune, Mumbai, Varanasi and Delhi. The data was collected during Unlock 2.0 so the students and their family had basic amenities available fairly easily but restriction in movement without purpose was intact. No participant reported staying alone during the period of data collection, 97% reported living with their families whereas remaining reported residing with friends during lockdown. Students having any physical or mental disability were excluded from the study.

Procedure

The questionnaire was distributed through WhatsApp, mails and other social media platforms. Participants were requested to fill in the questionnaire only if they consented to do so. Additionally, confirmation of consent through telephonic conversation was obtained. The participants were ensured that all their information will be kept confidential. Since, no invasive methods were used and consent was taken, the need for ethical clearance did not arise. Some additional information were also obtained from the participants like if they practice mindfulness, how susceptible they feel they are to COVID, does anyone they know had been affected by COVID, does someone they know suffer chronic illness and require

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treatment for chronic illness etc. Some participants did provide telephonic consent but did not revert a filled questionnaire. Finally, data for 85 participants were obtained, out of which only 79 participants met the inclusion criteria. These participants were administered with The Depression, Anxiety and Stress Scale (Lovibond and Lovibond 1995)



The Depression, Anxiety and Stress Scale (Lovibond and Lovibond 1995) is a 21 item 4-point Likert scale anchoring from 0 which stands for “did not apply to me at all” to 3 which stands for “applied to me very much”. The depression sub scale measures dysphoria, hopelessness, anhedonia etc; the anxiety sub scale measures state anxiety, subjective experience of anxious effect etc and stress sub scale assesses being over reactive, impatient etc. Sum scores provides with severity index of depression, anxiety and stress. For depression, scores between 0-9 falls under “normal category”, 10-13 represents “mild level” of depression, scores between 14-20 represents “moderate level” of depression, “severe depression” is reflected in scores between 21-27 and people scoring more than 28 falls into “extremely severe depression”. For anxiety, 0-7 reflects “normal anxiety”, 8-9 shows “mild anxiety”, 10-14 shows “moderate level” of anxiety, “severe anxiety” is reflected in scores between 15-19, and scores more than 20 is “extremely severe” level of anxiety. For stress, 0-14 falls in “normal” stress category, 15-18 represents “mild level” of stress, scores between 19- 25 shows “moderate level” of stress, 26-33 scores fall in “severe stress” category and more than 34 reflects “extremely severe” category. To calculate the final score, the sum scores are to be multiplied with 2.

RESULTS

The DASS scale provides levels of anxiety, stress and depression. The participants falling into each category are represented by different pie charts and a comparative status of Stress, Anxiety and Depression are represented by a bar diagram. The pie charts represent the percentage of people who fall into each category whereas the bar diagram represents the number of people falling into each category.

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Fig A. showing percentage of people falling in each category for depression, anxiety and stress

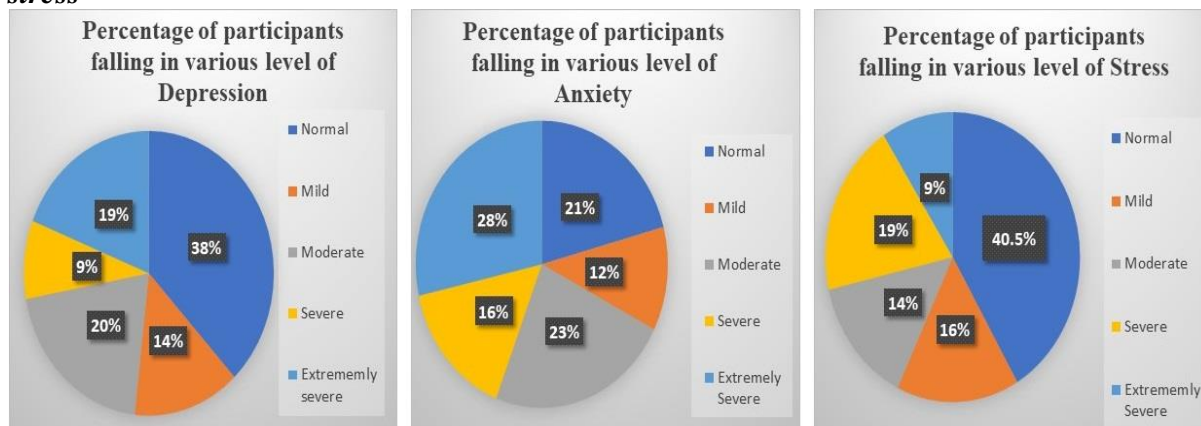
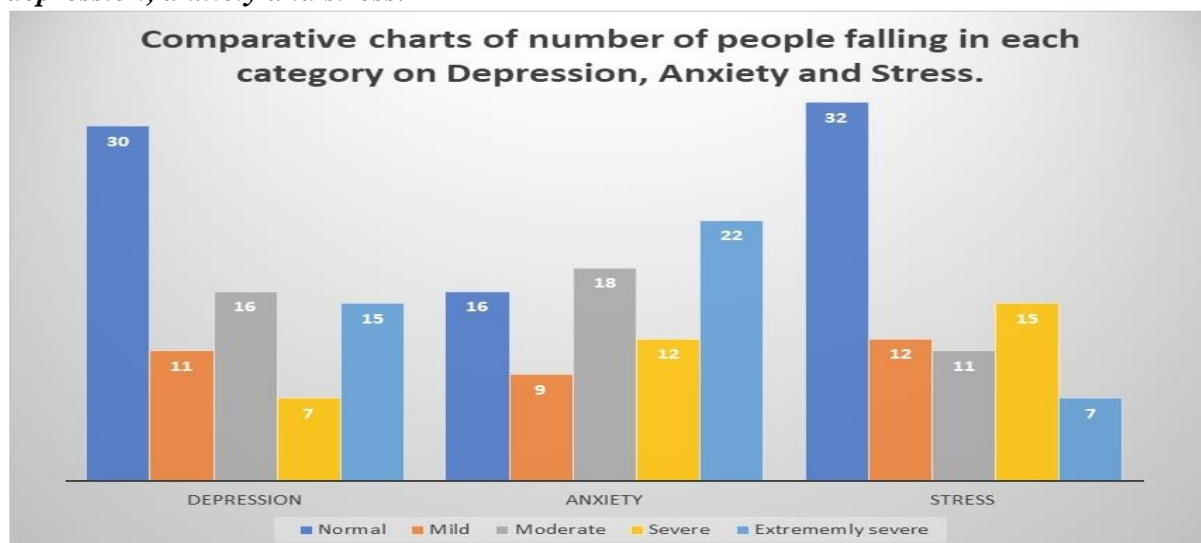


Fig B. showing a comparative bar diagram of people falling into each category in depression, anxiety and stress.



The comparative bar diagram shows that for anxiety, normal levels are reported by lesser participants than extremely severe category which is unlike stress and depression where more participants fell in normal category than in extremely severe category. Besides, normal category, maximum participants fall in moderate category in depression, severe category for stress and extremely severe category for anxiety. In context to depression, normal and moderate categories were followed by extremely severe, mild and severe whereas for Anxiety extremely severe category was followed by moderate, normal severe and mild. This clearly shows that many people felt anxious on more extreme levels than feeling depressed or stressful. Most people fell in normal category for stress, followed by severe, mild, moderate and extremely severe.

Susceptibility of being affected by COVID in people practicing mindfulness.

- Proportions were computed for people falling into each category and comparison of proportions were done using Chi square.
- Participants were requested to rate how much they felt susceptible to getting affected by COVID-19 on a scale of 1 to 10 where 1 was least susceptible or not at all

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susceptible and 10 stands for highly susceptible. After the data was obtained, a median split categorised the susceptibility into low and high categories. Frequency of people who had high and low susceptibility were computed on the basis of mindfulness practice.

Table 1. A comparison of people who practice mindfulness and those who do not on susceptibility of being affected by COVID

	People not practicing mindfulness	Practicing mindfulness	χ^2
Low susceptibility	26	20	1.099
High susceptibility	25	6	14.398***

More number of participants who practice mindfulness show low susceptibility (25.31%) in comparison to number of people who do not practice mindfulness and perceive high susceptibility (7.59%) to be affected with COVID. No significant difference was found in perception of susceptibility of COVID threat for people who did not practice mindfulness. However, people who reported practicing mindfulness for at least more than 10 minutes a day on daily basis showed significant difference from those who did not practise mindfulness in perception of high susceptibility towards being affected by COVID.

Depression, Anxiety and Stress and mindfulness practice

Participants who reported that they practice mindfulness meditation were compared to those who reported not practicing mindfulness meditation. Proportions of participants who fell in each category of depression, anxiety and stress were then categorised on the basis of their mindfulness practice.

Table 2. Participants falling in various categories of Depression, Anxiety and Stress on the basis of mindfulness practice

	Depression				Stress				Anxiety			
	Mild	Moderate	Severe	Extremely severe	Mild	Moderate	Severe	Extremely severe	Mild	Moderate	Severe	Extremely severe
No mindfulness practice (n=51)	9 (17.64%)	9 (17.64%)	6 (11.76%)	9 (17.64%)	0	9 (17.64%)	9 (17.64%)	5 (9.80%)	5 (9.80%)	14 (27.45%)	6 (11.76%)	17 (33.33%)
Mindfulness practice (n=26)	2 (2.53%)	5 (19.23%)	1 (3.84%)	6 (23.07%)	4 (15.38%)	1 (3.84%)	6 (23.07%)	2 (7.69%)	4 (15.38%)	4 (15.38%)	4 (15.38%)	5 (19.23%)

Proportions of participants falling into each category were then compared using χ^2 to assess if the differences between proportions are significant or not. The results showed that significant differences were found in mild category of stress. Though a close look at the table shows that though other differences are not significant, a general trend of low levels of depression, anxiety and stress in mindfulness practitioners can be seen throughout.

		No Mindfulness practice	Mindfulness practice	χ^2
Stress	Mild	0	15.38%	8.166***

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When someone participant's know require treatment for a chronic illness on depression, anxiety and stress

Participants were asked if someone they knew required treatment and had to seek treatment during the lockdown period for diseases like kidney dialysis, chemotherapy etc. Such visits to hospital expose the known person to the risk of infection to COVID, therefore, it was assessed if knowing someone who required treatment have effects on depression, anxiety and stress.

Table 3. levels of depression, anxiety and stress when someone the participant knew require treatment during lockdown

		Someone you know requires treatment (N=63)		χ^2
		Yes (n=40)	No (n=3)	
Depression	Mild	8 (20%)	0	0.720
	Moderate	7 (17.5%)	1 (33.3%)	0.449
	Severe	3 (7.5%)	0	0.236
	Extremely Severe	9 (22.5%)	1 (33.3%)	0.673
Anxiety	Mild	6 (15%)	0	0.511
	Moderate	10 (25%)	0	0.955
	Severe	4 (10%)	0	0.323
	Extremely Severe	11 (27.5%)	2 (66.6%)	1.976
Stress	Mild	6 (15%)	0	0.511
	Moderate	6 (15%)	0	0.511
	Severe	6 (15%)	2 (66.6%)	4.794*
	Extremely Severe	5 (12.5%)	0	0.414

The table shows that other the severe category stress, none of the other levels show significant differences when someone the participant knew had to receive treatment during COVID. Following a general trend, when participants knew someone h=who required treatment, they showed more depression, anxiety and stress than when no one they knew required treatment during COVID.

Depression, Anxiety and Stress and Working from home

Working from home has become mandatory since the lockdown and an assessment of whether working from home may cause stress, anxiety and depression among students was done. Significant differences were found on severe category of stress for people who were working from home in comparison to those who were not working from home.

Table 4. Comparison of depression, anxiety and stress among participants working from home with people not working from home

		Work from home (N=75)		χ^2
		Yes (n=69)	No (n=06)	
Depression	Mild	9 (13.04%)	0	0.877
	Moderate	13 (18.84%)	3 (50%)	3.151
	Severe	7 (10.14%)	0	0.662
	Extremely Severe	14 (20.28%)	1 (16.66%)	0.045
Anxiety	Mild	7 (10.14%)	0	0.662
	Moderate	16 (20.18%)	2 (33.3%)	0.563

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		Work from home (N=75)		χ^2
		Yes (n=69)	No (n=06)	
Stress	Severe	11 (15.94%)	0	1.106
	Extremely Severe	20 (28.98%)	2 (33.3%)	0.049
	Mild	12 (17.39%)	0	1.226
	Moderate	11 (15.94%)	0	1.106
	Severe	11 (15.94%)	3 (50%)	4.162*
	Extremely Severe	7 (10.14%)	0	0.662

DISCUSSION

The present study aimed to assess the psychological impact of lockdown and various sociodemographic variables associated with it among students in India. Our results suggest that approximately 28% respondents experienced severe to extremely severe depression and stress whereas around 44% participants reported experiencing anxiety during the lockdown. High rates of depression, anxiety and stress are not unlikely. A study conducted in China during the time of pandemic found similar results (Wang et al. 2020). It is alarming that not even 50% participants fell into the “normal” level of either depression, anxiety or stress. Many other studies conducted in different countries, in context to the emotional distress, show lower rates of depression, anxiety and stress but the studies were conducted during the initial outbreak period (Alkhamees et al. 2020; Moghanibashi-Mansourieh 2020).

Participants were asked whether they practiced mindfulness meditation on a daily basis. Of 79 participants only 32.9% people reported practicing mindfulness meditation whereas 64.6% participants reported no exposure to mindfulness meditation. The results show that only mild level of stress was significantly different in those who practice mindfulness meditation and those who do not. The general trend however, shows that out of the 51 participants who did not practice mindfulness, 64.68% reported experiencing depression at mild, moderate, severe or extremely severe levels whereas only 48.67% reported feelings of depression at any level among the 26 participants who reported practising mindfulness on a daily basis. For anxiety, around 45.08% people reported feeling anxious at some level if they are not mindfulness practitioners whereas among those who practiced mindfulness meditation 49.98% reported feeling anxious. 65.337% of participants who practiced mindfulness showed some level of stress, on the contrary, 82.34% non- practitioners reported feeling anxious. The difference clearly shows the protective shield mindfulness prepares for combating feelings of depression and stress. Moreover, stress has been reported as meaningfully high even in practitioners which is in congruence to the present situation. COVID-19 and lockdown together has resulted in shut down of schools and colleges all over which might had heightened levels of stress. It was also found that those who practiced mindfulness showed lower threat of susceptibility to infection.

Colleges are mostly associated with freedom, independence and friendships and can be viewed as a phase in life where mobility and everyday contact with friends is considered important. The coronavirus pandemic not only restricted the movement of youngsters to their residence or close by but also restricted the meetings and hangouts with friends which are quite common in colleges. Initially, however, the virus was mistaken as a temporary medical issue by many countries, as must have been the case with students as well. Gradually, however, with the spread of the virus in large numbers and with reports of many thousand people getting effected in one’s own city, the fear of contamination and the

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helplessness of not being able to do anything to alter the situation may give birth to anxiety and depression, especially to those who knew someone who needs regular treatment for illnesses like cancer, kidney failure etc.

Approximately 67.5% participants reported feeling some level of depression if the participants knew someone who required treatment for a chronic illness whereas they experienced 66.6% feelings of depression when they knew no one who required treatment for chronic illness. In context to anxiety, around 77% participants reported experiencing such feelings when they knew someone who required treatment for chronic illness whereas only 66.6% people reported feelings of anxiety when they knew no one who required treatment for illness. Significant difference was found in people who reported severe levels of stress when they knew someone who required treatment in comparison to those who did not know someone who required treatment. Since, people with comorbidities were prone to infections of COVID-19 (Jalali, Goda, and Patil 2020), it can be expected that people who knew someone requiring treatment, feelings of stress, anxiety and depression are common (Gupta 2020). Although significant differences were not found on any levels of anxiety and depression, it should be interpreted with caution considering the small sample size.

Moreover, working from home has also created significant and severe levels of stress among students. It is worth noticing here that all the participants were students and for them work from home included studying from home, completing assignments and getting access to the study materials. Though the general trend shows that many of them (67.34%) worked from home, it also shows that those working from home showed higher experiences of feelings like anxiety, depression and stress. Colleges remained shut and are till date which shifted the mode of education to online teaching and virtual classes. India was not infrastructurally ready for this shift. In a blog post, the digital divide was put to numbers reporting that only 23.8% of Indian households have internet access according to the National sample Survey, 2017-18. In rural household, 14.9% had access to internet whereas in urban areas only 42% have access to internet. The lockdown due to coronavirus was announced in March which is seen as the exam time for almost all the students. The exams for secondary and higher secondary starts in February and finishes by march whereas those of higher education starts from mid-April. Since, the colleges were shut during the exam period, students were unclear when the exams will commence and are also worried that sudden declaration of exam will leave the students with no time to prepare. Moreover, students who belong to other countries have retrieved to their respective nations and are worried about their future (Times of India 2020). All of these reasons seem to add to the stress created by the outspread of the virus.

CONCLUSION

There seems to be an urgent need to address mental health issues arising due to coronavirus wide spread. Though the paper failed to find any differences in depression and anxiety on various sociodemographic variables, the fact that more than 50% students reported feelings of anxiety, depression and stress at some level during this lockdown is alarming and calls for action. Though the sample size is quite small, it is important as it provides a preliminary picture of the mental health of students. The paper also discusses that mindfulness practice may work as a protective shield against emotional distress. Regardless of the sample size, the findings establish that many students are suffering from severe levels of stress when it comes to working from home. This can clearly have implications in policy making and decisions regarding opening of schools and colleges with utter care and precaution.

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Conflict of Interest

The author(s) declared no conflict of interest.

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