

Psychological Impact of Covid-19 on Students of Higher Education During Second Wave in India

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ABSTRACT

Introduction: People were gasping for oxygen. They were struggling to survive. Lives, economy and mental health were at stake. India was under the second wave of coronavirus pandemic and its situation was pathetic. Higher education institutions were closed for more than a year in West Bengal. In this backdrop, the present study aimed at a most timely assessment of the prevalence and magnitude of and to determine the predictors of covid-19 anxiety, psychological distress and depression in students of higher education. **Materials And Methods:** An online cross-sectional survey was conducted on students of higher education in West Bengal during the peak of the second wave by using standardized questionnaires. **Results And Discussion:** Results showed 85.09% had covid-19 anxiety, 69.30% had psychological distress and 57.46% had depression. Students differed significantly in magnitude across gender, residence, level of education, marital status, fear of infection, feeling of insecurity and helplessness, and nature of information usage. Gender, educational level, marital status, fear of infection, helplessness and nature of information usage were found to be the predictors of mental health issues. **Conclusion:** In this alarming situation, students need both psychological and infra-structural supports.

Keywords: Anxiety, Peritraumatic Distress, Depression, Coronavirus Pandemic, Second Wave

People were dying. Cremation grounds were more than full. Dead bodies were burnt on the pavement, in bus stands and market places. There was lack of beds in the hospitals; there was scarcity of medical oxygen. The second wave of covid-19 entered India around March, 2021 and soon the scenario became devastating. It was much more lethal than the first wave and as WHO chief (Reuters, 2021) said, India's situation was "beyond heartbreaking". It reaches its peak in May, 2021 with 2,738,957 confirmed cases (May 3, 2021) and 28,982 deaths (May 17, 2021) (World Health Organization, 2021). In West Bengal, the number of confirmed cases touched the crest (20,846) on May 14, 2021 and the death toll was highest (162) on May 20, 2021 (John Hopkins University, 2021). Government of West Bengal announced lockdown from May 16, 2021.

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A meta-analysis of existing research work revealed physical as well as psychological disorders due to Coronavirus pandemic (Salari et al., 2020). Anxiety, depression and stress related disorders are the most common among these. A worldwide survey reported that 50.9% people experienced anxiety, 57.4% experienced stress and 58.6% had depression during pandemic (Shah et al., 2021). The total prevalence of depression, anxiety and stress were 57%, 40.5% and 38% respectively across six Arabian countries (Omari et al., 2020). Prior history of mental illness, loneliness, younger age, poor sleep and lower level of resilience were found to be the mediating factors in stress and depression in a study across 63 countries (Varma et al., 2021). Economic status and following covid-19 news were found to be associated with stress while following covid-19 news was related to both anxiety and depression (Khademian et al., 2021). Psychological effect of lockdown during the first wave, on general public in India revealed that 38.2% had anxiety, 10.5% had depression and, over all, 40.5% had either depression or anxiety. 74.1% had moderate level of stress and 71.7% had poor wellbeing (Grover et al., 2020). A study on impact of first wave of covid-19 on people of West Bengal explored that 71.8% were more worried and 24.7% were more depressed in the past two weeks. 52.1% had preoccupation with the thought of covid-19 contraction, 69.6% were worried about financial loss during lockdown (Chakraborty & Chatterjee, 2020).

In a number of studies, students were regarded as a largely affected class due to the pandemic. Academic work load, separation from school, and fear of contagion in students, negatively affected their health via perceived stress (Yang et al., 2021). There was a significant difference between students and non-students for anxiety, stress and depression but not for fear of covid-19. And females had higher levels of all these four measures (Kassim et al., 2021). 40% of the University students in Bangladesh had moderate to severe anxiety, 72% had depressive symptoms and 53% had moderate to poor mental health status (Faisal et al, 2021). An investigation during the first wave of covid-19 related lockdown in India reported that family affluence was negatively correlated with stress, anxiety and depression. And students and healthcare professionals experienced more stress, depression and anxiety than others (Rehman et al., 2021).

Shrestha et al. (2021) measured specifically coronavirus related psychological distress in Nepalese community during the pandemic by using CPDI (Covid-19 Peritraumatic Distress Index) and reported higher prevalence of distress in females, health professionals, and post-secondary educated people. Peritraumatic distress among Italians were reported by Bonati et al. (2021).

A dearth of studies measuring specifically covid-19 related anxiety combined with coronavirus related peritraumatic distress and depression was noted. Studies on student population were conducted during the early phases of the pandemic. Their findings may not be applicable with the continuation and lethality of the second wave of covid-19 in India. There was no study on covid-19 specific anxiety, peritraumatic distress and depression of students of higher education in West Bengal during the second wave, and not even during the first wave of the pandemic.

In this backdrop, the present study aims to explore the level of covid-19 specific anxiety, coronavirus related peritraumatic distress, and depression in the students of higher education in West Bengal, India, during the peak of second wave and state-wise lockdown. It addresses the following research questions:

How much prevalent are the coronavirus related anxiety, the covid-19 psychological distress and depression among the college and university students during the peak of second wave of pandemic in West Bengal, India, whether there are any significant differences in covid-19 related anxiety, peritraumatic distress and depression among students with respect to various socio-demographic variables and coronavirus related variables, and what are the predictors of mental health symptoms in this regard.

MATERIAL AND METHODS

At the peak of the second wave in India, an online cross-sectional survey on the college and university students was conducted from May 11, 2021 to May 24, 2021.

Sample and procedure

Google forms were created for socio-demographic information, Covid-19 Anxiety Scale (CAS), Covid-19 Peritraumatic Distress Index (CPDI) and Beck Depression Inventory (BDI). A snowball sampling technique was adopted. Prior consent was taken from each participant before filling up these self-administered questionnaires. The inclusion criteria were (i) minimum 18 years of age, (ii) college or university student of West Bengal, (iii) being a resident of West Bengal, and (iv) an ability to read, comprehend and write in English. 250 students responded altogether. However, 22 sets of data were discarded as they were not meeting the inclusion criteria. Finally, data from 228 participants, aged 18-33 years (Mean 23.21, SD 2.30), were considered for analysis.

Study variables and tools

Explanatory variables

- **Socio-demographic variables:** Age (18-23 years, 23+), gender (male, female), educational level (undergraduate, postgraduate), marital status (married, unmarried), residence (rural, non-rural), and per capita income (monthly) were taken into account in the present study.
- **Covid-19 related variables:** Information from CPDI were taken/clubbed to get coronavirus related variables and classified into 4 categories: feeling of insecurity (Q.2), fear of being infected with coronavirus (Q.3, and Q.22), feeling of helplessness and losing faith (Q.4, Q.6 and Q.7) and information usage (Q.8, Q.9, Q.10, Q.11 and Q.12) to see their impact on covid 19 anxiety and depression.
- **Outcome variables:** The researchers, to measure covid-19 specific anxiety, coronavirus peritraumatic distress and depression, deliberately opt for CAS, CPDI and BDI respectively.
- **Covid-19 anxiety scale (Silva et al., 2020):** In the present study, CAS-7 item was intentionally chosen as it is the only covid-19 psychometric tool which was validated in Indian context (Chandu et al., 2020). CAS is available in the public domain, measures covid-19 related anxiety and its score ranges from 0 to 3. The higher the score, the greater the anxiety.
- **Covid-19 peritraumatic distress index (Qui et al., 2020):** CPDI contains 24 items, measures coronavirus related psychological distress on a 5-point Likert scale and is available in the public domain. Its score ranges from 0 to 96. The Cronbach's alpha reliability value is 0.895.
- **Beck depression inventory (Beck et al., 1961):** BDI is a well-established standardized tool to assess the level of depression. These 21 items -inventory has high internal consistency with alpha coefficient of 0.81 for non-psychiatric population and 0.86 for psychiatric population respectively (Beck et al., 1988).

Statistical analysis

Excel sheets were generated to transfer the data collected through Google Forms. From the excel sheets, data were exported to R software (RStudio 1.4) as per requirement of the statistical analysis. To describe sample demographics and to determine mean, median, standard deviation and frequencies, descriptive statistics were used. For the comparison of mean of different groups, t-test and ANOVA were computed in case of normally distributed continuous data. Mann Whitney U test was conducted in case of non-normal distribution of continuous variables. Only statistically significant variables (in Table 3a,3b and 3c) were included in regression analysis. Simple and multiple linear regressions were computed to find out the predictors of the depression, covid-19 specific anxiety and/or psychological distress. Level of significance was set a priori at 5%.

RESULTS AND DISCUSSION

Table 1: Demographics of Study, population(N=228)

Socio-demographic variable	Number	Percentage
Age		
18-23 years (M 21.75, SD 1.34)	134	58.77
>23 years (M 25.30, SD 1.71)	94	41.23
Gender		
Male	67	29.38
Female	161	70.62
Educational level		
Undergraduate	26	11.40
Postgraduate	202	88.60
Marital status		
Married	18	07.89
Unmarried	210	92.11
Residence		
Rural	147	64.47
Non-rural	81	35.53
Per Capita Income (Monthly)		
≤ Rs.1000/-	46	20.17
>Rs.1000/- and ≤ Rs.2000/-	66	28.94
>Rs.2000/- and ≤ Rs.5000/-	47	20.61
> Rs.5000/-	69	30.26

Data from 228 respondents were analysed. 134 (58.77%) of them belong to 18-23 years of age (Mean 21.75, SD 1.34) and the remaining 94 students (41.23%) belong to the age group of 24-33 years (Mean 25.3, SD 1.71). Most were females (161, 70.62%). Majority of the students were post-graduate (202, 88.60%) with only 26 (11.40%) were undergraduate. Most were unmarried (210, 92.11%), and from rural background (147, 64.47%). Monthly per capita income ranges from Rs. 240 to Rs. 43333. 46 (20.17%) students fall in the lowest per capita income slab and 69 (30.26%) students belong to the highest slab (see Table 1).

Prevalence

The total prevalence rate of covid 19 anxiety was found to be highest, 85.09% (having greater than 1 score in CAS), followed by the prevalence rate of covid 19 peritraumatic distress (69.30%) and depression (57.46%). 54.82% experienced mild to moderate level of psychological distress and 14.48% students experienced severe distress during this period. 24.56% had mild to moderate depression, 18.42% had moderate to severe level of depression and 14.48% had severe depression (see Table 2a,2b and 2c).

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Table 2a: Prevalence of COVID-19 anxiety

Socio-demographic variable	CAS n (%)	
	≤1	>1
Total Prevalence	34 (14.91)	194 (85.09)
Age		
18-23 years	19 (14.18)	115 (85.82)
>23 years	15 (15.96)	79 (84.04)
Gender		
Male	13 (19.40)	54 (80.60)
Female	21 (13.04)	140 (86.96)
Educational level		
Undergraduate	04 (15.38)	22 (84.62)
Postgraduate	30 (14.85)	172 (85.15)
Marital status		
Married	02 (11.11)	16 (89.89)
Unmarried	32 (14.04)	178 (85.96)
Residence		
Rural	26 (17.69)	121 (82.31)
Non-rural	08 (09.88)	73 (90.12)
Per Capita Income (Monthly)		
≤ Rs.1000/-	08 (17.39)	38 (82.61)
>Rs.1000/- and ≤ Rs.2000/-	12 (18.18)	54 (81.82)
>Rs.2000/- and ≤ Rs.5000/-	04 (08.51)	43 (91.49)
> Rs.5000/-	10 (14.49)	59 (85.51)

Table 2b: Prevalence of COVID-19 Peritraumatic Distress

Socio-demographic variable	CPDI n (%)		
	Normal (0-27)	Mild to Moderate (28-51)	Severe (≥52)
Total Prevalence	70 (30.70)	125 (54.82)	33 (14.48)
Age			
18-23 years	45 (33.58)	69 (51.49)	20 (14.93)
>23 years	25 (26.60)	56 (59.57)	13 (13.83)
Gender			
Male	21(31.34)	37(55.22)	09(13.44)
Female	49(30.43)	88(54.66)	24(14.91)
Educational level			
Undergraduate	10 (38.46)	14 (53.84)	02 (07.70)
Postgraduate	60 (29.70)	111 (54.95)	31 (15.35)
Marital status			
Married	10(55.56)	07(38.38)	01 (05.56)
Unmarried	60 (28.57)	118 (56.19)	32 (15.24)
Residence			
Rural	45 (30.61)	79 (53.74)	23 (15.64)
Non-rural	25 (30.86)	46 (56.79)	10 (12.34)
Per Capita Income (Monthly)			
≤ Rs.1000/-	11 (23.91)	28 (60.87)	07 (15.22)
>Rs.1000/- and ≤ Rs.2000/-	21 (31.82)	35 (53.03)	10 (15.15)
>Rs.2000/- and ≤ Rs.5000/-	12 (25.53)	28 (59.57)	07(14.89)
> Rs.5000/-	26 (37.68)	34 (49.28)	09 (13.04)

Table-2c: Prevalence of Depression

Socio-demographic variable	BDI n (%)			
	Normal (0-9)	Mild to Moderate (10-18)	Moderate to Severe (19-29)	Severe (30-63)
Total Prevalence	97 (42.54)	56 (24.56)	42 (18.42)	33 (14.48)
Age				
18-23 years	58 (43.28)	32 (23.88)	25 (18.66)	19 (14.18)
>23 years	39(41.49)	24 (25.53)	17 (18.09)	14 (14.89)
Gender				
Male	27 (40.30)	17 (25.37)	13 (19.40)	10 (14.93)
Female	70 (43.48)	39 (24.22)	29 (18.01)	23 (14.29)
Educational level				
Undergraduate	16 (61.55)	04 (15.39)	04 (15.38)	02 (07.68)
Postgraduate	81 (40.00)	52 (25.74)	38 (18.81)	31 (15.35)
Marital status				
Married	12 (66.67)	03(16.16)	02 (11.11)	01 (05.55)
Unmarried	85 (40.48)	52 (24.76)	41 (19.52)	32 (15.24)
Residence				
Rural	56 (38.09)	38 (25.85)	29 (19.73)	24 (16.33)
Non-rural	41 (50.62)	18 (22.22)	13 (16.05)	09 (11.11)
Per Capita Income (Monthly)				
≤ Rs.1000/-	16 (34.78)	18 (39.13)	08 (17.39)	04 (08.69)
>Rs.1000/- and ≤ Rs.2000/-	26 (39.40)	15 (22.73)	18 (27.27)	07 (10.60)
>Rs.2000 and ≤ Rs.5000/-	18 (38.29)	11 (23.40)	09 (19.14)	09 (19.14)
> Rs.5000/-	37 (53.63)	12 (17.39)	07 (10.14)	13 (18.84)

The prevalence of covid 19 anxiety was almost same across age (85.82% and 84.04 % respectively) and educational level (84.62% and 85.15% respectively) of the sample. Females (86.96%), students who were from non-rural background (90.12%) and students with per capita monthly income of Rs. 2001 to Rs. 5000 (91.49%) had higher prevalence of covid 19 anxiety. (see Table 2a).

The prevalence of covid 19 peritraumatic distress was approximately same across gender (68.66% in males and 69.57% in females) and residence (rural 69.38% and non-rural 69.13%). The prevalence rate was 66.42% in lower age group and 73.40 % in upper age group. It was 70.30 % in post graduates in comparison to 61.54% in undergraduates, 71.43% in unmarried students in comparison to 43.94 % in married students and 76.09% in the lowest income slab in comparison to other 3 slabs. (see Table 2b).

Prevalence of depression was found to be approximately same across age (56.72% and 58.51% respectively) and gender (59.70% and 56.52% respectively). Depression was almost two times more prevalent in post graduates (60.00%) than in undergraduates (38.45 %); and in unmarried students (59.52%) than in married students (33.33 %). Rural students had a prevalence of 61.91% which was pretty high in comparison to non-rural students (49.38%). Students in lowest income slab were more prevalent to depression (65.22%) than their 3 counterparts. Overall, married students had least prevalence. (see Table 2c).

Group difference

t-test revealed that females had significantly higher level of covid 19 anxiety (M 1.85, SD 0.72) compared to that of the males (M 1.66, SD 0.66, t 1.98 and p value 0.03). Rural students were more depressed (M 15.96, SD 11.77) than the non-rural students (M 12.94, SD 11.78, t 1.85 p 0.03). Mann-Whitney U test showed that psychological distress was significantly higher in post graduate students (Median 36.00) in comparison with undergraduate students (Median 32.00) with the z value of -1.80, p 0.04. Distress was also higher in those who were unmarried (Median 36) in comparison to those who were married (Median 26.50) with the z value of -2.74 and p 0.00. Similarly, post graduate students (Median 13.00, z 4.31, p 0.00) and unmarried students (Median 13.00, z -2.06, p 0.02) also had significantly higher level of depression (see Table 3a).

Table 3a: Comparison of central tendency of anxiety, distress and depression w.r.t socio-demographic variables (with two groups)

Socio-demographic variable	Anxiety M(SD)	Test Statistic (p value)	Distress M(SD)	Test Statistic (p value)	Depression M(SD)	Test Statistic (p value)
Age						
18-23 years	1.80(0.70)	t=0.20 (0.42)	35.96(16.49)	t=-0.29 (0.38)	14.75(11.72)	t=-0.23 (0.41)
>23 years	1.78(0.71)		36.60(15.70)		15.11(12.00)	
Gender						
Male	1.66(0.66)	t=1.98 (0.03)*	36.18(16.74)	t=-0.07 (0.47)	14.47(11.64)	t=-0.82 (0.21)
Female	1.85(0.72)		36.33(14.69)		15.91(12.25)	
Educational level						
Undergraduate	1.93	z=0.36 (0.72)	32.00	z=-1.80 (0.04)*	08.50	z=4.31 (0.00)*
Postgraduate	1.86		36.00		13.00	
Marital status						
Married	2.07	z=0.73 (0.23)	26.50	z=-2.74 (0.00)*	07.00	z=-2.06 (0.02)*
Unmarried	1.86		36		13.00	
Residence						
Rural	1.77(0.71)	t=-0.79 (0.22)	37.39(15.58)	t=1.44 (0.08)	15.96(11.77)	t=1.85 (0.03)*
Non-rural	1.84(0.69)		34.10(16.99)		12.94(11.78)	

From one way ANOVA, it was found that there was a significant statistical difference in the levels of depression with respect to all the four categories of covid 19 related variables, i.e., feeling of covid 19 related insecurity, fear of being infected by coronavirus, feeling of helplessness related to covid-19 and loss of faith on administration or other people and those who had tendency to either believe in and share negative information about the pandemic from different sources without evaluating it or avoiding media entirely as they couldn't take it anymore (see Table 3b, 3c).

Table 3b: Comparison of central tendencies w.r.t socio-demographic variables (with more than two groups)

Socio-demographic variable			Anxiety		Distress		Depression	
	Source of variation	Df	Mean Sq	F statistics (p value)	Mean Sq	F statistics (p value)	Mean Sq	F statistics (p value)
Per Capita Income (Monthly)								
≤ Rs.1000/-	Income	2	0.44	0.89 (0.45)	286.70	1010 (0.35)	41.99	0.30 (0.83)
>Rs.1000/- and ≤ Rs.2000/-								
>Rs.2000/- and ≤ Rs.5000/-	Residual	224	0.50		260.00		140.89	
> Rs.5000/-								

Table 3c: Comparison of central tendencies of anxiety and depression w.r.t COVID-19 related variables

COVID-19 related variables			Anxiety		Depression	
	Source of variation	Df	Mean Sq	F statistics (p value)	Mean Sq	F statistics (p value)
Felling of insecurity	Felling of insecurity	4	0.30	0.61 (0366)	338.10	2.48 (0.05)*
	Residual	223	0.50		136.20	
Fear of infection	Fear of infection	8	0.40	0.80 (0.60)	835.90	7.31 (0.00)*
	Residual	219	0.50		114.30	
Feeling of helplessness	Feeling of helplessness	12	0.57	1.17 (0.31)	556.90	4.78 (0.00)*
	Residual	215	0.50		116.50	
Information usage	Information usage	18	0.35	0.69 (0.82)	405.90	3.47 (0.00)*
	Residual	209	0.51		116.80	

Predictors

Three regression models were created to identify the predictors of covid 19 anxiety, peritraumatic distress and depression. Assumptions of linear regression were assessed at first, meeting the criteria for normality, linearity, homoscedasticity and independence of the residuals. In model 1, simple linear regression revealed that gender was a statistically significant predictor of covid-19 anxiety. In model 2, multiple linear regression showed that educational level and marital status of the students were the predictors of peritraumatic distress. Marital status, fear of infection, feeling of helplessness and the nature of information usage were found as the predictors of depression in model 3 (see Table 4a and 4b).

Table 4a: Linear regression model of anxiety, distress and depression w.r.t socio-demographic variables

	Coefficient	Std. Error	t-statistic	p value	R-Squared
Model 1: explanatory variables of anxiety					
Constant	1.85	0.06	33.57	0.00*	0.02
Gender	-0.19	0.10	-1.91	0.05*	
Model 2: explanatory variables of distress					
Constant	30.27	3.10	9.77	0.00*	0.05
Educational level	7.67	3.31	2.31	0.02*	
Marital status	-10.60	3.90	-2.72	0.01*	
Model 3: explanatory variables of depression					
Constant	12.64	2.42	5.21	0.00*	0.04
Educational level	4.13	2.46	1.68	0.09	
Marital status	-5.96	2.88	-2.07	0.04*	
Residence	-2.58	1.62	-1.59	0.11	

Table 4b: Linear regression model of depression w.r.t COVID-19 related variables

	Coefficient	Std. Error	t-statistic	p value	R-Squared
Model 4: explanatory variables of depression					
Constant	3.02	1.59	1.91	0.05*	0.26
Felling of insecurity	-0.04	0.48	-0.08	0.94	
Fear of infection	1.18	0.40	2.98	0.00*	
Feeling of helplessness	1.08	0.27	3.98	0.00*	
Information usage	0.49	1.19	2.58	0.01*	

The overall prevalence of covid 19 anxiety, peritraumatic distress and depression were found to be very high (85.09%, 69.3% and 57.46% respectively). In the previous studies, the reported rates of prevalence of anxiety, stress and depression were lower than those revealed in this study (e.g. Omari et al., 2021; Shah et al., 2021). Such a high rate of prevalence may be due to the facts that the study was conducted at the highest point of second wave in West Bengal. India’s situation was frightening and pathetic at that time. Secondly, the study assessed specifically covid 19 anxiety and covid 19 peritraumatic distress which were different variables than anxiety and stress in general, assessed by the earlier studies. Thirdly, the socio-economic conditions, infrastructural support in health sector, and medical facilities were quite different in a developing country like India and those of developed countries. Fourthly, at the individual level, repeated lockdowns, pay cuts, job loss, and home confinement had changed people’s living. Fifthly, colleges and universities were closed in West Bengal for more than a year, (although online classes were going on) and students of higher education were under uncertainty about their future with respect to final examinations and marking system, further higher studies or getting a job.

This may also explain that why post graduate students had more psychological distress and depression than that of undergraduate students. Educational level was also found as the predictor of covid-19 peritraumatic distress. They are almost 50% more vulnerable to depression than the undergraduate students.

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The female students were more prevalent to covid-19 anxiety. This finding is consistent with the original findings of the developers (Silva et al., 2020) of CAS. They found that no socio-demographic variables other than gender played a significant role in the anxiety scores of the individuals during pandemic. The present study went a step further and revealed that there was not only gender difference in anxiety but also gender was the sole predictor of covid 19 anxiety. Being female itself made women more vulnerable to it. This may be due to the psychological and physical factors which women usually experience in the country, like India. Gender discrimination (Parashar,2020) and work overload (Mittal and Bhakar,2018) are few of these. Earlier studies also showed impact of gender in crisis situations (Wenham et al., 2020) and disaster victims who were female were more vulnerable to adverse outcome (Norris et al., 2005).

Covid-19 anxiety was more prevalent in urban pupils and pupils in middle income group whereas psychological distress was more prevalent in those in lowest income slab. Depression was more prevalent in rural pupils. They also had significantly higher score than non-rural people in BDI. It was evident from the traumatic situations of different cities in India and in Kolkata, the capital of West Bengal, that urban areas with dense population, high rate of transportation through air and land, social exposure, public gathering, General election (Legislative Assembly) in West Bengal (held between March 27 to April 29, 2021), might led to the spread of Coronavirus in jet speed. Overcrowded hospitals and extreme scarcity of medical oxygen made people worried and apprehensive enough to get affected by covid 19 anxiety symptoms. Whereas repeated lockdowns and economic loss made rural pupil and lowest per capita income group more vulnerable to depression. Previous studies (Probst et al.,2006; Meng et al.,2013) showed that rural people were more affected by depression than urban ones. Many of the rural students neither had smart phones of their own, nor had enough network coverage, nor had enough economic support to buy the required amount of data pack to attend online classes and to be in contact with their peer group as well as teachers. These might also contributed to their depression in this case. However, further research is needed in this regard.

Moreover, married students were less distressed and less depressed than the unmarried students, both in terms of prevalence as well as in magnitude. This may be due to the fact that, in India, marriage gives a sense of stability in life and a feeling of security, in general. Physical intimacy also releases feel-good hormones like oxytocin. Again, they usually have a support system from their spouses. Whereas unmarried college and university students stay with their aged parents and siblings. When they are under lockdown and home confinement, there is resource loss, both in terms of economy and social support. It can be supported by the facts revealed in this study that the level of depression also varied significantly with respect to fear of covid-19 infections, insecurities and feeling of helplessness and losing faith on others.

Fear of infection, helplessness including losing faith on others, and nature of information usage were found to be the significant predictors of the level of depression. Here comes the relevance of learned helplessness model of depression proposed by Seligman (1972). Students probably learned that they couldn't do anything about this crisis situation. Such a disaster in health sector had rarely been seen in the past few decades what India saw in these days.

Small sample size in some groups and snowball sampling technique are limitations of this study. Data were collected from the respondents having an access to smart phones in some

way or the other. Despite these, the importance of the present study lies in the fact that it is the most timely measure to assess the covid-19 anxiety, psychological distress and depression in college and university students when West Bengal has been going through the most lethal phase of second wave.

CONCLUSIONS

The present study is the first one to assess the impact of second wave of coronavirus in West Bengal, on the college and university students using CAS, CPDI and BDI altogether, thus gives a comprehensive mental health profile of the students. Policymakers, administrators, health-care professionals, psychiatrists, psychologists, NGO's and other organizations may consider these findings as the basis of their plans and strategic actions to deal with such an alarming situation. Not only the psychological supports but also providing physical amenities like infrastructural development in hospitals and establishment of oxygen plants in the state are much needed to prevent such traumatic scenario in India in future. Multiple initiatives like tele-counselling, Toll-free helpline numbers, etc. can be taken to provide mental health supports. Media and general public may show more sensitiveness and responsibilities regarding maintaining covid-protocols and not spreading rumours. Social media can also play an important role in creating awareness about mental health issues in the mass.

Ethical Considerations

This research does not involve any kind of experiments with animals or human participants. However, all the participants completed an informed consent form before participating in the survey. All due efforts will be made so that their identity will not get disclosed.

Data Availability

The data analysed in this study are subject to the following restrictions: As the data are related to the privacy of participants' personal information, data are only available from the author on reasonable request. Requests to access these datasets should be directed to the corresponding author.

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Conflict of Interest

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