



---

## **Depression, Anxiety and Stress of Postgraduate Students during Covid-19 Pandemic: A Study on Postgraduate Students of Sidho-Kanho-Birsha University, Purulia, West Bengal, India**

*Subir Sen<sup>a#</sup>, Pranab Sau<sup>b</sup>, Shibani Mahato<sup>b</sup>, Sumana Satpati<sup>b</sup>, Tahmin Afreen<sup>b</sup>, Prasanta Gayen<sup>c</sup>*

<sup>a</sup>Associate Professor, Department of Education, Sidho-Kanho-Birsha University, Purulia, W.B. India

<sup>b</sup>Student, Department of Education, Sidho-Kanho-Birsha University, Purulia, W.B. India

<sup>c</sup>Research Student, Department of Education, Sidho-Kanho-Birsha University, Purulia, W.B. India

# Corresponding Author

---

### **ABSTRACT**

Covid-19 has created a pandemic situation all over the world. People are suffering from mental ill health and thus, the levels of depression, anxiety and stress have increased a lot among the people especially among the young adult postgraduate students of university. The purpose of the present study is to identify the differences in the levels of depression, anxiety and stress among the postgraduate students. The researchers have used Depression Anxiety & Stress Scales by Lovibond and Lovibond (1995) to collect data from 135 students of different departments of Sidho-Kanho-Birsha University of Purulia, West Bengal, India by using simple random sampling technique. After the collection of data, it is analyzed using appropriate descriptive and inferential statistics. The result shows that there is no significant difference in the levels of depression, anxiety and stress among the postgraduate students in relation to gender, department and semester. The present condition of all the students is alike and disheartening in general perspectives.

Keywords: Depression, Anxiety, Stress, COVID-19 Pandemic, Postgraduate Students.

---

### **1. Introduction**

People from all over the world are going through a critical juncture as COVID-19 pandemic has spread its branches universally. Prevalence of lockdown is there in almost all the countries in the world. So many people have lost their work and are staying at home maintaining social distance to fight against this pandemic. This critical situation has disturbed the mental health and wellbeing of most of the people. All the educational institutions of most of the countries have shifted teaching learning to online mode. Thus, education sector is facing great difficulties. The students of all the sectors, from pre-primary to university, are at a great loss. Especially the young adult postgraduate students of university level are going through a mental trauma which results in increase of the level of depression, anxiety and stress among them. Depression is something which results in disinterest in daily activities while anxiety of a human being is the fear of unknown and stress is something which arises from any kind of event that threatens us (Debowska et al., 2020). Thus, the postgraduate students are suffering from mental illness because of the tension related to their life as well as career. The present study deals with the difference in the level of depression, anxiety and stress among the postgraduate students of Sidho-Kanho-Birsha University of Purulia West Bengal, India.

---

### **2 Literature Review**

Esteves, Oliveira & Argimon (2021) conducted a study on "Social Distancing: Prevalence of Depression, Anxiety and Stress Symptoms among Brazilian Students during the COVID-19 Pandemic" to assess the level of depression, anxiety and stress among the students of Federal Institute. Hamaideh et al. (2021) made a study on "Depression, anxiety and stress among undergraduate students during COVID-19 outbreak and "home-quarantine"" and found that the prevalence of depression, anxiety and stress among undergraduate students are higher during 'home-quarantine'. Varma et al. (2021) conducted a study on "Younger people are more vulnerable to stress, anxiety and depression during COVID-19 pandemic: A global cross-sectional survey" and found that during COVID-19 pandemic younger people throughout the world are much engrossed in depression, anxiety and stress than the older people. Rehman

\* Corresponding author. Tel.: +0-000-000-0000 ; fax: +0-000-000-0000.

E-mail address: [author@institute.xxx](mailto:author@institute.xxx)

et al. (2020) studied on “Depression, anxiety and stress among Indians in times of COVID-19 lockdown” to find that the poor people who have not enough savings are most affected and they suffer most from depression, anxiety and stress. Debowska et al. (2020) conducted a study on “A repeated cross-sectional survey assessing university students’ stress, depression, anxiety, and suicidality in the early stages of the COVID-19 pandemic in Poland” and found that during this COVID-19 pandemic the level of depression, anxiety and stress had significant increase and most of all the young adult students were the most sufferers.

---

## 2. Objectives of the Study

- a) To study the difference in the level of depression among the postgraduate students during COVID-19 pandemic in relation to gender.
- b) To study the difference in the level of depression among the postgraduate students during COVID-19 pandemic in relation to department.
- c) To study the difference in the level of depression among the postgraduate students during COVID-19 pandemic in relation to semester.
- d) To study the difference in the level of anxiety among the postgraduate students during COVID-19 pandemic in relation to gender.
- e) To study the difference in the level of anxiety among the postgraduate students during COVID-19 pandemic in relation to department.
- f) To study the difference in the level of anxiety among the postgraduate students during COVID-19 pandemic in relation to semester.
- g) To study the difference in the level of stress among the postgraduate students during COVID-19 pandemic in relation to gender.
- h) To study the difference in the level of stress among the postgraduate students during COVID-19 pandemic in relation to department.
- i) To study the difference in the level of stress among the postgraduate students during COVID-19 pandemic in relation to semester.

---

## 3. Hypothesis of the Study

**H<sub>01</sub>:** There is no significant difference in the level of depression between male and female postgraduate students during COVID-19 pandemic.

**H<sub>02</sub>:** There is no significant difference in the level of depression between the postgraduate students of Education department and other department during COVID-19 pandemic.

**H<sub>03</sub>:** There is no significant difference in the level of depression between the postgraduate students of 2<sup>nd</sup> semester and 4<sup>th</sup> semester during COVID-19 pandemic.

**H<sub>04</sub>:** There is no significant difference in the level of anxiety between male and female postgraduate students during COVID-19 pandemic.

**H<sub>05</sub>:** There is no significant difference in the level of anxiety between the postgraduate students of Education department and other department during COVID-19 pandemic.

**H<sub>06</sub>:** There is no significant difference in the level of anxiety between the postgraduate students of 2<sup>nd</sup> semester and 4<sup>th</sup> semester during COVID-19 pandemic.

**H<sub>07</sub>:** There is no significant difference in the level of stress between male and female postgraduate students during COVID-19 pandemic.

**H<sub>08</sub>:** There is no significant difference in the level of stress between the postgraduate students of Education department and other department during COVID-19 pandemic.

**H<sub>09</sub>:** There is no significant difference in the level of stress between the postgraduate students of 2<sup>nd</sup> semester and 4<sup>th</sup> semester during COVID-19 pandemic.

---

## 4. Methodology

- a) **Methods:** A descriptive survey type research is conducted for the present study.
- b) **Population:** All the students of Sidho-Kanho-Birsha University, Purulia, West Bengal, India, have been considered as the population for the present study.
- c) **Sample & Sampling Technique:** Researchers have adopted random sampling technique and selected some departments including the department of Education and 135 postgraduate students from different departments of Sidho-Kanho-Birsha University were selected as sample for the present study.
- d) **Scale Used:** Depression Anxiety & Stress Scales by Lovibond and Lovibond (1995) was used for data collection for Indian academia.
- e) **Statistics Used:** Appropriate descriptive and inferential statistics is used for the present study. As the distribution is not normal, non-parametric test is adopted for hypothesis testing.

---

## 5. Results & Discussion

The data for this present study is subjected to statistical analysis and discussed in different sub-headings related to the objectives of the study. The

statistics gives a comprehensive picture of differences in the level of depression, anxiety and stress in relation to gender, department and semester.

#### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
stress	66	10	38	20.80	5.668	.800	.295	1.236	.582
anxiety	66	10	35	21.45	5.514	.123	.295	-.041	.582
depress	66	0	39	16.89	7.315	.076	.295	.176	.582
Valid N (listwise)	66								

**Table No. 1:** Descriptive Statistics of Level of Depression, Anxiety and Stress of Male Students

#### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
stress	69	10	34	20.94	4.973	-.065	.289	-.078	.570
anxiety	69	6	36	20.22	6.597	.317	.289	-.312	.570
depress	69	4	42	17.16	7.285	.776	.289	1.712	.570
Valid N (listwise)	69								

**Table No. 2:** Descriptive Statistics of Level of Depression, Anxiety and Stress of Female Students

#### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
stress	82	10	38	21.17	4.946	.525	.266	.979	.526
anxiety	82	8	35	20.71	5.832	.136	.266	-.520	.526
depress	82	0	39	16.65	6.950	.186	.266	-.004	.526
Valid N (listwise)	82								

**Table No. 3:** Descriptive Statistics of Level of Depression, Anxiety and Stress of Students of Education Department

## Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
stress	53	10	38	20.42	5.836	.424	.327	.467	.644
anxiety	53	6	36	21.00	6.549	.236	.327	.050	.644
depress	53	0	42	17.62	7.779	.663	.327	1.761	.644
Valid N (listwise)	53								

Table No. 4: Descriptive Statistics of Level of Depression, Anxiety and Stress of Students of Other Departments

## Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
stress	44	12	32	21.20	5.000	-.030	.357	-.817	.702
anxiety	44	10	30	20.25	5.331	-.206	.357	-.741	.702
depress	44	6	28	16.66	6.488	.044	.357	-1.041	.702
Valid N (listwise)	44								

Table No. 5: Descriptive Statistics of Level of Depression, Anxiety and Stress of Students of Semester 2

## Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
stress	91	10	38	20.71	5.466	.621	.253	1.295	.500
anxiety	91	6	36	21.10	6.450	.252	.253	-.257	.500
depress	91	0	42	17.21	7.653	.516	.253	1.271	.500
Valid N (listwise)	91								

Table No. 6: Descriptive Statistics of Level of Depression, Anxiety and Stress of Students of Semester 4

No	Null Hypothesis	Test	Sig.	Decision
1.	The distribution of depression is the same across categories of gender.	Independent Samples Mann-Whitney U Test	.930	Retain the null hypothesis
2.	The distribution of depression is the same across categories of department.	Independent Samples Mann-Whitney U Test	.531	Retain the null hypothesis
3.	The distribution of depression is the same across categories of semester.	Independent Samples Mann-Whitney U Test	.779	Retain the null hypothesis
4.	The distribution of anxiety is the same across categories of gender.	Independent Samples Mann-Whitney U Test	.166	Retain the null hypothesis
5.	The distribution of anxiety is the same across categories of department.	Independent Samples Mann-Whitney U Test	.824	Retain the null hypothesis
6.	The distribution of anxiety is the same across categories of semester.	Independent Samples Mann-Whitney U Test	.676	Retain the null hypothesis
7.	The distribution of stress is the same across categories of gender.	Independent Samples Mann-Whitney U Test	.512	Retain the null hypothesis
8.	The distribution of stress is the same across categories of department.	Independent Samples Mann-Whitney U Test	.428	Retain the null hypothesis
9.	The distribution of stress is the same across categories of semester.	Independent Samples Mann-Whitney U Test	.410	Retain the null hypothesis

**Table No. 7:** Result of Mann-Whitney U Test

## 6. Testing of Hypotheses

**Testing of H<sub>01</sub>:**The Mean of level of depression among the postgraduate students during COVID-19 pandemic shows that the mean value 16.89 is obtained from male students and mean value 17.16 is obtained from female students. From the 0.05 level of significance calculated p value is 0.930 which is statistically not significant at  $p < 0.05$ . The result reflected no significant difference between male and female postgraduate students in the level of depression during COVID-19 pandemic. Therefore, the null hypothesis stands accepted.

**Testing of H<sub>02</sub>:**The Mean of level of depression among the postgraduate students during COVID-19 pandemic shows that the mean value 16.65 is obtained from students of Education department and mean value 17.62 is obtained from students of other departments. From the 0.05 level of significance calculated p value is 0.531 which is statistically not significant at  $p < 0.05$ . The result reflected no significant difference between the postgraduate students of education department and other department in the level of depression during COVID-19 pandemic. Therefore, the null hypothesis stands accepted.

**Testing of H<sub>03</sub>:**The Mean of level of depression among the postgraduate students during COVID-19 pandemic shows that the mean value 16.66 is obtained from students of semester 2 and mean value 17.21 is obtained from students students of semester 4. From the 0.05 level of significance calculated p value is 0.779 which is statistically not significant at  $p < 0.05$ . The result reflected no significant difference between the postgraduate students of 2<sup>nd</sup> semester and 4<sup>th</sup> semester in the level of depression during COVID-19 pandemic. Therefore, the null hypothesis stands accepted.

**Testing of H<sub>04</sub>:**The Mean of level of anxiety among the postgraduate students during COVID-19 pandemic shows that the mean value 21.45 is obtained from male students and mean value 20.22 is obtained from female students. From the 0.05 level of significance calculated p value is 0.166 which is

statistically not significant at  $p < 0.05$ . The result reflected no significant difference between male and female postgraduate students in the level of anxiety during COVID-19 pandemic. Therefore, the null hypothesis stands accepted.

**Testing of H<sub>0</sub>5:** The Mean of level of anxiety among the postgraduate students during COVID-19 pandemic shows that the mean value 20.71 is obtained from students of Education department and mean value 21.00 is obtained from students of other departments. From the 0.05 level of significance calculated p value is 0.824 which is statistically not significant at  $p < 0.05$ . The result reflected no significant difference between the postgraduate students of education department and other department in the level of anxiety during COVID-19 pandemic. Therefore, the null hypothesis stands accepted.

**Testing of H<sub>0</sub>6:** The Mean of level of anxiety among the postgraduate students during COVID-19 pandemic shows that the mean value 20.25 is obtained from students of semester 2 and mean value 21.10 is obtained from students students of semester 4. From the 0.05 level of significance calculated p value is 0.676 which is statistically not significant at  $p < 0.05$ . The result reflected no significant difference between the postgraduate students of 2nd semester and 4th semester in the level of anxiety during COVID-19 pandemic. Therefore, the null hypothesis stands accepted.

**Testing of H<sub>0</sub>7:** The Mean of level of stress among the postgraduate students during COVID-19 pandemic shows that the mean value 20.80 is obtained from male students and mean value 20.94 is obtained from female students. From the 0.05 level of significance calculated p value is 0.512 which is statistically not significant at  $p < 0.05$ . The result reflected no significant difference between male and female postgraduate students in the level of stress during COVID-19 pandemic. Therefore, the null hypothesis stands accepted.

**Testing of H<sub>0</sub>8:** The Mean of level of stress among the postgraduate students during COVID-19 pandemic shows that the mean value 21.17 is obtained from students of Education department and mean value 20.42 is obtained from students of other departments. From the 0.05 level of significance calculated p value is 0.428 which is statistically not significant at  $p < 0.05$ . The result reflected no significant difference between the postgraduate students of education department and other department in the level of stress during COVID-19 pandemic. Therefore, the null hypothesis stands accepted.

**Testing of H<sub>0</sub>9:** The Mean of level of stress among the postgraduate students during COVID-19 pandemic shows that the mean value 21.20 is obtained from students of semester 2 and mean value 20.71 is obtained from students students of semester 4. From the 0.05 level of significance calculated p value is 0.410 which is statistically not significant at  $p < 0.05$ . The result reflected no significant difference between the postgraduate students of 2nd semester and 4th semester in the level of stress during COVID-19 pandemic. Therefore, the null hypothesis stands accepted.

## 7. Conclusion

So, to conclude it can be said that all the postgraduate students are facing same problems in this COVID-19 pandemic situation. Their level of depression, anxiety and stress show no significant difference in terms of gender, department and semester. All the postgraduate students irrespective of gender, department and semester are facing same problems and same difficulties in this crucial situation. But it is hoped that they will definitely overcome from this crucial situation and stand successful in their life.

## REFERENCES

- Debowska, A., Horeczy, B., Boduszek, D., Dolinski, D. (2020). A repeated cross-sectional survey assessing university students' stress, depression, anxiety, and suicidality in the early stages of the COVID-19 pandemic in Poland. *Psychological Medicine* 1–4. <https://doi.org/10.1017/S003329172000392X>
- Esteves, C. S., Oliveira, C. R., & Argimon, I. I. L. (2021). Social Distancing: Prevalence of Depression, Anxiety and Stress Symptoms among Brazilian Students during the COVID-19 Pandemic. *Frontiers in Public Health*, 8, 1-5.
- Hamaideh, S. H., Al-Modallal, H., Tanash, M. & Hamdan-Mansour, A. (2021). Depression, anxiety and stress among undergraduate students during COVID-19 outbreak and "home-quarantine". *Nurs Open*. 00, 1-9.
- Lovibond, S.H. & Lovibond, P.F. (1995). Manual for the Depression Anxiety & Stress Scales. (2<sup>nd</sup> Ed.) Sydney: Psychology Foundation. Retrieved from <https://maic.qld.gov.au/wp-content/uploads/2016/07/DASS-21.pdf>
- Rehman, U., Shah Nawaz, M.G., Khan, N.H. et al. (2021). Depression, Anxiety and Stress Among Indians in Times of COVID-19 Lockdown. *Community Ment Health J* 57, 42-48.
- Varma, P., Junge, M., Meaklim, H. & Jackson, M. L. (2021). Younger people are more vulnerable to stress, anxiety and depression during COVID-19 pandemic: A global cross-sectional survey. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 109.