

How to Cite:

Bhavya, E., & Gowsalya, K. (2022). Psychological impact of COVID-19 pandemic among students studying in private university at Chennai: A web-based cross-sectional study. *International Journal of Health Sciences*, 6(S1), 8440–8449. <https://doi.org/10.53730/ijhs.v6nS1.6840>

Psychological impact of COVID-19 pandemic among students studying in private university at Chennai (A web-based cross-sectional study)

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Abstract---Objective: To assess the prevalence and severity of stress, anxiety and depression among university students during the pandemic. Methods: This web-based Cross-sectional study was performed from Oct to Apr 2021. Questionnaire with 21 symptomatically framed questions of depression, anxiety and stress to evaluate mental health of students with help of DASS-21 scale were circulated through social media's. Completed questionnaires were collected and statistical analysis were performed using SPSS Software version-27. Results: Total of 218 pharmacy students were responded. The prevalence for depression, anxiety and stress was 49%, 50% and 51% respectively. Loss of interest in doing activities and loss of concentration will increase the risk of depression. Fear about upcoming academic year and news hearing that neighbourhood/relatives got coronavirus will increase the risk of anxiety. Staying in home and lower economic status will increase the risk of stress among university students. Conclusion: This study revealed higher prevalence of depression, anxiety and stress among university students. This findings will helps to make some measures to prevent and give counselling to the students who suffer from severe negative thoughts and emotions.

Keywords---Psychological Impact, COVID-19, Students, University.

Introduction

The novel coronavirus disease (COVID-19) is a communicable disease caused by a newly discovered coronavirus strain whose pathogenesis was discovered through human-human transmission. The subfamily name for coronavirus is orthocoronavirinae. The virus has been named Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-Co-2) and the disease is now called as COVID-19. Most of the people infected with the COVID-19 virus will experience mild to severe respiratory illness like Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS) which recover without a special treatment. Since this infection is more dangerous for geriatric patients who is above 50 years old, which can result in life threatening by affecting their immune system. People with pre-existing medical conditions (such as heart disease, Diabetes, Asthma) tend to be more vulnerable to becoming seriously ill as a result of the viral infection. The primary victim of novel coronavirus disease (COVID-19) was reported within the Wuhan city in Hubei Province of China as a pneumonia outbreak on December 2019. Subsequently the outbreak of coronavirus infection soon spread to more Province in China and to other Provinces of the country within the week. The WHO forcing the government to lock-down dozen of cities with many people. Later, this disease spread outside of the country to other nations also and which was increased day-by-day. Therefore the state has been under a lock-down since 25th March. On worldwide, over 110 million peoples are found confirmed about 62.1 million were recovered and a couple of 2.44 million deaths were reported.

Due to this suddenly volatile situation the entire state was under the pandemic to avoid the spread of novel coronavirus disease (COVID-19) outbreak by adhering to the government's rules and regulations. The life of people was affected drastically due to the unexpected lock-down [2]. During the pandemic, peoples cannot go outside the house since they were under "Lock-down" this may leads to some mental illness like depression, anxiety, stress and even sleeping disorders [4]. Because of the "Home Quarantine", eating and sleeping habits have changed, which can have an effect on both physical and psychological health [5]. Since the universities in whole world are under shutdown for many months, it also affects the student's academic year [6]. Later, the management took step to give the educational learning through online mode, since it gives good knowledge for theoretical subjects but it shows more difficulty for practical oriented subjects [7]. All professional degrees have faced difficulties due to E-Learning which was showed on many previous articles. This may also affects the university student's mental health. The previous article by China shows mild to severe mental status and were positively associated with psychological symptoms among students. But in India, it shows mild mental illness among students during an epidemic.

The "Home Quarantine" may cause mental illness for students during the lockdown. The previous articles in India are done only for school students so it is crucial to explore the mental health experience of college students during the pandemic. During the COVID-19 pandemic, it is crucial to examine the determinants of psychological impacts, as well as to determine the prevalence and seriousness of depression, anxiety and stress among college students.

Methods and Materials

This web-based cross-sectional study was conducted in private university at Chennai among 218 pharmacy students from October to April 2021. Questionnaire with 21 symptomatically framed questions of depression, anxiety and stress to evaluate mental health of students with help of DASS-21 scale were circulated through social media's. Participants who are willing to take part in this study are included. Other than pharmacy students are excluded from the study. The questionnaire has three sections that contains sets of questions with section 1 has question about consent of the study, section 2 contains socio-demographic details, section 3 contains questions based on psychological impacts. Completed questionnaires were coded, reviewed and statistical analysis were performed, data's were entered into SPSS Software version-27.

The Socio-demographic details includes Age, Gender, Degree and Qualification. The DASS-21 scoring instruction has limiting factors to measure depression, anxiety and stress, that is normal range for depression, anxiety and stress is between 0-9, 0-7 and 0-14 respectively. The mild range of depression, anxiety and stress between 10-13, 8-9 and 15-18 respectively. The moderate range of depression, anxiety and stress between 14-20, 10-14 and 19-25 respectively. The severe range of depression, anxiety and stress between 21-27, 15-19 and 26-33 respectively. The extremely severe range of depression, anxiety and stress is above 28, 20 and 34 respectively.

Results

All the questions from the questionnaire provided the information need to frame the results and correlate the symptoms of depression, anxiety and stress which helps to measure the psychological status of university students.

Socio-demographic details

Table-1 depicts the students demo-graphic details like age, gender, degree, qualification and there clinical characteristic which is obtained from the individual's self-report from the second section of the questionnaire. The students details were very diverse with number of samples of age group between 19-22 years were 137 (62.8%), though higher response was seen in these age groups. The mean age of the respondents was 21.8±1.9 SD years and about 124 (56.9%) of them were females. The degrees of education of these students were obtained and the number of samples in B-Pharm, M-Pharm and Pharm-D were 46 (21.1%), 19 (8.7%) and 153 (70.2%) respectively. From the total participants, 117 (53.7%) of the respondents were from UG and 101 (46.3%) were from PG.

Table-1
Total responses of socio-demographic details (N=218)

Variables	Category	Frequency (N)	Percent (%)
Age	19-22	137	62.8
	23-26	62	28.4
	>26	19	08.7
Gender	Female	124	56.9

	Male	94	43.1
Degree	B. Pharm	46	21.1
	M. Pharm	19	08.7
	Pharm. D	153	70.2
Qualification	UG	117	53.7
	PG	101	46.3

Clinical Characteristics

The number of students who doesn't have psychological illness were 191(87.6%) and who have known psychological illness were 27 (12.4%), so this may cause further more psychological illness to already known students. From total population 177 (81.2%) were not vaccinated, this may leads to anxiety among students.

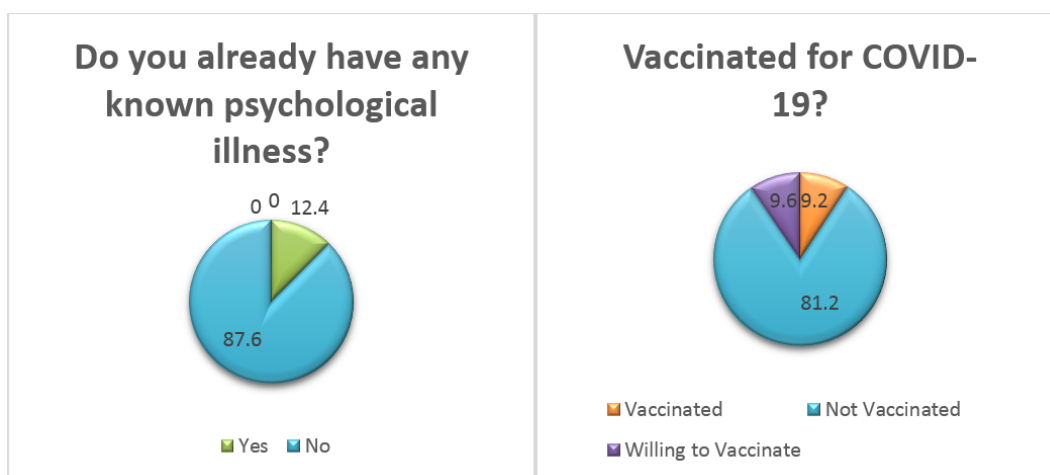


FIGURE-1: Response of psychological illness FIGURE-2: Response of Vaccination

Depression, Anxiety and Stress of university students

Table-2 shows the responses of questions based on symptoms of Depression, Anxiety and Stress which consists of limiting factors which includes almost always(3), often(2), sometimes(1) and never(0). Thus it shows the frequency and percentage of individual questions of Depression (1-7), Anxiety (8-14) and Stress (15-21).

Table-2

Total individual responses based on Depression, Anxiety and Stress questions

S.NO.	QUESTIONS	FREQUENCY (N)	PERCENTAGE (%)
1)	I felt unhappy during home quarantine.	77	35.3%
	a)Almost always	41	18.8%
	b)Often	57	26.1%

	c)Sometimes d)Never	43	19.7%
2)	I felt worried while expecting from others. a)Almost always b)Often c)Sometimes d)Never	77 54 50 37	35.3% 24.8% 22.9% 17.0%
3)	I felt that life was important. a)Almost always b)Often c)Sometimes d)Never	127 49 32 10	58.3% 22.5% 14.7% 04.6%
4)	I realized the value of self-confidence during this pandemic. a)Almost always b)Often c)Sometimes d)Never	115 49 33 21	52.8% 22.5% 15.1% 09.6%
5)	I felt that i had interest in improving my good qualities. a)Almost always b)Often c)Sometimes d)Never	129 51 26 12	59.2% 23.4% 11.9% 05.5%
6)	I could experience positive feeling while doing my favourite hobby. a)Almost always b)Often c)Sometimes d)Never	145 49 16 08	66.5% 22.5% 07.3% 03.7%
7)	I found difficulty to do my daily activities. a)Almost always b)Often c)Sometimes d)Never	64 49 49 56	29.4% 22.5% 22.5% 25.7%
8)	It makes me uncomfortable on thinking about this unexpected disease. a)Almost always b)Often c)Sometimes d)Never	111 45 49 13	50.9% 20.6% 22.5% 06.0%
9)	I felt inconvenience on thinking about my future plan. a)Almost always b)Often c)Sometimes d)Never	132 34 38 14	60.6% 15.6% 17.4% 06.4%

10)	I am very much worried about my academic year. a)Almost always b)Often c)Sometimes d)Never	116 54 33 15	53.2% 24.8% 15.1% 06.9%
11)	While hearing news about COVID-19 through social media, i got fear. a)Almost always b)Often c)Sometimes d)Never	103 37 53 25	47.2% 17.0% 24.3% 11.5%
12)	I am afraid on going to hospital for health issues during this pandemic. a)Almost always b)Often c)Sometimes d)Never	102 45 44 27	46.8% 20.6% 20.2% 12.4%
13)	While hearing news from relatives/neighbourhood that they tested COVID positive, i got scared. a)Almost always b)Often c)Sometimes d)Never	107 37 48 26	49.1% 17.0% 22.0% 11.9%
14)	Due to fear about COVID-19 pandemic, i travelled to my native place. a)Almost always b)Often c)Sometimes d)Never	96 19 20 83	44.0% 08.7% 09.2% 38.1%
15)	I felt worried about when this pandemic will come to an end. a)Almost always b)Often c)Sometimes d)Never	126 43 37 12	57.8% 19.7% 17.0% 05.5%
16)	I faced difficulties due to economic status. a)Almost always b)Often c)Sometimes d)Never	102 40 59 17	46.8% 18.3% 27.1% 07.8%
17)	I felt restless while thinking about COVID-19 pandemic. a)Almost always b)Often c)Sometimes d)Never	104 35 55 24	47.7% 16.1% 25.2% 11.0%

18)	I faced trouble in meeting my friends and relatives. a)Almost always b)Often c)Sometimes d)Never	133 36 32 17	61.0% 16.5% 14.7% 07.8%
19)	I burst out my anger to someone without my own control. a)Almost always b)Often c)Sometimes d)Never	109 29 45 35	50.0% 13.3% 20.6% 16.1%
20)	I felt difficulties on concentrating. a)Almost always b)Often c)Sometimes d)Never	110 35 53 20	50.5% 16.1% 24.3% 09.2%
21)	I was unable to handle my own problems. a)Almost always b)Often c)Sometimes d)Never	100 27 50 41	45.9% 12.4% 22.9% 18.8%

Total Responses for Depression, Anxiety and Stress

Figure- 3,4,5 shows the total percentage symptoms of depression, anxiety and stress with limiting factors of almost always(3), often(2), sometimes(1) and never(0).

The total percentage of almost always (3), often (2), sometimes (1) and never (0) for Depression is 49%, 22%, 17% and 12% respectively.

The total percentage of almost always (3), often (2), sometimes (1) and never (0) for Anxiety is 50%, 18%, 19% and 13% respectively.

The total percentage of almost always (3), often (2), sometimes (1) and never (0) for Stress is 51%, 16%, 22% and 11% respectively.

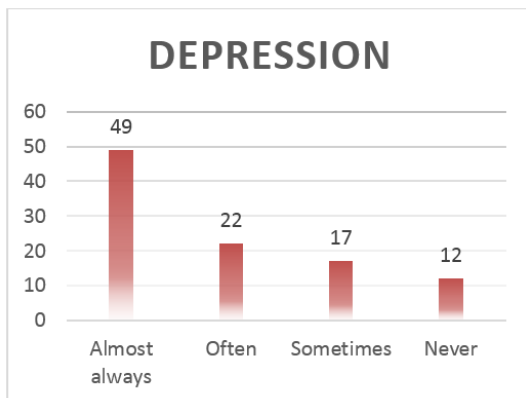


Figure-3: Total response of Depression

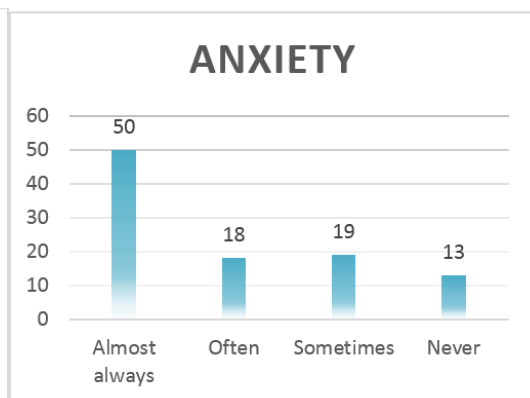


Figure-4: Total response of Anxiety



Figure-5: Total response of Stress

Discussions

In this sample of university students, we found the association factors of psychological impacts. This association was mainly determined by the depression, anxiety and stress group. In previous articles, it shows that students are likely to have more psychological illness during the lock-down when compared with the students before the lock-down [6]

Moreover, many articles show that the negative emotions are significantly increased in females when compared with male during the pandemic [11]. The other articles show that nurses were more depressed, anxious and stressed than the local general population [5]. Some previous articles were done in India showing severe depression and anxiety among undergraduate university students [10]. Our finding was somewhat similar to the research which observed that the students have moderate-severe depression [8]. From our results and findings, it shows that the limiting factor of almost always (3) for all the three association factors includes depression, anxiety and stress are found to be severe and it indicates students are psychologically affected during this pandemic.

Conclusion

This study involves curating information about depression, anxiety and stress, though people cannot go outside from their house during pandemic may cause severe mental illness. This study is mainly focused on assessing psychological illness of university students during the COVID-19 pandemic. We conclude that by assessing the mental health status of university students will help to make some measures to prevent and give counselling to the students who suffer from severe negative thoughts and emotions like depression, anxiety and stress.

Ethics approval and consent to participate

This was approved by the Institutional Ethics Committee (IEC) of Vels Institute of Science, Technology & Advanced Studies (VISTAS) and ethical clearance was obtained. In addition, support letters were written to VISTAS. The participants

responded anonymously to the online survey by filling up an informed consent letter in the first section of the e-questionnaire. In the informed consent, objective and purpose of the study were verified briefly to the study participant and confidentiality was assured.

Acknowledgements

We are grateful to the participants.

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