Impact of COVID-19-Related Distress on Anxiety and Depression of College Students

Jain Mathew, Preksha Yadav, Sridevi Nair, Roseline Gomes and Sheeba Bhaskar

CHRIST (Deemed to be University), Bangalore, India

Abstract: The current study explores the impact of COVID-19 related distress factors on the mental well-being of college students. For the purpose of the study, mental well-being is measured through the depression symptoms and general anxiety levels of the students. The study used judgemental sampling to identify the respondents of the study. The final sample consisted of 147 respondents and the data was analysed on SPSS. The results suggested that while COVID-19 distress factors were not significant in predicting the level of depression symptoms experienced by the students, the general anxiety levels were significantly impacted by the distress factors. The findings are particularly useful for the teachers and institutions working to connect and teach through online platforms.

Keywords: COVID-19, depression, anxiety, mental well-being, India.

Introduction

On the last day of 2019, the World Health Organization (WHO) was informed about patients displaying symptoms of pneumonia, without a clear reason, in Wuhan city, China. The corona viruses (CoV) are a big family of viruses that may lead to anything from normal cold symptoms to life-threatening complications. This new strain of the CoV family had never been seen in humans. This new virus was given the name COVID-19 (WHO, 2020). On March 11, 2020, the World Health Organization (WHO) announced COVID-19 as a worldwide medical crisis and a pandemic. The COVID-19 pandemic has impacted people from all countries, continents, religions, and socio-economic classes (Shanafelt et al., 2020).

To prevent the virus from spreading, most of the world's population has been asked to limit mobility and remain under lockdown (Kaplan et al., 2020). The use of face masks and frequent washing of hands have been recommended as precautions against the spread of the virus (Cheng et al., 2020). India is not different from the rest of the world when it came to declaring a nationwide lockdown. As a result of the changes put in place to fight the spread of the virus, psychological distress has been escalating (Chetterje, 2020).

The COVID-19 pandemic's negative consequences are becoming disturbingly visible across the world. There is an alarming increase in the number of fatalities and layoffs, which in turn have also led to a psychological health emergency (Sherman, et al., 2020). Although research on the anxiety and stress caused by COVID-19 or "coronaphobia" is still in its early stages, empirical evidence suggests that it plays a significant impact on the psychological well-being of individuals (Asmundson & Taylor, 2020).

During a pandemic, people are expected to be anxious, stressed, and depressed because of their worry about the unknown (Rehman et al., 2020). Stress is defined as a sensation of mental and physical strain

that develops when our equilibrium is threatened (Selye, 1956). Fear of the unknown characterises anxiety, which is the brain's normal reaction to stress (Holland, 2018). Depression is defined as a feeling of discontent with everyday routine. Researchers have urged for prompt intervention into psychological health in the COVID-19 pandemic, keeping in mind the worries about psychological suffering expressed throughout the world. Additionally, the World Health Organization (WHO, 2020) has published public-interest guidelines to handle any potential mental health problems (Rehman et al., 2020).

As witnessed in earlier global crises, during COVID-19, too, people have reported experiencing considerable psychological discomfort (anxiety, stress, and depression) (Wang, 2020). Researchers have previously discovered that acute viral diseases, such as SARS, can produce anxiety, sadness, stress, and depressive disorders in both survivors and non-infected individuals (Wu, 2005). With the present study, the researchers attempt to have a better understanding of the impact of COVID-19 on college students' mental health. To do so, the researchers have examined the impact of COVID-19 related distress on anxiety and depression symptoms of college students.

Literature Review

A pandemic makes people frightened of contracting the disease, which leads to stress, depression, and anxiety (Hall et al., 2008). Social isolation has been widespread, as a result of government restrictions to slow down the spread of the virus (Brooks et al., 2020). Teenagers, who depend on their peer networks for psychological support and social growth, may find these limitations even more challenging (Ellis & Zarbatany, 2017).

Considering the strong linkages between stress and the development of emotional difficulties in adolescents, it is necessary to examine the impact of lockdown and social isolation on adolescents' mental health (Rapee, 2019). The COVID-19's psychological influence on teens has not been studied longitudinally, and whatever is known is based on retrospective descriptions of reported psychological changes in teenagers, who were exposed to the virus (Hawke et al., 2020). To understand the significance of studying the impact of the COVID-19 outbreak on teens' psychological health, it is necessary to understand that adolescence is a time of rapid growth and change. This phase of life is generally characterised, by theorists, as a time of rapid change (Casey, 2010). The physical and chemical changes in the brain that occur in early adolescence have a significant impact on emotional responses to real or potential stress (Bailen, 2019). Even self-regulation mechanisms are not fully established until late adolescence or early adulthood (Somerville et al., 2010).

At this stage in life, peer approval and disapproval significantly direct their behaviour, build their self-concept, and decide their self-value (Connell & Wellborn, 1991). It has been demonstrated that unfavourable peer interactions through this developmental phase can result in a poor self-image and a drastic increase in symptoms of depression and anxiety (La Greca & Harrison, 2005).

A few researchers have examined the effect of the pandemic on child psychological health and development. There was no significant rise in depression, anxiety, or stress in a study of 1,740 Chinese adults conducted after the outbreak (Wang et al., 2020). Six hundred and twenty-two Canadian teenagers and young adults were surveyed about their mental health three months before the pandemic and three weeks after it occurred, and they found significant differences when results were compared (Hawke, 2020). Over the course of the study, participants reported decreased levels of

mental health, notably, low mood, and anxiety. As a result of actions taken to prevent the spread of disease, students' psychological health and mental wellness may be impacted by a decline in social interactions, concerns about their own health and the health of friends and family members, confusion about the future and academic progress, and concerns about finances and employment (Elmer, 2020).

Theoretically, the predisposition model proposes that the environment or contextual factors are critical in predicting the mental wellbeing of an individual. The predisposition model (Ormel et al., 2001) suggests that personality interacts with the environment and that environmental triggers can result in a greater tendency to display depressive symptoms and anxiety. Research suggests that early temperament can predict the baseline risk for depression, anxiety and stress; and that environmental triggers would either increase or decrease the risk. Thus, positive experiences are likely to decrease depression tendencies and negative experiences are likely to increase mental health issues (Ormel et al., 2001). The probability of having an episode of depression or experiencing high levels of anxiety is also expected to peak during adolescence (Klein, Kotov & Bufferd, 2011). Based on the literature reviewed, the current study attempts to understand the major distress factors for college students and their impact on depression symptoms and general anxiety levels of the individual.

Methods

The current study attempts to understand the role of COVID related distress factors in predicting the mental health of college students. The methodology of the study has been outlined in this section.

Participants

The participants for the current study were college students belonging to the age group of 18-20. Many Tier 1 and Tier 2 colleges in the city of Bangalore, India were approached for the study — these colleges were conducting regular online classes during the lockdown. Permission was sought from the principal/head/dean of the college, and the teacher in charge of the class or the class teacher was approached and the questionnaire was administered online through the teacher, during her online class. Given that the topic was sensitive in nature, students were given a choice to participate. It was not made mandatory. The consent to participate in the study was taken at the beginning of the survey, and responses were received from 147 students and analysed.

Data Collection

Data was collected through a structured questionnaire that was made available through the platform of Google Forms. The form was shared during the class hours. This ensured that the responses were genuine. The first section of the questionnaire collected demographic details, the next section was regarding the COVID related distress factors, followed by the section on depression symptoms and general anxiety. The data was then cleaned using Excel and analysed using IBM SPSS.

Instruments

The study had three variables: COVID related distress factors, depression symptoms and general anxiety. COVID related distress factors scale was adapted from the study by Magson et al. (2021). The modified version of the scale consisted of 17 items. Since the respondents were not currently employed, the statement regarding the loss of a job was considered irrelevant. The respondents were asked to indicate the level of distress caused by the factors described in the statements. For example, participants were asked to indicate how distressed they felt about "family or friends catching

COVID", "dying from COVID", "not being able to meet their friends and relatives", etc. The instrument used a five-point Likert scale.

The Short Mood and Feelings Questionnaire-Child Version by Angold et al. (1995), was used to measure depression symptoms. The questionnaire consisted of 13 items and the respondents were asked to indicate their response on a three-point scale: 1 indicating not true to 3 indicating always true. Some examples of the statements include, "I felt miserable or unhappy", "I was restless" or "I didn't enjoy anything at all".

The general anxiety level was measured by the general anxiety section of the Spence Children's Anxiety Scale (Spence 1998). The instrument comprises six statements to be marked on a four-point scale, ranging from 1 (never) to 4 (always). The respondents were asked to indicate how often they experienced feelings like "I worry about things" or "I feel afraid". A summary of the reliability analysis of the scales has been presented below in Table 1.

Table 1: Reliability of Scales

Scale	Cronbach's Alpha	No. of Items
General Anxiety Scale	0.805	6
Depression Symptoms	0.885	13
COVID Related Distress Factors	0.881	17

Ethical Considerations

Given the sensitive nature of the study, the sample was restricted to college students above the age of 18. Additionally, respondents were asked to complete the survey during their class hours, in the presence of a teacher. This provided them with the opportunity to clarify any doubts regarding the meaning of the sentences and allowed the teacher to monitor any emotional reactions. Participation was not mandatory, and students were allowed to opt out of the study. Only after informed consent was recorded was the questionnaire made available.

Results

The first step in the analysis involved the analysis of the variables. Table 2 presents the descriptive statistics of the variables. The mean values of the variables were found to be above the median scores for the respective scale. The mean score for general anxiety (GA) was found to be 2.64, for Depressions Symptoms (DS) it was found to be 1.88 and for COVID related distress factors the value was found to be 2.74. The skewness and kurtosis values were found to be within the acceptable range of +3 to -3, suggesting that the data could be considered normally distributed (Kline, 2005).

Table 2: Descriptive Statistics of the Variables

	N	Mean	Std. Deviation	Skewness	Kurtosis	Min	Max
GA	147	2.64	.652	.100	-.912	1	4
DS	147	1.88	.431	.098	-.553	1	3
CD	147	2.74	.750	.156	-.824	1	5
Valid N (listwise)	147						

The researchers had asked the respondents to indicate their family's annual income category. This was done to evaluate if the level of distress was dependent on the family income levels. To analyse the same, one-way ANOVA was employed. The results of the analysis of variance have been presented in Table 3.

Table 3: Analysis of Variance of COVID Related Distress with Annual Income

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.587	3	.862	1.529	.210
Within Groups	77.821	138	.564		
Total	80.408	141			

The results of the analysis of variance suggest that the level of distress is not dependent on the income of the family ($p > 0.05$). The researchers then proceeded to analyse the relationship between the variables. The correlation matrix is presented in Table 4.

Table 4: Correlation Matrix

		GA	DS	CD
GA	Pearson Correlation	1		
	Sig. (2-tailed)			
DS	Pearson Correlation	.447**	1	
	Sig. (2-tailed)	.000		
CD	Pearson Correlation	.373**	.269**	1
	Sig. (2-tailed)	.000	.001	

The correlation between the variables was found to be significant ($p < 0.05$). The variable of COVID related distress factors was found to be more strongly related to the general anxiety levels ($r = 0.37$).

The relation between COVID related distress and depression symptoms was found to be 0.27. Having established correlation, the researchers proceeded to analyse the impact through regression analysis.

Table 5: Summary of Regression Analysis

Model	R	R Square	Adjusted R Square	F	Sig.
DS	.389	.151	.040	1.353	.171
GA	.504	.254	.156	2.587	.001

Coefficients					
	B	Std. Error	Standardised B	t	Sig.
GA					
CD10	.211	.066	.392	3.207	.002

COVID related distress factors were found to be significant in predicting the general anxiety levels among college students ($p < 0.05$). Analysis of the coefficients suggests that CD10 was significant in predicting anxiety levels. Thus, college students were particularly anxious about their education and the model predicted, approximately, 25% variance in the anxiety levels of college students.

Discussion

The COVID-19 lockdown is causing anxiety and depression in a significant portion of the population, which may be described by people's intolerance for ambiguity, regardless of their age. Such insecurity is likely to result in a higher level of psychological illness (Freeston et al., 2020). According to several studies conducted on individuals with severe acute respiratory syndrome (SARS) and health personnel in hospitals, detained individuals were worried both about their confinement and the possibility of spreading this sickness to their families (Maunder, 2014).

Even if individuals under this research have not contracted COVID-19, they have been exposed to it in some form or another. To keep the disease from spreading, they had to adhere to strict infection-control procedures, including confinement inside their city, shifting from offline classes to online classes and staying at home. These restrictions may have created detrimental psychological consequences.

The findings of the current study suggest that the variable of COVID related distress factors were significantly and positively related to the general anxiety levels and depression symptoms. These findings are in line with those of Wheaton (2012). In his study, he found that there is a strong correlation between a high inclination to worry or stress about issues in a normal scenario and personal psychological well-being during a pandemic. Government directives forced students to stay at home and students' everyday life has changed drastically. An additional change for students was that they now attended online classes and physical interaction with teachers and friends was minimal.

As a result of such seclusion, the conventions of daily life have been altered and staying at home has been shown to exacerbate anxiety and depression (Brooks et al., 2020). It is also apparent that a lack of awareness regarding therapy and the absence of a vaccine could lead to a greater prevalence of anxiety and depression during a pandemic (Taylor & Asmundson, 2004).

In this research researchers also found that COVID related distress factors have a strong impact on general anxiety levels among college students and there is a lot of anxiety among college students regarding their education. The regression model can predict a 25% variance in the general anxiety levels of college students. In other words, concern regarding their education was causing a 25% increase in anxiety levels of the college students. In a similar study conducted in the neighboring nation of Bangladesh, students from universities reported a high level of anxiety and depression (Islam et al., 2020; Jamilah et al., 2020). It is also found that the level of distress is not dependent on the income of the family. This contradicts most of the epidemiological studies conducted around the world, where the poorest individuals were found to be the most vulnerable to mental health problems. The mental disorders were much higher in the low-income population (Caron, 2010).

The findings highlight the anxiety regarding education that students are facing, since the shift to online classes. A similar study by Adnan and Anwar (2020), found that in Pakistan, students had highlighted that lack of physical interaction with teachers, response time and the lack of classroom socialisation were critical issues that students were facing. While online education has the advantage that it can be accessed from anywhere and allowed for learning to be continued even during the pandemic, researchers and professionals have identified that the interaction between the student, facilitator and material, as well as the emotional and social support that the student received in offline education, are missing in the online context (Mukhtar et al., 2020). This has led to a rise in mental health issues among students with reports suggesting that 58% of college students in India reported an increase in the levels of stress, loneliness, anxiety, hopelessness and a decrease in happiness after the shift to online classes (Singh, 2021).

Prior research has also found that COVID related distress leads to depression symptoms. Ahmed et al. (2020), found that the COVID-19 epidemic had a comparable effect on college students in terms of anxiety, stress, and depression. Their findings also suggest that students with greater levels of anxiety and depression symptoms were equivalent to individuals who are employed full-time, business owners and unemployed people. Reports also suggest that over 53% college students have indicated that they have experienced mild to extreme depression since the shift to online education (Singh, 2021). In the study on students from Bangladeshi universities also it was reported that the pandemic has a significant impact on depression symptoms (Khan et al., 2020). Other studies show that students' psychological misery is exacerbated by the epidemic and that it may be due to more fundamental characteristics, including concerns, feelings of vulnerability, as well as their overall ability to deal with such emotions. However, in the current study, there is no statistical evidence to conclude that the COVID related factors are causing an increase in the depression symptoms of college students.

Limitations

The primary limitation of the current study is that it relies on self-reported data. This raises doubts about reporting bias. To conclusively establish the causal relationship, the self-reported data would have to be supported with independent measures. Another possible solution would be to extend the

study into a longitudinal study and collect data at different time points. This would also add to the validity of the study and help in improving our understanding of the negative impact that the measures taken to counter the pandemic may have on the mental health of adolescents.

Conclusion

As students adjust to the new ways of learning and social distancing norms, researchers argue that there is an urgent need to understand the effects of the measures put in place to control COVID-19, on the mental wellbeing of the students. While some researchers have attempted to evaluate the immediate impact, others believe that the true ramifications will only be clear in the years to come. History suggests that global emergencies like a pandemic are likely to increase insecurities in the individual and give rise to anxiety and depression. In the current study, the researchers attempted to validate the same in the context of college students. In addition, the study also attempts to identify the significant distress factor that could predict anxiety levels and depression symptoms among college students. The findings suggest that the worries regarding their education could predict a 25% variance in the anxiety levels. Thus, as the concerns regarding their education grow, anxiety levels are also likely to rise. Although the findings suggest that the COVID related distress factors were significantly and positively related to depression symptoms, there is no statistical evidence to suggest a causal relationship.

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Authors:

Dr Jain Matthew is a Professor and Dean of the School of Business and Management at CHRIST (Deemed to be University), Bengaluru, India. He has published over 30 articles in peer-reviewed journals and guided a number of Research Scholars. His areas of interest include behavioral finance, consumer behaviour and organisational behaviour. Email: jainmathew@christuniversity.in

Preksha Yadav is an Assistant Professor at CMRIT and Research Scholar at the School of Business and Management at CHRIST (Deemed to be University). She is pursuing her Doctoral studies and her study explores the area of sustainability. Her areas of interest include organisation behaviour, mental health and well-being. Email: preksha.yadav@res.christuniversity.in

Sridevi Nair is an Assistant Professor and a Research Scholar at the School of Business and Management at CHRIST (Deemed to be University). She is pursuing her Doctoral studies and her study explores the impact of gamification. Her areas of interest include organisation behaviour, learning and development, mental health and well-being. Email: sridevi.nair@res.christuniversity.in

Roseline Gomes is an Assistant Professor at Jyoti Nivas College and Research Scholar at the School of Business and Management at CHRIST (Deemed to be University). She is pursuing her Doctoral studies and her study explores the area of learning difficulties. Her areas of interest include learning, mental health and well-being. Email: sridevi.nair@res.christuniversity.in Email: roselin.gomes@res.christuniversity.in

Sheeba Bhaskar is the principal of Westfort Institute, Thrissur, and a Research Scholar at the School of Business and Management at CHRIST (Deemed to be University). She is pursuing her Doctoral studies and her study explores the area of hospital management. Her areas of interest include marketing, mental health and well-being. Email: sheeba.bhaskar@res.christuniversity.in