

## A Cross Sectional Study of Psychological Impact of SARS Cov-2 amongst University Students of Patna

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Received: 10-01-2022 / Revised: 13-02-2022 / Accepted: 20-03-2022

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Conflict of interest: Nil

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### Abstract

**Introduction:** Coronavirus is a contagious disease caused by severe acute respiratory syndrome (SARS Cov-2), first known case of which was identified in Wuhan, China in December 2019. In India, first known Case was identified in Kerala on 27th January 2020. At the time of writing, a total of 240 countries have been identified with Covid-19 cases, exceeding a total of 362million people world-wide and a total death more than 56.3 million.

**Objectives:** To assess the prevalence and severity of core symptoms of depression, anxiety and stress and its impact on their routine activities, domestic violence, eating habits and sleep pattern.

**Methods:** A google form based cross-sectional study was carried out on students more than 18 years of age of both sexes. Sample was calculated using formula  $4pq/12$ . 256 participants were selected by simple random sampling. IEC approval and informed consent of the participant was taken. Data will be collected using predesigned, pre-tested questionnaire.

**Results:** In this study, 256 participants were involved, with a response rate of 96.6%. The median age of the participants was 21 years. In this study, the overall prevalence of psychological problem among college students due to COVID-19 was 18.61% (95% CI 14.1% to 22.8%), which was measured using student's experience of all forms of psychological problems (anxiety, depression and stress disorders).

**Conclusion:** Inadequate efforts to recognize and address college students' mental health challenges, especially during a pandemic, could have long-term consequences on their health and education.

**Keywords:** Covid-19, Psychological impact.

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## Introduction

A large number of studies support that the conclusion that the novel coronavirus (SARS-CoV-2) and its corresponding disease (COVID-19) have dramatically impacted people's mental health and behavior [1–5], with very few studies suggesting otherwise [6]. Mental health hotlines in the United States experienced 1,000% increases during the month of April, when most people were under lockdown because of the pandemic [7]. Some medical facilities have seen more deaths from suicide, presumably because of exceedingly poor mental health, than from COVID-19 infections [8]. Substance disorders in many people who were previously abstinent are expected to relapse during COVID-19, which will cause long-term economic and health impacts [9].

A study conducted in China revealed that 53.8% of the respondents experienced moderate to severe psychological crises, in which students were found to contribute a greater number than the larger communities [10]. Another study in China revealed that around 25% of college students experienced anxiety due to the pandemic [11].

Youths, specifically the students, are the most vulnerable group as they are stormed with numerous impetus that leads to depression and anxiety [12, 13]. Several studies conducted on mental health among university students have reported high prevalence of psychological symptoms [14-16].

Social isolation, anxiety, distress of contagion, ambiguity, chronic stress, and economic hitches could worsen stress-related conditions and attempts of suicide, mainly among those with pre-existing psychiatric disorders, low-resilient persons, those living in high COVID-19 occurrence areas, and individuals whose family member or friend who succumb to COVID-19 [17].

The impact seems to be more severe among the older students who were self-financing their higher-level education. Therefore, we aim to assess the prevalence and severity of core symptoms of depression, anxiety and stress.

## Material & Methods:

This is a cross-sectional study was conducted over a period of 3 months to assess the psychological problems related to the COVID-19 pandemic among university students of Patna, Bihar, India.

## Inclusion and Exclusion criteria

Students more than 18 years of age of both sexes were included in this study. Students who were seriously ill during the data collection period were not included in this study.

## Methodology

A total of 256 participants were recruited in the final study sample. Out of which 51.1% were males and 48.8 were females. Sample was calculated using formula  $4pq/12$ . Data was collected using pre-designed, pre-tested questionnaire. The dependent variable was the psychological problem related to the COVID-19 pandemic (yes/no) among college students and was assessed using the Depression, Anxiety and Stress Scale (DASS-21). [18-20]

## Statistical analysis

Data were cleaned, coded and entered into Epi Info V.7.0.2 software and exported to SPSS V.24.0 for analysis. Descriptive statistics were done and the results were presented using text, frequency tables, figures and median with IQR.

## Results:

In this study, 256 participants were involved, with a response rate of 96.6%. The median age of the participants was 21 years. Of the total number of students, 54.6% lived in rural residences, 51.1% were female, and 63.6% were living with

their families during the COVID-19 lockdown.

In this study, the overall prevalence of psychological problem among college students due to COVID-19 was 18.61% (95% CI 14.1% to 22.8%), which was measured using student's experience of all forms of psychological problems (anxiety, depression and stress disorders).

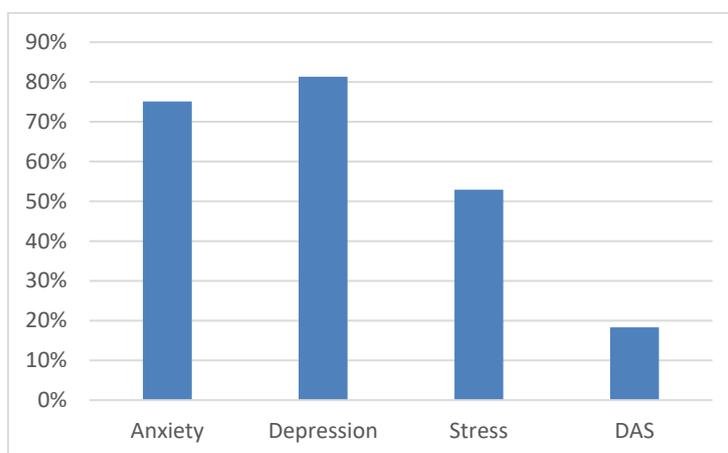
Moreover, 81.3% students reported that they experienced depression disorder.

Similarly, 75.1 and 52.9 students experienced anxiety and stress disorders, respectively (Figure 1).

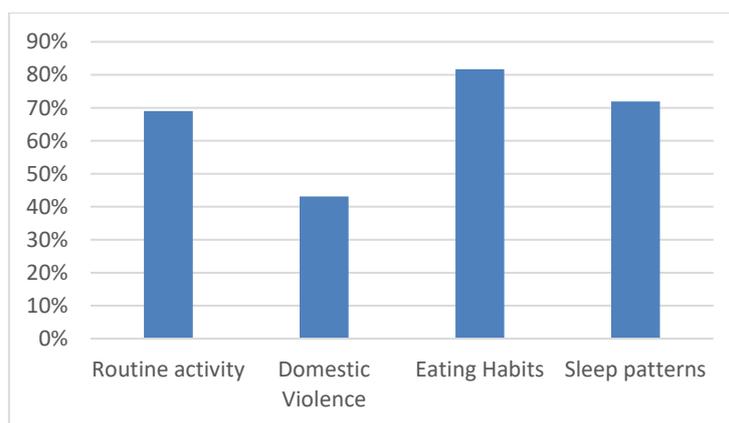
In our study, 81.7% students reported impaired eating habits, 71.9% showed a disturbed sleeping pattern. Disruption of routine activities & domestic violence accounted for 69% and 43.1% respectively. (Figure 2)

**Table 1: Sociodemographics, knowledge, attitude and practices of students towards COVID-19**

List of predictors	Category of variables	Frequency	(n) %
Age of participants (in years)	16–20	101	39.4
	>20	155	60.5
Residence	Urban	116	45.3
	Rural	140	54.6
Sex of participants	Male	131	51.1
	Female	125	48.8
Marital status	Single*	215	83.9
	Married	41	16.01
Total family size (including extended families)	<5	93	36.3
	5+	163	63.6
Knowledge level of students towards COVID-19	Poor	75	29.2
	Good	181	70.7
Attitude towards COVID-19	Negative	73	28.5
	Positive	183	71.4
Practice towards preventive measures against COVID-19	Poor	88	34.3
	Good	168	65.6



**Figure 1: Types of psychological problems that students experienced during the COVID-19 lockdown. DAS, depression, anxiety and stress**



**Figure 2: Impact of various factors on day-to-day life**

### Discussion:

COVID-19 has affected global mental health, as evidenced by the accelerated increase in cases and deaths related to the pandemic worldwide. [10]

A global study examining experiences of students in 62 countries, including one university in the United States, found that students' expressed concerns about their academic and professional careers, as well as feelings of boredom, anxiety and frustration [21]. Increase danger, sadness, anxiety and fear were also reported by students in China [11]. Students in Switzerland reported a decrease in social interaction and higher levels of stress, anxiety, and loneliness [22]. More generally, adults have reported decreases in physical activity and food consumption increases during the COVID-19 pandemic quarantine compared to beforehand, as well as increases in binge drinking on average [23], which was identified in a small portion of our student respondents as well. Slight differences between our studies' results and results from studies conducted elsewhere may be due to the differences in student experience by geographical location. The United States is providing relatively little financial relief to college students during the pandemic compared to other Global North countries [24].

A study conducted in Hubei Province, [25] China and a study in Jilin Province,

China [26]. In Ethiopia, female students are prone to gender-based violence and poor social and economic support[27]. Consequently, these conditions can easily lead them to lose their self-confidence and experience many stressors in life. Hence, they are more likely to suffer from psychological disorders (ie, depression, anxiety and stress) compared with their male counterparts.

During the COVID-19 pandemic, countries across the globe took various measures to control the spread of the disease [28]. Lockdown was one of the mitigation actions taken by most countries [29]. During the lockdown period most of the economic activities came to a standstill, thus contributing to huge financial dilemma [30]. Places of public gatherings like places of worship, sport arenas, shopping complexes and academic institution were closed. Universities had to switch to virtual mode of teaching, literally overnight, and this has left many students clueless of what was happening [31].

In the sudden move to online remote teachings, most educational institutions still used the existing curricula and learning outcomes which suited the face-to-face instructions [32]. This amplified the stress and anxiety level as students are unduly hampered with course work and assignments. Instructors, on the other hand are futile in realizing the tough moments

students are enduring mentally and emotionally. The students are torn between remote learning and separation from friends and loved ones and this had created unwarranted frustration, annoyance, detestation and ultimately, anxiety. Graduating students were extremely distraught as they were destitute in their career plans. [33]

### Conclusion:

The level of anxiety, stress and depression disorders was optimally high among students. The multivariable logistic regression analysis showed residence, sex and level of preventive practice were independent predictors of psychological problems among students. Moreover, it is important to consider the educational enrolment type and the academic year of students during the interventions.

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