

Implications of COVID-19 Pandemic on the Mental Health of Students in North India

Palak Arora¹, Leimapokpam Sumitra Devi², Moumita Sardar², Mukesh Sharma²

ABSTRACT

Background: The COVID-19 pandemic and the ensuing lockdown have had a major influence on the mental health of people of all segments throughout the world. Students have developed psychological disorders such as depression, anxiety and stress as a result of the abrupt replacement of classroom teaching by e-learning. The purpose of this study was to determine the negative psychological impacts among students in North India during the COVID-19 pandemic. **Methods:** We conducted a questionnaire-based study with 200 students from rural Haryana, India, from May to July 2020 to assess the effect of the COVID-19 pandemic on their mental health. Information on social impacts, financial status, social stigma faced by COVID-19 positive individuals and other additional information with respect to COVID-19 were collected. **Results:** The prevalence of mild to extremely severe symptoms of depression, anxiety, and stress among students were found to be 21.5%, 53% and 73.5% respectively. Financial hardship has been faced by the parents of the study participants, with 53% of students reporting an impact on their parents' income. Majority of COVID-19 positive students faced discrimination or social stigma. **Conclusion:** Mental health issues caused by the COVID-19 pandemic needs to be addressed and observe the incidence of such issues, identify risk factors and provide mental healthcare facility to the most vulnerable group.

Keywords: COVID-19, pandemic, mental health, students

¹MBBS Intern, ²Department of Microbiology, SGT Medical College Hospital and Research Institute, Gurugram, Haryana, India

Corresponding Author: Dr. Mukesh Sharma, Department of Microbiology, SGT Medical College Hospital and Research Institute, Gurugram, Haryana, India

E-Mail: msharma.micro@gmail.com

Received: 26th April 2022

Accepted: 05th December 2022

How to Cite this Article: Arora P, Leimapokpam SD, Sardar M, Sharma M. Implications of COVID-19 pandemic on the mental health of students in North India. *Int Med Sci Acad* 2023;36(1):26-29.

Access this article online : www.jimsaonline.com



Introduction

The ongoing COVID-19 pandemic has affected 500,186,525 people with 6,190,349 deaths as of 13th April 2022 globally [1]. It has had a tremendous impact on all strata of the global population causing unanticipated health, economic, educational, social and psychological implications since its inception. COVID-19 lockdown has been enforced by the governments of several nations, including India, as one of the implemented strategies to combat the pandemic scenario [2]. Since its nationwide imposition from March 24, 2020 in India during the first wave of COVID-19, there has been implication of social isolation, restrictions in travelling and outdoor activities, temporary closure of workplaces, businesses, educational institutions and other entertainment sectors [3]. Furthermore, social distancing measures, obligatory quarantine, stoppage of productive activity, loss of income, and dread of the future all have an impact on physical and mental health of human population. Social isolation has a negative impact on the mental health and well-being of people of all ages, especially those who live alone or in poor health, or those who live in rented housing [3-6]. People have expanded their use of electronic media, such as television, radio, telephones, and mobile phones, as a source of news in order to keep up with the newest COVID-19 updates. Following COVID-19 news too closely increases everyone's anxiety since the news is typically upsetting and generates fear of infection.

During the pandemic, people experience fear and stress of being infected leading to depression, stress, and anxiety [7]. In addition, due to the closure of educational institutions, introduction of online classes and confinement at home with solitude, affect the mental as well as physical health of students [2]. Although the current pandemic has given negative impact on mental health of students living in both developed as well as developing countries [2, 8, 9], the situation worsens in developing countries including India due to the sudden lifestyle changes as well as lack of appropriate electronic gazettes and internet facility leading to development of irritability, stress, anxiety and depression. On the other hand, frequent internet uses other than for online classes has been reported to be associated with self-mutilation and suicidal behaviour in adolescents with psychological risk factors [2, 10]. As a result, findings of research studies are required in order to design evidence-based policies that would reduce the negative psychological effects of the pandemic. Thus, the present study was carried out to determine the negative psychological impacts of the COVID-19 pandemic among students in North India.

Materials and Methods

The cross-sectional study was conducted among students of rural Haryana, India during May 2020 to July 2020. Those who were willing to participate in the study were informed about the purpose

of the study and written consent was obtained prior to the data collection and complete confidentiality of the data collected was maintained. A pre-designed questionnaire in both English and Hindi (hard copy) according to the preference of the participants was used to collect data including socio-demographic information and information on impact of the pandemic-negative psychological effects, social impacts, financial status, social stigma experienced by COVID-19 positive individuals and other additional information with respect to COVID-19 infection. In addition, the questionnaire also included the Depression, Anxiety, and Stress Scale - 21 Items (DASS-21), a collection of three self-report measures that assess depression, anxiety, and stress among the study participants [11]. The questionnaire was undesignated in order to ensure confidentiality of the data collected from the study participants.

Statistical Analysis

Data collected for the study was entered into Microsoft excel 2013 spreadsheet. Comparison of categorical data was analyzed by chi-square test or represented as proportions while continuous data was represented as mean \pm standard deviation. A p-value of <0.05 was considered as statistically significant.

Results

Socio-Demographics

The present study enrolled 200 university students for the assessment of psychological impacts during the COVID-19 pandemic. The age of the study participants ranged from 19 to 33 years old (mean age 21.32.6 years). Male study participants were greatly outnumbered by females, with a male:female ratio of 1:1.8. Majority of them (n= 178) were undergraduate students, while a minor percentage (11%, n= 22) were post-graduate students. With regard to occupation of the parents of the study participants, approximately two-fifth (37%) of the parents were self-employed, followed by employment in private sector (34%), one-fifth of them being employed in government sector (23.5%) and few of them (5.5%) were either retired from job or engaged in other occupation.

Table 1: Socio-demographic characteristics of the study participants (n= 200).

Characteristics		Frequency (%) / mean \pm SD
Age (years)	Range	19-28
	mean \pm SD	21.3 \pm 2.6
Sex	Male	72 (36)
	Female	128 (64)
	Male: Female	1:1.8
Educational status	Undergraduate	171 (85.5)
	Postgraduate	29 (14.5)
	Employed in government sector	47 (23.5)
Occupation of parents	Employed in private sector	68 (34)
	Retired	3 (1.5)
	Self employed	74 (37)
	Others	8 (4)

Psychological Impacts during COVID-19 Pandemic

The perceived psychological impacts during the COVID-19 pandemic especially lockdown period was assessed among the study participants. It was observed that majority of them (78.5%) had no depressive symptoms while 14.5% and 6% of them reported mild and moderate depressive symptoms, respectively. Approximately half of them had no anxiety whereas 34% reported mild symptoms of anxiety and 17% experienced moderate symptoms of anxiety. With regards to stress level experienced by the study participants during the study period, more than two-third of them reported mild to moderate symptoms of stress.

Furthermore, a small number of individuals experienced severe to extremely severe symptoms of depression, anxiety or stress during the COVID-19 pandemic especially lockdown period (Fig. 1).

The majority of study participants expressed anxiety and fear about contracting COVID-19 and infecting their family members. Approximately half of the study participants had experienced loneliness and had negative thoughts or worries about their future, as indicated in fig. 2, yet none of them had considered suicide during the epidemic.

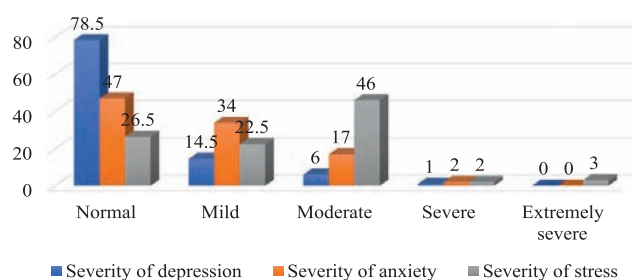


Fig. 1: Depression, anxiety and stress levels (percentage) perceived by the study participants during the COVID-19 pandemic

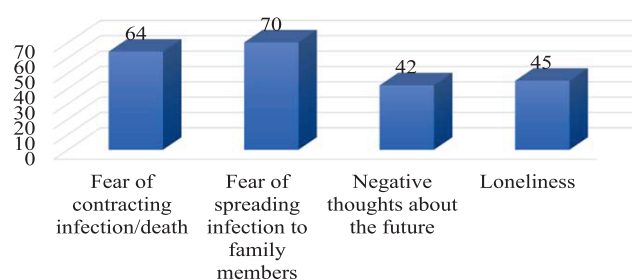


Fig. 2: Psychological impacts (percentage) among the study participants during COVID-19 pandemic

Financial Crisis during the Lockdown

Financial hardship faced by the parents of the study participants as a result of COVID-19 pandemic and the implementation of lockdown was assessed. More than half (53%) of the parents had either directly or indirectly faced financial crisis such as loss of job, deduction in salary due to shortened working hour or work from home or other factors. Few individuals (n= 5) who were living in rental houses were worst affected as a result of the COVID-19 lockdown.

Other Negative Impacts of COVID-19 Pandemic

As online classes replaced classroom teaching, students had faced various problems. Most of the students expressed that they were unable to follow online classes (67%) thus their studies were compromised and 15% of them revealed lack of digital media usage skills, perceived to be one of the causes of stress and anxiety. Due to continuous online classes, students also did complaint of headache (30%), blurred vision (12%) and dryness of eyes (53%). Majority of them (76%) experienced disturbed sleep pattern during the lockdown. Significant increase in the length of use of electronic items was reported among the study participants compared with pre-lockdown days thus affecting their sleep pattern too. With regard to the COVID-19 positivity status of the study participants as well as their household members, six individuals had been tested COVID-19 positive and 19 of them revealed COVID-19 positive among their household members. Two individuals had reported death due to COVID-19 among their household members.

Discussion

The COVID-19 pandemic has affected the mankind in a horrific way. Since the disease is caused by a newly emerged and less explored virus, lack of scientific data and knowledge regarding the virus and the disease became a reason for panic, confusion, stress and anxiety to everyone. In addition to this, the pathogenicity, high rate of disease transmission, high fatality rates, lack of effective treatment or vaccines; imposition of lockdown and mass quarantine policy which has been imposed to curb the pandemic also contributed to the increasing prevalence of psychological disorders among all the sections of individuals [9,12]. Depression, anxiety, stress, insomnia, fear and anger are the major psychological disorders associated with the COVID-19 pandemic globally [9,12,13]. The present study assessed the prevalence of psychological disorders and other negative effects experienced during the first wave of COVID-19 pandemic among students of a university in Haryana. Increase in prevalence of psychological disorders such as mild to moderate symptoms of depression, anxiety and stress were observed among the study participants. In addition, extremely severe symptoms of stress were observed in among six of them. Studies carried out in various parts of India reported similar findings of increase in stress and anxiety among individuals including adolescents during the pandemic [2,14,15]. Similar psychological impacts of COVID-19 had also been reported from studies from both developed as well as developing countries [7,16]. A survey regarding psychological impact such as anxiety, depression, and stress during the initial stage of the COVID-19 outbreak among the population of China reported moderate to severe symptoms of depression (16.5%), anxiety (28.8%) and stress (8.1%) [17]. Another study from China reported high prevalence of depression, anxiety and stress among college students when compared with other sections of population during the pandemic [18]. A study from China showed that among the young adults, anxiety levels have been mediated by certain factors, such as living with parents and the financial stability of the family [19]. A Palestinian study assessed prevalence of depression, anxiety and stress among the students and revealed that majority of the students, 89.1% and 72.1% had moderate to severe anxiety and depression, respectively, whereas 35.7% had moderate to severe stress [7]. During this difficult time for everyone, an Indian culture of children co-habiting with their parents has turn out to be on good side. Staying with their parents and siblings may alleviate their loneliness, resulting in a less negative influence on their mental health and a reduced risk of suicide ideation.

Strict contact tracing, mandatory quarantine for 14 days and isolation of the infected individuals have been imposed as measures to break the chain of disease transmission in the community. These measures have also exacerbated anxiety among the public [5]. Furthermore, contracting the infection by self or family members or near and dear ones or losing some of those due to COVID-19 infection also led to worsening of psychological symptoms such as anxiety, fear, anger, helplessness and thought of suicides due to the stressful conditions among the public as well as healthcare workers [18-20]. In the present study, none of the study participants revealed suicidal thought during the pandemic. However, a study from China indicated that COVID-19 pandemic may lead to increased risk of suicide, an extreme step due to the grief, depression, anxiety and stressful conditions [21]. In India, cases of COVID-19 associated suicide have been reported from different states such as Maharashtra, Kerala, Uttar Pradesh, Assam, etc. [4,22]. In addition to the suicide cases of COVID-19 confirmed positive or suspected individuals, other individuals belonging to economically-vulnerable

groups have been widely affected due to the lockdown imposed during the pandemic leading to suicide. The COVID-19 crisis has affected the global economy. The great lockdown imposed has led to significant increase in unemployment, job losses, pay-outs, etc. Furthermore, mandatory quarantine has also contributed to cases of suicide associated with the pandemic [4].

Amid the COVID-19 crisis, online teaching-learning method has been introduced, replacing the traditional classroom learning. Lack of internet access, technological infrastructure, and other resources would be the most problematic in low- and middle-income nations, such as India [23]. In the present study, more than half of the students revealed difficulty in following the online classes and few of them were facing difficulty in using virtual platform or unable to adapt e-learning and lack of proper infrastructure thus preferring the old method. Additionally, lack of uninterrupted internet facility at home, difficulty in adapting new learning/ teaching mode among the students and teachers, respectively and environmental distraction at home due to lack of isolated room at home. In a study from Pakistan, a high proportion of study participants (89%) who were attending online classes during the lockdown revealed that classes were not useful [9]. This teaching method has become the reason for increase in stress and anxiety levels among those students who are facing difficulty in learning by this method due to slowdown in academic activities. Furthermore, many students have complaint of ocular problem due to spending long hours in front of mobile/ laptop or other devices. Digital eye strain (DES) is the ocular problem associated with extended or prolonged use of digital devices, characterized by various symptoms such as dryness of eye, itching, watering, foreign body sensation, blurring of vision and headache [24, 25]. A study from India reported prevalence of DES to be 50.2% among children attending online classes during the pandemic, most common symptoms being itching and headache (54%) [24].

During the COVID-19 lockdown period, sudden disruptions in regular sleep patterns or insomnia have been reported globally [9, 25]. The present study also observed majority of the study participants experiencing the same problem, the main reason being the prolonged use of electronic gadgets. A study from Pakistan reported a significant relationship between prolonged use of electronic gadgets and longer sleep period [9]. While a study from France reported COVID-19 related worries and loneliness to be the major risk factors for clinical insomnia experienced by French population during the COVID-19 pandemic and lockdown [25]. A study from China reported a high prevalence of psychological disorders, which could be due to frequent or prolonged social media exposure during the COVID-19 outbreak [26].

Discrimination or social stigma have been faced by COVID-19 positive patients and their family members, mostly in the first wave of the pandemic. As the disease is highly contagious and can infect any individual, there is fear of getting infection from the infected individuals. Thus, anxiety, confusion and fear with lack of knowledge about the disease can lead to acts of social discrimination or stigma towards infected individuals in the form of avoiding or rejecting them, verbal abuse, physical abuse or even evicting them from rental houses. These negative attitude towards them can lead to hiding the illness or preventing individuals from seeking healthcare promptly thus favoring the disease spread among the community [27].

Conclusion

The present study highlighted the prevalence of mental health issues such as depression, anxiety and stress reported among the

students during the COVID-19 pandemic mostly during the lockdown. We recommend that it is high time to address mental health issues caused by the pandemic and observe the incidence of such issues, identify risk factors and provide mental healthcare facility to the most vulnerable group.

Conflict of Interest:	All authors declare no COI
Ethics:	There is no ethical violation as it is based on voluntary anonymous interviews
Funding:	No external funding
Guarantor:	Dr. Mukesh Sharma will act as guarantor of this article on behalf of all co-authors.

References

- 1) WHO Coronavirus Disease (COVID-19) Dashboard. <https://covid19.who.int/>. (accessed April 16, 2022).
- 2) Patra S, Patro BK. COVID-19 and adolescent mental health in India. *The Lancet Psychiatry*. 2020;7:1015.
- 3) COVID-19: Examining the impact of lockdown in India after one year. Available at: <https://www.epw.in/engage/article/covid-19-examining-impact-lockdown-india-after-one-year>:text=The impact of the complete, the severity of the lockdown.
- 4) Roy A, Singh AK, Mishra S, Chinnadurai A, Mitra A, Bakshi O. Mental health implications of COVID-19 pandemic and its response in India. *Int J Soc Psychiatry*. 2021 Aug;67(5):587-600.
- 5) Dalal PK, Roy D, Choudhary P, Kar SK, Tripathi A. Emerging mental health issues during the COVID-19 pandemic: An Indian perspective. *Indian J Psychiatry*. 2020 Sep;62(Suppl 3):S354-S364.
- 6) Das S. Mental health and psychosocial aspects of COVID-19 in India: The challenges and responses. *J Health Management*. 2020;22(2):197-205.
- 7) Radwan E, Radwan A, Radwan W et al. Prevalence of depression, anxiety and stress during the COVID-19 pandemic: a cross-sectional study among Palestinian students (10-18 years). *BMC Psychology*. 2021;9:187.
- 8) Son C, Hegde S, Smith A, et al. Effects of COVID-19 on college students' mental health in the United States: Interview Survey Study. *J Med Internet Res*. 2020;22(9):e21279.
- 9) Ali A, Siddiqui AA, Arshad MS, Iqbal F, Arif TB. Effects of COVID-19 pandemic and lockdown on lifestyle and mental health of students: A retrospective study from Karachi, Pakistan. *Ann Med Psychol (Paris)*. 2022 Jun;180(6):S29-S37.
- 10) Marchant A, Hawton K, Stewart A, Montgomery P, Singaravelu V, Lloyd K et al. A systematic review of the relationship between internet use, self-harm and suicidal behaviour in young people: the good, the bad and the unknown. *PLoS One*. 2017;12:e0181722.
- 11) Lovibond SH, Lovibond PF. *Manual for the Depression Anxiety & Stress Scales*. (2nd Ed.) Sydney. 1995: Psychology Foundation.
- 12) Salari N, Hosseini-Far A, Jalali R, Vaisi-Raygani A, Rasoulpoor S, Mohammadi M et al. Prevalence of stress, anxiety, depression among the general population during the COVID-19 pandemic: a systematic review and meta-analysis. *Global Health*. 2020;16(1):57.
- 13) Torales J, O'Higgins M, Castaldelli-Maia JM, Ventriglio A, et al. The outbreak of COVID-19 coronavirus and its impact on global mental health. *Int J Soc Psychiatry*. 2020;3-6. 10.1177/0020764020915212.
- 14) Roy D, Tripathy S, Kar SK, Sharma N, Verma SK, Kaushal V. Study of knowledge, attitude, anxiety & perceived mental healthcare need in Indian population during COVID-19 pandemic. *Asian J Psychiatr*. 2020;51:102083.
- 15) Kumar BP, Eregowda A, Giliyaru S. Impact of COVID-19 outbreak on the mental health of adolescents in India and their perceived causes of stress and anxiety. *Int J Community Med Public Health*. 2020;7:5048-53.
- 16) Rajkumar RP. COVID-19 and mental health: A review of the existing literature. *Asian J Psychiatr*. 2020;52:102066.
- 17) Wang C, Pan R, Wan X, Tan Y, Xu L, Ho CS, et al. Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *Int J Environ Res Public Health*. 2020;17(5): 1729.
- 18) Li S, Wang Y, Yang Y. Analysis of influencing factors of anxiety and emotional disorders in children and adolescents during home isolation during the epidemic of novel coronavirus pneumonia. *Chin J Child Health*. 2020;1-9.
- 19) Cao W, Fang Z, Hou G, Han M, Xu X, Dong J, et al. The psychological impact of the COVID-19 epidemic on college students in China. *Psych Res*. 2020;287:112934.
- 20) Saladino V, Algeri D, Auremma V. The psychological and social impact of COVID-19: New perspectives of well-being. *Front Psychol*. 2020 Oct 2;11:577684.
- 21) Xiang YT, Jin Y, Cheung T. Joint international collaboration to combat mental health challenges during the coronavirus disease 2019 pandemic. *JAMA Psychiatr* 2020 Oct 1;77(10):989-990.
- 22) Cullen W, Gulati G, Kelly BD. Mental health in the COVID-19 pandemic. *QJM: Monthly J Assoc Physicians*. 2020;113(5):311-312.
- 23) Mishra L, Gupta T, Shree A. Online teaching-learning in higher education during lockdown period of COVID-19 pandemic. *Int J Educ Res Open*. 2020;1:100012.
- 24) Mohan A, Sen P, Shah C, Jain E, Jain S. Prevalence and risk factor assessment of digital eye strain among children using online e-learning during the COVID-19 pandemic Digital eye strain among kids (DESK study-1). *Indian J Ophthalmol*. 2021;69:140-144.
- 25) Kokou-Kpolou CK, Megalakaki O, Laimou D, et al. Insomnia during COVID-19 pandemic and lockdown: Prevalence, severity, and associated risk factors in French population. *Psychiatry Res*. 2020;290:113128.
- 26) Gao J, Zheng P, Jia Y, Chen H, Mao Y, Chen S, et al. Mental health problems and social media exposure during COVID-19 outbreak. *PLoS ONE* 2020; 15(4): e0231924.
- 27) Social stigma and COVID-19. Available at: <https://www.nhp.gov.in/healthyliving/social-stigma-and-covid-19>.

