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Assessing the Effect of the Covid-19 Pandemic on Mental Health among the Indian Academic Community

Parmeet Kumar Vinit[1], Mukesh Kumar Gupta[2], Dinabandhu Mahata[3], Komal Sureshrao Gajbhiye[4], Himanshu Chaurasia[5]*

[1] Department of Statistics, University of Delhi, India
[2] International Institute for Population Sciences, Mumbai, India
[3] Department of Geography, Central University of Tamil Nadu, Thiruvarur, India
[4] International Institute for Population Sciences, Mumbai, India
[5] Indian Council of Medical Research (ICMR), National Institute for Research in Reproductive Health, Mumbai, India

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Abstract

The study aimed to assess the proportion of migrated academic communities feeling depressed during the COVID-19 pandemic. An online survey (among 18-45 years of age) was conducted to assess the feeling of being depressed for people involved in academics who had to shift from their current location. Convenience samples were recruited via social media and data was collected using a cross-sectional method. A total of 250 respondents (215 eligible respondents), were recruited and their mental health was assessed using the Patient Health Questionnaire -9 tool. Our finding shows that depressive symptoms (levels) were 45.6% and 25.1%, respectively, reported mild to moderate levels of depression. Perceptions that the pandemic disrupted life events, education, place of engagement (occupation), and monthly income were significantly associated with poor mental health outcomes. The proportion of respondents from the academic community, facing the trouble of migration, with depression was found to be 77.67% including mild depression. These findings encourage the use of low-intensity mental health treatments that are easily accessible during and after the pandemic. Depression is an inevitable part of every human being; it must be addressed at the earliest at the institutional level as well as community level. During the COVID-19 pandemic, it is critical to maintain individual mental health and establish therapeutic approaches that can enhance the mental health of vulnerable groups. Mental health conditions were prevalent during the pandemic, according to our study. Public health interventions are needed to improve the population's mental health and resilience in the community.

Keywords: COVID-19, Depression, Pandemics, Mental health, India

Introduction

Studies have reported that COVID-19 has the potential to travel large distances in a tumultuous atmosphere and infect neighboring countries. The rapidity at which this infection is spreading among populations is extraordinary (1-5). The COVID-19 pandemic is a major health crisis affecting several countries, and such widespread outbreaks are associated with adverse mental health consequences during the pandemic situation (6). The pandemic has brought public life to a standstill and impacted mental health globally, resulting in depression (7). The COVID-19 pandemic has affected all population groups directly and indirectly. Government aid has offered temporary assistance to vulnerable individuals suffering from economic hardship, given widespread social, economic, and health.

Depression is a common mental health problem often seen in all communities (8). Some studies have shown that economic hardship is a significant cause of depression (9). Mental disorders account for a large proportion of the disease burden in young people in all societies. Most mental disorders begin during youth population(10). The recent COVID-19 pandemic has imposed threats on both physical and mental health since its outbreak (11). Educational, social, and economic opportunities are drawing increasing numbers of predominantly young people to cities across the globe (12). The governmental responses to the COVID-19 pandemic, including the approach, interventions, and their associated effectiveness, vary across social, cultural, political, and institutional contexts(13). Thus, the study aimed to assess the proportion of migrated academic communities feeling depressed during the COVID-19 pandemic.

Methods

Setting and participants

A prospective cross-sectional web-based survey was carried out during the lockdown period from 25th June to 18th August 2020 among 18-45 years of individuals. Data were collected

***Corresponding Author:** Himanshu Chaurasia, Indian Council of Medical Research (ICMR), National Institute for Research in Reproductive Health (NIRRH), Mumbai, India. E-mail: himanshu.icmr369@gmail.com

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electronically using e-questionnaire because a community-based national sampling survey was not feasible at the time. Using snowball sampling, the authors distributed the survey link via social media, which was circulated among the participants who participated voluntarily. The self-administered e-questionnaire was shared with the participants to evaluate any presence of depression among them. The Patient Health Questionnaire 9 (PHQ9) is used to assess the mental health status and depression status of the respondents. Apart from these, the socio-economic status demographic details were also collected. The target participants were from the academic community between the ages of 18 to 45 and had to migrate from the current institution, organization, or city. The minimum required sample size was 196, calculated with the precision of 95% and 5% alpha error. The e-questionnaire was shared with around 250 participants and 215 respondents were eligible to participate. As per WHO, 15% is taken as a proportion as this proportion of people in India are exposed to some of the other kinds of mental health problems (14).

Procedures

To collect data from respondents, an anonymous online questionnaire was created using WHO materials on COVID-19 pandemic-related mental health (WHO 2020). The research team worked together to review the literature provided in the WHO materials, settle on the questionnaire's structure, and drafted individual questions through an iterative discussion and editing process. The survey was conducted in English. A small online user group was used to assess the survey's clarity. A brief description of the study's context, intent, procedures, confidentiality agreement, and informed consent were all included in the survey. Participants were led to the study summary and informed consent after clicking on the survey link. To begin the survey, demographic information was required, after which a series of survey questions appeared.

Content of the survey

The survey consisted of 17 closed-ended questions that took approximately 7–8 minutes to complete. The survey was divided into two sections: participant characteristics (8 questions), perceptions regarding their mental health (9 items). Sociodemographic data were collected on age, sex, place of residence, marital status, religion, highest educational status, occupation, monthly income. The demographic questions were straightforward, with numerous options for answers. The Patient Health Questionnaire (PHQ) is a three-page questionnaire that can be entirely self-administered by the patient (15). The PHQ-9 (Appendix) is the entire 9-item depression module. Major depression is diagnosed if 5 or more of the 9 depressive symptom criteria have been present for at least "more than half the days" in the previous 2 weeks, and one of the symptoms is depressed mood or anhedonia. Other depression is diagnosed when 2, 3, or 4 depressive symptoms have been present for at least "more than half the days" in the previous two weeks, with depressed mood or anhedonia as one of the symptoms. The depression module of the PHQ-9 assigns a score of "0" (not at all) to "3" to each of the nine parameters (nearly every day). The PHQ-9 score can range from 0 to 27 as a severity indicator. The study participants are not addressed depression in the past.

Statistical analysis

All covariates and survey responses were subjected to descriptive statistics. The Chi-square test or Fisher exact test was carried out to predict the association between categorical variables. Predictors were converted to dummy variables and then the association between depressive symptoms was seen based on their relocation to rural or urban areas using the chi-square test. Data was entered and compiled in Microsoft Excel 2010. Statistical Package for the Social Sciences software (IBM SPSS Statistics) version 23.0 was used, with a 5% level of significance for a two-tailed test.

Results

A total of 250 people completed the survey. Table 1 represents the distribution of depression levels present among the respondents. Approximately, only 1.9% of respondents showed no sign of depression, while 20.47% had minimal depression. Further, 45.58% of respondents were affected by mild depression, 25.12% of them faced moderate depression, 5.58% are having moderately severe depression, and 1.4% of them are suffering from severe depression. 77.67% of respondents are suffering from depression problems, including the mild depression level.

Table 1. Distribution of depression level among the participants

Depression level	Distribution
No depression	1.86% (4)
Minimal depression	20.47% (44)
Mild depression	45.58% (98)
Moderate depression	25.12% (54)
Moderately severe depression	5.58% (12)
Severe depression	1.4% (3)
Total	100% (215)

Table 2 analyses the association between the presence of depression and other predictors are tested using the Chi-Square test based on their relocation to rural or urban areas. This will help to understand the role of immediate migration due to the COVID-19 pandemic in the association between the presence of depression and other predictors, at a 5% level of significance. For depression, participants ages 26-35 years old showed significant association ($\chi2$=4.465, p-value=0.035). Among males and females, depressive symptoms were almost the same with 78 percent and 77 percent respectively. However, significant result in males was seen regarding rural and urban allocation ($\chi2$=9.596, p-value=0.002). Participants, those who were unmarried were more depressed compared to married ones, regarding rural-urban allocation, it was significant in unmarried individuals ($\chi2$=4.826, p-value=0.028). Those having postgraduate ($\chi2$=4.424, p-value=0.035) as their highest education shows a significant association, along with those working in the private sector ($\chi2$=8.571, p-value=0.003) as their Place of engagement (Occupation). Further, respondents having a monthly income of 20000-35000 INR are ($\chi2$=4.790, p-value=0.074) significant at a 10% level of significance. The only predictor is the religion that does not show any association with depression regarding rural-urban allocation.

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Table 2. Association between the demography and depression state for people migrated from their current location due to coronavirus pandemic

Predictors	Depressed		Chi-Square	p-value
	No	Yes		
Age				
18-25yrs	22 (20%)	88 (80%)	1.627	0.202
26-35yrs	12 (27%)	33 (73%)	4.465	**0.035**
36-45yrs	14 (23%)	46 (77%)	0.880	0.348
Sex				
Male	30 (22%)	106 (78%)	9.596	**0.002**
Female	18 (23%)	61 (77%)	0.025	0.874
Marital status				
Unmarried	30 (22%)	109 (78%)	4.826	**0.028**
Married	18 (24%)	58 (76%)	1.458	0.227
Religion				
Hindu	27 (20%)	107 (80%)	0.705	0.401
Muslim	5 (17%)	24 (83%)	3.022	0.144
Christian	6 (37%)	10 (63%)	2.215	0.250
No Religion	2 (29%)	5 (71%)	1.120	1.000
Other	7 (25%)	21 (75%)	3.111	0.103
Highest education				
Research	19 (39%)	30 (61%)	0.478	0.489
PG	13 (19%)	54 (81%)	4.424	**0.035**
UG	15 (16%)	77 (84%)	0.027	1.000
SSC/12th	1 (17%)	5 (83%)	0.240	1.000
Place of engagement (Occupation)				
Unemployed	3(9%)	31 (91%)	1.371	0.539
Student	15 (20%)	62 (80%)	0.200	0.655
Research Scholar	6 (50%)	6(50%)	1.500	0.545
Govt. Sector	11 (48%)	12 (52%)	0.048	0.827
Private Sector	10 (22%)	35 (78%)	8.571	**0.003**
Own Business	1 (6%)	15 (94%)	0.485	1.000
Other	2 (67%)	1 (33%)	0.750	1.000
Monthly Income (in INR)				
Nil	18 (16%)	97 (84%)	0.453	0.501
5000-20000	4 (57%)	3 (43%)	3.938	0.143
20000-35000	8 (35%)	15 (65%)	4.790	**0.074**
35000-50000	12 (30%)	28 (70%)	0.714	0.490
>50000	6 (22%)	21 (78%)	0.622	0.633

Discussion

The present study was performed during the lockdown in the middle of the pandemic, yielded useful knowledge on the prevalence of depression and the factors that lead to it. In the current study, the prevalence of depressive symptoms ranging from moderate to severe was estimated to be 77.7 percent. Depressive symptoms were found to be prevalent in 16.5 percent of the general population in China (16, 17) and 11.4 percent in Japan (18) in previous studies. Higher rates of depressive symptoms were associated with younger age groups (18-25 years), and the finding is consistent with one of the previous studies (11). The lockdown forced families to stay at home for longer periods, and it would be interesting to know how this affected their mental health. Depressive symptoms were observed in males and females were almost the same with 78 percent and 77 percent respectively. However, studies have reported that women are at a higher risk for experiencing depressive symptoms (16, 19, 20).

According to recent studies, there is an association between education levels and anxiety and depression levels during the COVID-19 pandemic. Surprisingly, respondents with a high school or higher secondary level of education experienced high levels of depression followed by those with undergraduate. Other studies have found no significant differences in the mental health of participants with different educational backgrounds (21, 22).

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Another interesting result was that high-income respondents were more likely than low-income respondents to be depressed. Further study and qualitative studies will be needed to understand the mechanisms behind this finding. Unsurprisingly, unemployed respondents and those with an income of 1000-5000 Indian rupee had higher rates of depression than working respondents. This contradicts the results of another report, which found no correlation between employment status and stress levels (23). Unemployed individuals will find it difficult to raise the money they need to survive during the lockdown, which will undoubtedly add to their tension.

However, there were some shortcomings in this research, such as the snowballing sampling technique of sample recruitment, limited resources, and mostly were researchers, which may reflect sampling bias. This recruitment strategy may have also led to the current sample's skewed demographic distribution of gender and occupation, with higher proportions of males and students in the current sample, while data from females and older adults is scarce. While this sampling bias limits the generalizability of outcomes, these demographics are unlikely to have access to the survey or the internet due to socioeconomic factors or prejudice based on gender and age. According to extensive studies, these subpopulations are far more vulnerable to mental health effects, leading to the fact that the findings of this study understate the real negative effect of the COVID-19 pandemic on the population's mental health. The lack of research on this topic makes any study's findings less reliable, particularly since no studies on COVID-19's mental health effects have been conducted in India.

Since the results are likely to vary from clinical diagnoses, the self-reported survey mode can introduce response bias. This is an issue with online surveys because people can choose whether to participate or not, and researchers have no control over who participates. Several confounding factors, such as domestic violence, and exposure to online media, were also left out of the study. In addition, the study participants are not addressed with the depression in the past, could be one of the limitations of the study. Thus, the findings should be viewed in light of the present scenario, in which citizens were put on lockdown during the pandemic. More research is needed to see how these rates change over time, as well as to explore how people feel about the situation's short- and long-term effects on their mental health.

Conclusion

The COVID-19 pandemic has sparked a global emergency in less than a few months. This infectious virus has triggered a variety of psychological and mental disorders in addition to raising questions about public health. According to our findings, the COVID-19 pandemic has the potential to impact mental health in individuals and populations. As a result, in the current crisis, it is critical to recognize individuals at risk of psychological problems from various classes and layers of the population, so that the general population's mental health can be maintained and enhanced by the use of effective psychological measures, techniques, and treatments.

While the country was under lockdown and there was no clear vision for the restoration of normal lifestyle in near future during this pandemic due to COVID-19. This proved again that depression is an inevitable characteristic among people even the academic community (78%) is affected severely by this goon. Though the academic community is educated enough to understand and deal with adverse situations. This pandemic has put everyone at aghast breaking the threshold of mental stability to some or severe extent. Keeping this in mind every public must be aware of mental health and should be sensitized about depression and how to deal with it. Especially the academic community must be taken care and awareness is the very much needed key to be implemented at the earliest.

Recommendations

The findings should be seen as a starting point for future studies to assess the effects of the pandemic on people's mental health. The study may also draw researchers' attention to this critical and often ignored aspect of population health, particularly in these trying times when the pandemic, disruptive measures, and financial distress may all combine to have a negative effect on mental health and wellbeing. To improve mental health, the public understanding of depression, anxiety, and stress, as well as coping mechanisms, is critical. We believe that this study, as well as future studies on the subject, will help to educate mental approaches to avoid and mitigate the pandemic's negative mental health effects.

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Conflict of interests

The authors declare that they have no competing interests.

Informed consent

The authors declare that there is no conflict of interest.

Author contributions

PKV, MKG, KSG, HC, and DM conceived and designed the research paper. PKV, MKG, DM, and KSG analyzed the data. PKV, MKG, DM, and KSG contributed materials/analysis tools. PKV, MKG, DM, HC, and KSG wrote the manuscript and HC refined the manuscript.

Ethical issue

This article does not contain any studies with human or animal subjects per-formed by the author.

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