

## Study to Assess the Impact of the Covid-19 Pandemic on the Mental Health in the General Population

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### Abstract

**Background:** Mental health problems significantly increased worldwide during the coronavirus (COVID-19) pandemic. At the early stage of the outbreak, the government of Madhya Pradesh imposed lockdown and quarantine approaches to prevent the spread of the virus, which impacted people's daily life and health. The COVID-19 pandemic has also affected people's economic status, healthcare facilities and other lifestyle factors in Madhya Pradesh.

**Aim:** The aim of the study to assess the impact of the COVID-19 pandemic on mental health among the population of Madhya Pradesh.

**Methods and Materials:** An online cross-sectional survey was conducted among 500 individuals of central India, aged between 15 and 65 years from the duration of 15 April to 10 May 2020. After obtaining electronic consent, the survey was conducted assessing individual's sociodemographic profiles and psychometric measures.

**Results:** The prevalence of loneliness, depression, anxiety and sleep disturbance was estimated at 71% (mild: 32%, moderate: 29%, severe: 10%), 38% (mild: 24%, moderate: 11%, severe: 3%), 64% (mild: 30%, moderate: 17%, severe: 17%) and 73% (mild: 50%, moderate: 18%, severe: 5%), respectively.

**Conclusions:** A large portion of respondents reported mental health problems during the COVID-19 pandemic in Madhya Pradesh. The present study suggests longitudinal assessments of mental health among Madhya Pradesh people to determine the gravity of the problem during and after the pandemic. Appropriate supportive programmes and interventional approaches would address mental health problems in Madhya Pradesh during the COVID-19 pandemic.

**Keywords:** COVID-19, Pandemic, Mental Health

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## Introduction

The mortality rate is controlled for individuals of all age groups because of the unmatched achievement of medical technology. Despite the enormous progress made in the field of medicine and medical technology, over the years, infectious diseases, particularly viral pandemics, continue to have a negative impact on global healthcare and well-being. The SARS virus, MARS virus, and Ebola virus epidemic outbreaks in the first decade of the 20th century demonstrated the difficulties of sufficient preparation for such pandemics [1,2].

During COVID 19 not only those who are affected but their close ones were also had great psychological impact. The frequency of anxiety issues, depression issues, rage, and other related psychological issues may be present in diagnosed individuals, suspected individuals, medical staff, and close relations with patients. Patients may be afraid of dying, and medical professionals who are caring for COVID-19 patients may be afraid that the virus will spread to their friends, relatives, or other close individuals [3,4]. People who are isolated and confined to a small area go through stressful events, such as losing face-to-face interactions and other normal social interactions brought on by an pandemic outbreak. Additionally, they could feel depressed and angry. Emotional dysregulation and post-traumatic chronic depression may emerge as a result of these immediate impacts [5,6].

During coronavirus (COVID-19) pandemic, mental health issues rapidly surged throughout the world. The Madhya Pradesh government implemented lockdown and quarantine measures at the beginning of the outbreak to stop the virus's spread, which had an impact on people's daily lives and health. In Madhya Pradesh, the COVID-19 outbreak also had an impact on residents' access to healthcare, their ability to afford it, and other aspects of their way of life. The objective of this study was to evaluate how the COVID-19 outbreak had affected

mental health of the local population of Madhya Pradesh [7-13].

## Methods and Materials

An online cross-sectional survey was conducted among 500 individuals of Madhya Pradesh aged between 15 and 65 years from 15 April to 10 May 2020.

### Inclusion Criteria

1. Permanent residents of Madhya Pradesh who are above the age of 21.
2. Individuals who have lived in the chosen home for at least six months, and
3. Individuals who were capable of providing thoughtful responses to the survey questions.

### Exclusion Criteria

1. Individuals having previous history of mental disorders.
2. Individuals not ready to provide informed written consent.
3. Individuals not able to respond properly.

After obtaining electronic consent, the respondent's sociodemographic profiles and psychometric measures were taken. The University of California, Los Angeles (UCLA) Loneliness Scale-8, Patient Health Questionnaire-9, Generalized Anxiety Disorder 7-Item Scale and Pittsburgh Sleep Quality Index to assess loneliness, depression, anxiety and sleep disturbance, were used. The respondents were made to answer the questions. After obtaining the answers their response was classified as mild, moderate and severe.

### Statistical Analysis

In the present study, IBM SPSS version 25 was used to analyze the collected data. In this study, descriptive statistics (frequency, percentages, mean, and standard deviation) and chi-square test were used. Descriptive statistics were used for the purpose of assessing the mental health status of participants. Chi square test was used to assess the interaction between socio-

demographic factors (i.e. gender, provinces where study participants currently living, participants' age, etc.) and mental health status and drinking behavior (i.e. anxiety, depression, alcohol consumptions, mental well-being, etc.).

## Results

The prevalence of loneliness, depression, anxiety and sleep disturbance was estimated at 71% (mild: 32%, moderate: 29%, severe: 10%), 38% (mild: 24%,

moderate: 11%, severe: 3%), 64% (mild: 30%, moderate: 17%, severe: 17%) and 73% (mild: 50%, moderate: 18%, severe: 5%), respectively (Table 1). In Madhya Pradesh, the key factors associated with poor mental health during COVID-19 were female sex, unemployment, being a student, obesity and living without a family.(Table 2,3) The present study also identified statistically significant interrelationships among the measured mental health issues.

**Table 1: Prevalence statistics of anxiety, depression and alcohol abuse and dependence, and overall mental well-being status after the COVID-19 pandemic**

	Levels	Percentages
<b>Anxiety condition</b>	Mild	30
	Moderate	17
	Severe	17
<b>Depression condition</b>	Mild	28
	Moderate	11
	Severe	3
<b>Sleeping disorders</b>	Mild	50
	Moderate	18
	Severe	5 %
<b>Loneliness</b>	Mild	32
	Moderate	29
	Severe	10

**Table 2: Gender differences in anxiety, depression, alcohol use, and mental well-being after to the COVID-19 pandemic**

	Gender		$\chi^2$ (p value)	Effect size
	Male	Female		
<b>Anxiety</b>				
Mild (%)	12	18	7.611 (.076)	.018
Moderate (%)	7	10		
Severe (%)	7	10		
<b>Depression</b>				
Mild (%)	12	16	3.111 (.132)	.011
Moderate (%)	4	7		
Severe (%)	1	2		
<b>Sleep disorders</b>				
Mild (%)	18	32	18.105 (<.001)	.035
Moderate (%)	06	12		
Severe (%)	2	3		
<b>Loneliness</b>				
Mild (%)	12	20	4.202 (.021)	.030
Moderate (%)	11	18		
Severe (%)	3	7		

**Table 3: Differences in anxiety, depression, and alcohol abuse among different age groups related to the COVID-19 pandemic**

	Age groups					$\chi^2$ (p value)	Effect size
	≥ 20 years	21–30 years	31–40 years	41–50 years	≤50 years		
<b>Anxiety</b>							
Mild (%)	4.1	13.2	10.1	10.5	9.6	21.595 (<.001)	.013
Moderate(%)	5.9	8.2	7.2	6.9	4.3		
Severe (%)	5.9	19.9	10.2	8.4	11.7		
<b>Depression</b>							
Mild (%)	11.2	13.7	10.2	8.4	9.2	26.711 (<.002)	.01
Moderate(%)	1.9	22.8	19.6	11.6	12.9		
Severe(%)	5.9	12.9	11.4	7.4	7.5		
<b>Sleep disorders</b>							
Mild (%)	26.9	31.2	36.9	28.2	31.2	21.875 (.012)	.002
Moderate(%)	5.5	14.7	10.0	7.9	5.7		
Severe (%)	–	2.4	3	3.2 %	3.2		
<b>Loneliness</b>							
Mild (%)	31	32.7	36	28.3	25.6	19.101 (.006)	.011
Moderate(%)	51.4	51.6	50.7	49.7	41.3		
Severe (%)	18.9	16	19.8	24.7	26.8		

## Discussion

The psychological effects of the earlier pandemic SARS-CoV, that is comparable to COVID-19 arising from the same Corona virus family, and surviving a crucial medical treatment, are only briefly discussed in the literature [7,8]. There is no sufficient research is done on the psychological effects of the COVID-19 outbreak because it is so recent. Through an online poll, the current study quickly determined the incidence of psychological issues linked to people's incarceration due to the COVID-19 outbreak in the general Madhya Pradesh population.

The findings of this study suggest that the sudden outbreak of COVID 19 and people's detainment to their homes as the first line of defense against the pandemic have resulted in a significantly greater number of anxiety issues, depression issues, sleep disturbances, and loneliness among individuals of Madhya Pradesh [14,15].

Medical staff who are caring for COVID-19 patients may be worried that the virus will

spread to their friends, relatives, or other close people. Patients may be afraid of dying. Stressful occurrences, such as missing face-to-face encounters and other regular social engagements due to a pandemic outbreak, affect those who are isolated and confined to a small area. Additionally, they could experience anger and depression. These direct effects may lead to emotional breakdown and post-traumatic persistent depression [9,10].

Similar to the coronavirus (COVID-19) pandemic, mental health problems swiftly increased on a global scale. At the outset of the outbreak, the Madhya Pradesh government imposed lockdown and quarantine measures to restrict the virus's spread, which had an effect on people's daily life. The COVID-19 outbreak in Madhya Pradesh has affected residents' access to healthcare, their financial ability to pay for it, and other facets of their way of life. The objective of study was to assess how the COVID-19 outbreak had impacted the mental health of Madhya Pradesh residents.

In present study the prevalence of loneliness, depression, anxiety and sleep disturbance was estimated at 71% (mild: 32%, moderate: 29%, severe: 10%), 38% (mild: 24%, moderate: 11%, severe: 3%), 64% (mild: 30%, moderate: 17%, severe: 17%) and 73% (mild: 50%, moderate: 18%, severe: 5%), respectively. In Madhya Pradesh, the key factors associated with poor mental health during COVID-19 were female sex, unemployment, being a student, obesity and living without a family. The present study also identified statistically significant interrelationships among the measured mental health issues.

The findings of current study show that the mental health of general population is declining when compared to Huang *et al* [16] cross-sectional epidemiological study. A survey that solely included medical personnel was done by Liu *et al* [17] to support their claim that depression, anxiety, sleeplessness, and stress-related symptoms are more common (50.7%, 44.7%, 36.1%, and 73.4%, respectively). This greater frequency of mental health issues may be brought on by the COVID-19's vagueness and lack of information [11,12]. The findings of our study are similar to the study conducted by Liu *et al* and Huang *et al*.

Early on in a pandemic, people typically know little about the nature, prognosis, mortality rate, and other factors that contribute to their fear of the organism. According to Xiang *et al*. [18], being in quarantine might lead to feelings of boredom, loneliness, anger, anxiety, and sadness. The finding of present study was similar to the findings of Xiang *et al*. Although alcohol dependence hasn't increased as much as it had in the past, hazardous and harmful drinking have both significantly increased. According to WHO (2018), 4.4% of Madhya Pradesh residents have an alcohol use problem, which includes dependence and hazardous alcohol consumption. This percentage has climbed to 11.1% in the current survey [13]. This significant rise in alcohol

consumption may be mostly attributable to the lockdown brought on by the COVID-19 pandemic. According to a study by Yawger *et al* [19], social isolation raises the likelihood of alcohol usage. In addition, there is considerable evidence linking anxiety and depression to problematic alcohol consumption or dependency.

Additionally, this study revealed substantial disparities in depression scores between respondents from COVID-19 epicentre, and those from other regions. According to WHO, the overall death rate varied. There may be a link between Madhya Pradesh residents' greater levels of depression and consumption of alcohol and the higher fatality rate brought on by the COVID-19. In terms of drinking patterns, men consumed more alcohol than women. The findings are similar to the findings of study conducted by Yawger *et al* [19]. According to studies, women are twice as likely as men to experience problems with stress and anxiety. However, these significant gender variations in anxiety issues suggested that the COVID-19 and its potential effects on women than men are concerning.

In comparison of age categories, those between the ages of 21 and 40 are more susceptible than that of participants from other age groups in terms of their state of mental health. Although older age groups have a greater fatality rate than younger ones, the latter age groups are more susceptible to psychological maladjustment. According to a study, young people are more likely to become stressed due to their propensity to gather data via social media. Any pandemic not only compromises physical health but also seriously harms mental health. People with mental illnesses frequently encounter prejudice and feel excluded when they undergo treatment for their physiological health needs during a pandemic. Due to the precarious conditions, a certain demographic is more susceptible to mental issues.

The present study had some limitations also. Self-rating scales were employed to measure mental health, alcohol misuse, anxiety, and depression. It was difficult to conduct a face-to-face, in-depth interview because the entire country was on lockdown. As a result, there is always a chance of making an incorrect or hasty judgement. Self-report data are additionally susceptible to bias due to social desirability. Social desirability bias could be present in the findings as the COVID-19 pandemic draws widespread attention worldwide.

The current study offers information on the detrimental psychological impacts and related issues of COVID-19. According to a study, having COVID-19 or a similar infection is not a requirement for developing psychological problems and disorders, such as anxiety, depression, and alcohol use disorder. Rather, external factors, such as being confined to one's home for an extended period of time, contracting an infection from family members or friends, or losing a loved one, can worsen one's overall mental health and well-being.

The prevalence of AUD, depression, and anxiety was concerning because they could all quickly turn into serious psychiatric disorders over time. Many people developed psychological problems as a result of isolation and extensive economic loss. The problematic respondents' psychological issues were linked in a variety of ways. For its 1.3 billion residents, the health ministry has been offering online consultations as emergency psychological remedies; nevertheless, more social media and internet advertising are needed for it to be successful. To ensure an adequate focus on psychological and economic rehabilitation and to get over current study constraints, more research is required.

### Conclusion

A large portion of respondents reported mental health problems during the

COVID-19 pandemic in Madhya Pradesh. The present study suggests longitudinal assessments of mental health among Madhya Pradesh people to determine the gravity of this issue during and after the pandemic. Appropriate supportive programmes and interventional approaches would address mental health problems in Madhya Pradesh during the COVID-19 pandemic.

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