



PSYCHOLOGICAL STATES OF INDIANS DURING THE SECOND WAVE OF COVID-19

Community Medicine

Sachin Chaudhary Assistant Professor, Autonomous State Medical College, Shahjahanpur, Uttar Pradesh.

Preeti Verma Assistant Professor, Government Medical College, Kannauj, Uttar Pradesh.

Mridulesh Kumar Yadav Assistant Professor, Autonomous State Medical College, Pratapgarh, Uttar Pradesh.

Murshid Kamal Assistant Professor, Department of Statistics and Operations Research, Aligarh Muslim University, Aligarh, Uttar Pradesh.

Srikant Gupta Assistant Professor, Department of Operations and Decision Sciences, Jaipuria Institute of Management, Jaipur, Rajasthan.

ABSTRACT

This study is an attempt to explore the mental well-being of Indian citizens during the second wave of COVID-19. The findings show that those with inadequate supplies to manage the lockdown are more vulnerable, and family prosperity is adversely connected to stress, anxiety and depression. Students and private sector employees more encountered stress, anxiety and depression as compared to others. The current study analyzes the psychological well-being during the second wave of COVID-19 outbreak in India. Many higher and middle-class Indians have been affected by the rampant attack of coronavirus in the second wave of COVID-19. The researchers employ online Google-forms to collect data, avoiding a larger proportion of the population that does not have access to the internet, as well as especially underprivileged persons. Cognitive emotion regulation techniques may be a useful focus for preventative and therapeutic mental health interventions. This article examines to what extent the second wave of COVID-19 in India has made various groups more vulnerable to psychological issues.

KEYWORDS

COVID-19; Stress; Depression; Anxiety; Indian People.

INTRODUCTION

COVID-19 is very infectious, causes severe acute pneumonia, high fever, exhaustion and dyspnea, infecting the respiratory system. In Hubei province in Southern China, the first COVID-19 case was found (Cai et al., 2020). The virus is characterized by quick transmission. The number of cases affected was 83 million worldwide by the end of 2020. Globally 18.6 million new cases were identified in December 2020, the most significant number of cases within a month. In December, 35% of the cases were found in North America, followed by 32% in Europe and 21% in Asia. Owing to its accelerated transmission, the World Health Organization proclaimed it a pandemic and predicted its essential impact on global health networks. India is also seriously influenced by COVID-19, the second-largest country globally with a rural and urban emerging economy. On 27 January 2020, India reported the first COVID-19 occurrence (Mukhra et al., 2020). The nation then declared a contingency plan for emergencies, which will contain the massive dissemination of the disease. India's first 1 lakh infection happened on 18 May 2020, and 10 Lakhs crossed on 17 July 2020. By 31st December 2020, a total of 10,266,674 coronaviruses, including 257,656 active cases, 9,860,280 remediated cases and 148,738 total deaths, were recorded in the country (Roy et al., 2020). Since the mid-March 'second wave' of the COVID-19 pandemic, India has struggled to get rid of an increasingly deteriorating situation. Hospitals in some states of India are struggling with the sudden increase in infection. The continuous need for beds, ventilators, oxygen supplies, and medicines such as remdesivir has failed to match-up with the demand. According to Samarasekera (2021), COVID-19 terrible second wave has crippled India's health system and the whole nation. Patients were turned away from hospitals because of a lack of oxygen and crematoriums were out of room in numerous towns and states. COVID-19 had caused more over 26.4 million confirmed cases and over 274 000 fatalities in India as of May 18.

One in five infections worldwide is currently recorded in India due to the significant second wave of COVID-19 throughout the country. New coronavirus strains partly back the increase, and many experts consider that 61 percent of samples of the genome in Maharashtra, a worst-hit district, have more infectious home-growth variants. The lack of prevention, along with the presence of new varieties, contributed to a national crisis. Many states recorded hospital bed shortages, oxygen supplies, drugs, and even morgues and crematory spaces. Considering the first and second waves of COVID-19, which struck India respectively in 2020 and 2021, there is no significant shift in the way COVID-19 has affected different age groups on both waves (MOFW, 2020).

COVID-19 not only killing people by the virus but also because of the economic and mental breakdown, where unemployment and starvation have plagued developed countries. During the first phase, from 24 March to 31 May, India imposed a four-phased lockdown for 68 days to handle COVID-19. However, in the present COVID-19 situation, whether the virus or starvation has dominant effects in India remains unclear (Anjum et al., 2020). Therefore, the debate is how India is prepared to cope with the present crisis, negative consequences on the economy, human lives, and the climate alongside different approaches to overcoming this pandemic. The life of Indians spans urban and rural areas, and COVID-19 has affected them both. In all big metro and capital cities in the Indian States, transmitting disorder was formerly epicentre. However, the condition is genuinely traumatized in both rural and urban areas. COVID-19 has also had a negative influence on human development. Firstly, the propagation of COVID-19 was tamed, and social distance steps were taken. Since 15 April, 1.3 billion people in India have been again lockdown partially during the second phase.

Social distancing, recommended in India, is hard to obey in slums or shelters for the urban poor. Due to abrupt lockdown, enforcement threw millions of migrants into an unpredictable future without their homes, food and jobs. More than 50 million individuals migrated to Maharashtra and Delhi for jobs from Assam, Bihar, Uttar Pradesh, Odisha, Punjab, Rajasthan, Madhya Pradesh, and West Bengal. Because of the lockdown, they had to drive out of their hometowns and head back to their homes (Ranscombe, 2020). Staff, pregnant women and older people were required to walk in a shortage of transport facilities (Mukhra et al., 2020). Therefore, after the Indian Partition in 1947, India witnessed the second-highest reverse mass in its history. Migrants are expected to face major psychosocial problems with the COVID-19 pandemic and lockdown (MOFW, 2020; Choudhari, 2020). Risk management system to reduce COVID-19 infection in health personnel studied by Trejo et al. (2023). and Hernández-Rincón et al (2022) studied about Public Resistance to Vaccination During Epidemics: The Example of COVID-19

In this research, we examined to what extent the second wave of the COVID-19 in India has made various groups more vulnerable to psychological issues. We also studied the various aspects of mental well-being and suggested interventions for mental health.

Literature Review

In this pandemic, people experiences fear of getting infected with the virus/disease resulting in anxiety, stress, and depression, etc. Some of

the author carried out a systematic study and meta-analysis of healthcare professionals during a COVID-19 pandemic to quantify the incidence of anxiety, depression, trauma-related and chronic fatigue (Marvaldi et al., 2021). Lockdown, i.e. home confinement as a means to reduce outbreaks of infection but can also profoundly affect physical and mental well-being (Erren et al., 2020; Wang et al., 2020). Social insulation as a means of mitigating infection cuts the access of families, friends and other social networks, which can result in isolation, fear and depression (Zhou et al., 2020), and encourages the greater use of interactive technologies, which can change and undermine the routines of sleep, physical exercise and mind-welfare. Reseasher's also indicated that mental health conditions should be considered and treated as a pandemic, such as anxiety, stress, apprehension, trauma, helplessness and other emotional concerns (Kumar and Nayar, 2020). A literature review showed that the COVID-19 pandemic negatively affected consequences for mental health such as depression, fatigue, post-traumatic stress, wrath, and a sense of social alienation and loneliness (Anjum et al., 2020). Healthcare staff are claimed to be more vulnerable, and the degree of psychological effect has been correlated with other causes such as wage loss and quarantine (Röhr et al., 2020). Depression has reportedly been moderate for researchers and practitioners in medicine, reflecting the effects of the substantial growth of coronavirus in mental health (Roy et al., 2020). On the other hand, students were mildly stressed, possibly due to improvements in daily living and their teaching-learning habits. Increased suicide and psychiatric illnesses linked with suicide were expected to be caused by confusion and fears caused by the epidemic and the mass ripple and economic decline (McIntyre and Lee, 2020).

During COVID-19, another significant factor is stigmatization and cultural denial of quarantined cordon due to discrimination, distrust and community avoidance, property insecurity, job loss, and removal from society after this pandemic (Brooks et al., 2020). The accelerated growth of this coronavirus has affected all age groups of society on such a vast scale (Hasan and Bao, 2020). The continuing expansion of the virus, transport limitations and closing of educational institutions around the country are likely to have a significant impact on the mental well-being of every individual (Odriozola-gonzález et al., 2020). Researcher's believed that anxiety problems among the youths during the COVID-19 period are due to weak economic conditions, restrictions in day to day routine and impeded other social activities (Cao et al., 2020). Recently, a web-based survey of the COVID-19 pandemic showed that coping is an influence of psychological distress, that is, those with negative coping styles suffering from higher levels of psychological distress, including nervousness, hopelessness and restlessness (Wang et al., 2020). Some studies indicated that many could suffer deep mental wounds from COVID-19. The authors also suggested that COVID-19 breaks the fibre of our most essential methods of dealing with the situation of pandemic and demands new ways of responding and thinking about crisis due to its unpredictability (Qiu et al., 2020). Researcher's investigated that the prevalence of depression, anxiety and stress in a group of healthcare professionals. Also, they analyzed the links between the capacity to control emotionally, context-sensitivity related to depression, anxiety and stress (Lenzo et al., 2021). Researcher's also explored pathological versatility and durability in COVID-19 as possible resilience factors and shown that all of these factors are adversely related to depression, anxiety and insomnia symptoms (McCracken et al., 2021). The effect of the COVID-19 pandemic on psychiatric distress were reported globally and found causes that could aggravate mental health deterioration (Varma et al., 2021). The authors reported that the connections between stress, depression and anxiety are substantially influenced due to poor sleep, low resilience, younger age and loneliness.

METHODOLOGY

To construct and plan the questionnaire, the questions were firstly developed based on current information, theories and research done by the professionals in depression, anxiety and stress-induced due to COVID-19. Between April to May 2021, data on depression, anxiety, and stress were gathered via an online interrogative through a simple random technique. Because of the unfolding situation with the outbreak of COVID-19, it has been decided that for the sampling techniques, a questionnaire on Google Forms (<https://www.google.com/forms/about>) has been sent to people via online platforms, social media and e-mails to various partners.

Study Design

A web-based survey was conducted to students through the medium of Google online platforms from 25 April to 15 May 2021. Four

subgroups were created in the online questionnaire:

- The participants were asked to explain their general demographics, such as age, residential area, etc.
- Three sections were created based on stress, depression and anxiety.
- Participants were asked to evaluate the seven factors differently for stress, depression and anxiety.

This survey study aims to investigate the impact of the second wave of the COVID-19 pandemic on the Indian population based on stress, depression, and anxiety.

Participants

The social and demographical variables included age, sex, marital status, level of education, employment, family size, and domicile. All Indian citizens ≥ 18 years were eligible for the study. A total of 2000 individuals completed the questionnaire, of which 950 were women and 1050 were male. Most of the respondents belong to (30-40) age group, while 34.8% were unmarried and 33.1% were married. Education-wise 33.1% were 10 or 12 or Diploma pass-out and 33.2% and 33.8% were graduated, and post-graduated respectively. Occupation wise 21.5% and 19.1% were public and private servants, and 19.7% were unemployed. Out of the total, 50.8% were rural residents, and 49.2% were urban residents. About 32.1% had 1-4 family members, 34.7% had 5-8 family members, and 33.2% have more than nine family members in their home.

Table 1: Demographic Characteristics

Demographic Characteristics	Frequency(%)
Age	
18-30	609 (30.5)
30-40	721 (36.1)
>40	670 (33.5)
Gender	
Male	1050 (52.5)
Female	950 (47.5)
Marital Status	
Unmarried	696 (34.8)
Married	662 (33.1)
Divorce, Separate	642 (32.1)
Education Level	
10 or 12 or Diploma	661 (33.1)
Graduation	664 (33.2)
Post-graduation	675 (33.8)
Occupation	
Student	396 (19.8)
Housewife	409 (20.5)
Public	419 (21.5)
Private	382 (19.1)
Unemployed	394 (19.7)
Family Member	
1-4	642 (32.1)
5-8	694 (34.7)
9+	664 (33.2)
Residence	
Rural	1016 (50.8)
Urban	984 (49.2)

COVID-19 Related Depression, Anxiety And Stress Factors

The following factors have been investigated wrt COVID-19 during the second wave: (1) Infected with Coronavirus (yes vs. no), (2) Relative died or infected with Coronavirus (yes vs. no), (3) Daily COVID-19 follow-up's (yes vs. no), (4) Choas in the family (yes vs. no), (5) Difficulty in carrying out the daily task (yes vs. no), (6) Stigmatized or labelled if get sick, (yes vs. no), (7) Changes in social life (yes vs. no).

Depression Anxiety Stress Measurement

The DASS-21 (Lovibond and Lovibond, 1995), also known as the depression-anxiety-stress scale, is a widely used self-identified tool to screen depression, anxiety and stress. This scale is also used to measure mental comorbidity in the duration of COVID-19. "DASS-21 consists of 21 Likert-type items and presents 3 factors: Depression (items: 3, 5, 10, 13, 16, 17, and 21), Anxiety (items: 2, 4, 7, 9, 15, 19, and 20), and Stress (items: 1, 6, 8, 11, 12, 14, and 18)". The sum of the scores on the answers to particular variables is used to categorise the multiple measurements. This scale includes 21 items split evenly into three sub-

scales of stress, anxiety and depression with seven items. The scale ranges from 0("never") to 3("always") with four Likert scales. The recommended cut-off for the depression includes 0-9(Normal), 10-13(Mild), 14-20(Moderate), 21-27(Severe), 28+(Extremely). The recommended cut-off for the anxiety includes 0-7(Normal), 8-9(Mild), 10-14(Moderate), 15-19(Severe), 20+(Extremely). The recommended cut-off for the stress includes 0-14(Normal), 15-18(Mild), 19-25(Moderate), 26-33(Severe), 34+(Extremely). The scale's reliability was evaluated with Cronbach's alpha (α), differing according to the factor: it was 0.726 for depression, anxiety was 0.826, and stress was 0.715. The reference used the indexes for the correlation to ensure the relevance of the questionnaire: anxiety and stress ($r = 0.70$), depression and stress ($r = 0.69$) and depression and anxiety ($r = 0.68$) on the same scale, showing the close, positive and solid relationship between the variables.

Data Analysis

Data analysis was performed by using Statistical Packages for Social Sciences (SPSS) version 22.0. Descriptive studies have been carried out to identify the socio-demographic features and influences linked to COVID-19. The prevalence of age-gender is stratified into depression, anxiety and stress, and the Chi-square test was used to determine the difference between categories and t-test and ANOVA. To explore the possible contributing factors for depression, anxiety and stress, logistic regression testing was carried out. The results of regression tests with a 95 percent confidence interval (CI) were stated by the odds ratio (OR). If the p-value was below or equal to 0.05, the variables' interaction was considered statistically significant.

RESULT

Out of 2000 respondents, 49% were non-depressed, 21% were highly severe depressed, 20% were severe depressed, 19% were moderately depressed, 11% were mildly depressed, and 29% were normally depressed during the lockdown in India. The study reveals that 49% of the respondent were non-anxious, 21% were extremely severe and severely anxious, 19% were moderate anxious, 8% were mild anxious and 31% normally anxious during the lockdown in India. Further, it was also found that during the lockdown, 36% were usually stressed, 10% were mild stressed, 20% were severely stressed, and 17% were extremely severe and moderate stressed. The degree of depression, anxiety and stress among the respondent is shown in Figure 1.

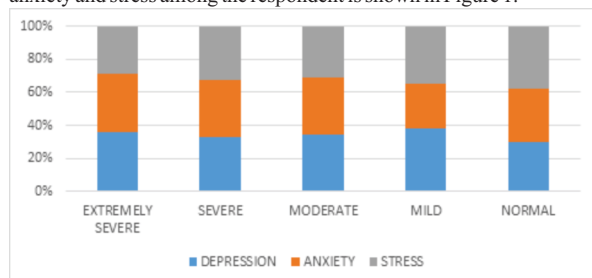


Fig. 1: Degree of Depression, Anxiety and Stress

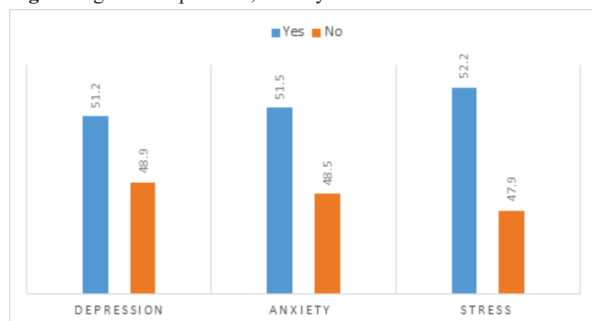


Fig. 2: Existence of Depression, Anxiety and Stress

The existence of depression, anxiety, and stress was shown in Figure 2. Because of the cut-off score of 14 for the subscale of depression, 51.2 per cent have encountered depression during an outbreak of COVID-19. Similarly, we observed that 51.5 per cent of the participants were anxious when we took a 10-point cut-off for the anxiety subscale; 52.2 per cent had stress, given the 19-point cut-off for the stress subscale. Some observation drawn from the collected data includes:

- For different age-groups, significant differences were reported on

stress and anxiety, while no significant differences were reported on depression. Different age-groups were found with mild to severe level of stress and anxiety, along with moderate level of depression.

- For gender, no significant differences were reported on depression, while significant differences were reported on stress and anxiety. Male and female were found with mild level of depression, along with moderate to extreme severe level of stress and anxiety.
- For marital status, significant differences were reported on stress, depression and anxiety. Unmarried, married, separate or divorce were found with mild to extreme severe level of stress, depression and anxiety.
- For education, significant differences were reported on stress, depression and anxiety. 10 or 12 or Diploma holder, undergraduate and post-graduate were found with normal to moderate level of depression and anxiety, along with mild to severe level of stress.
- For occupations, significant differences were reported on stress, depression and anxiety. Student, housewife, public, private, and unemployed person were found with normal to severe level of depression and anxiety, along with mild to severe level of stress.
- For family members, significant differences were reported on anxiety, while no significant differences were reported on stress and depression. People's were found with moderate to extremely severe level of anxiety, along with moderate level of stress and depression.
- For residence, significant differences were reported on stress, depression and anxiety. Rural and urban people's were found with mild to severe level of stress, depression and anxiety.

Table 2: Existence Of Depression, Anxiety And Stress Among Indians (stratified By Age)

Variable	Age			Value	df	p-value
	18-30	30-40	>40			
Depression						
Yes	314	362	347	0.407	2	0.013
No	295	359	323			
Anxiety						
Yes	310	382	338	1.018	2	0.037
No	299	339	332			
Stress						
Yes	327	362	354	1.798	2	0.022
No	282	359	316			

Tables 2 and 3 respectively showed the existence of depression, anxiety and stress, categorized by age and gender. The results of this analysis show that the significant existence of depression ($\chi^2=0.407$; p-value=0.013), anxiety ($\chi^2=1.108$; p-value=0.037), and stress ($\chi^2=1.798$; p-value=0.022) among the participants during COVID-19 outbreak. In this study, there were no statistically significant variations in the existence of depression ($\chi^2=0.385$; p-value=0.085) and anxiety ($\chi^2=0.687$; p-value=0.217) by gender. However, stress ($\chi^2=4.793$; p-value=0.016) is found to be statistically significant among the gender of the participants.

Table 3: Existence Of Depression, Anxiety And Stress Among Indians (stratified By Gender)

Variable	Gender		Value	df	p-value
	Male	Female			
Depression					
Yes	544	479	0.385	1	0.085
No	506	471			
Anxiety					
Yes	550	480	0.687	1	0.217
No	500	470			
Stress					
Yes	572	471	4.793	1	0.016
No	478	479			

Table 4: COVID-19 Factors Connection With Depression

Variable	Total	Yes	OR	95%CI	p-value
Infected with Corona virus					
Yes	965	521	1.070	(.898-1.275)	0.047
No	1035	502	1		
Relative died or infected with Corona virus					
Yes	997	507	0.977	(.819-1.164)	0.041
No	1003	516	1		

Daily COVID-19 follow-up's					
Yes	1012	529	1.095	(.919-1.305)	0.032
No	988	494	1		
Chaos in the family					
Yes	1027	514	0.913	(.766-1.089)	0.016
No	973	509	1		
Difficulty in carrying out daily task					
Yes	989	488	0.867	(.727-1.033)	0.060
No	1011	535	1		
Stigmatized or labeled if get sick					
Yes	966	514	1.173	(.984-1.398)	0.047
No	1034	509	1		
Changes in social life					
Yes	995	517	1.067	(.895-1.271)	0.024
No	1005	506	1		

Table 5: COVID-19 Connection With Anxiety

Variable	Total	Yes	OR	95%CI	p-value
Infected with Corona virus					
Yes	965	489	0.938	(.787-1.118)	0.025
No	1035	541	1		
Relative died or infected with Corona virus					
Yes	997	530	1.142	(.958-1.361)	0.076
No	1003	500	1		
Daily COVID-19 follow-up's					
Yes	1012	505	0.878	(.737-1.047)	0.080
No	988	525	1		
Chaos in the family					
Yes	1027	534	1.042	(.874-1.241)	0.034
No	973	496	1		
Difficulty in carrying out daily task					
Yes	989	498	0.913	(.766-1.080)	0.016
No	1011	532	1		
Stigmatized or labeled if get sick					
Yes	966	505	1.062	(.891-1.266)	0.026
No	1034	525	1		
Changes in social life					
Yes	995	518	1.046	(.877-1.246)	0.032
No	1035	512	1		

Table 6: COVID-19 Connection With Stress

Variable	Total	Yes	OR	95%CI	p-value
Infected with Corona virus					
Yes	965	496	0.943	(.792-1.125)	0.027
No	1035	547	1		
Relative died or infected with Corona virus					
Yes	997	522	1.017	(.853-1.212)	0.044
No	1003	521	1		
Daily COVID-19 follow-up's					
Yes	1012	542	1.121	(.940-1.336)	0.019
No	988	501	1		
Chaos in the family					
Yes	1027	557	1.188	(.966-1.416)	0.030
No	973	485	1		
Difficulty in carrying out daily task					
Yes	989	509	0.947	(.795-1.129)	0.028
No	1011	534	1		
Stigmatized or labelled if get sick					
Yes	966	498	0.955	(.801-1.138)	0.031
No	1034	545	1		
Changes in social life					
Yes	995	509	0.924	(.775-1.101)	0.023
No	1005	534	1		

In this paper we have identified six different factors that was affecting individuals during the COVID-19 outbreak. COVID-19 associated factors that predict depression among the individuals is shown in Table 4. Following factors are found to be statistically significant with depression and it includes, infected with COVID-19 (OR=1.070, 95% CI=0.898-1.275, p-value=0.047), relative died or infected with COVID-19 (OR=0.977, 95% CI=0.819-1.164, p-value=0.041), daily COVID-19 follow-up (OR=1.095, 95% CI=0.919-1.305, p-value=0.032), chaos in the family (OR=0.913, 95% CI=0.766-1.089, p-value=0.016), stigmatized or labeled if get sick (OR=1.173, 95% CI=0.984-1.398, p-value=0.047), changes in social life (OR=1.067,

95% CI=.895-1.271, p-value=0.024), only difficulty in carrying out daily task (OR=0.867, 95% CI=0.727-1.033, p-value=0.060) is found to be not statistical significant with depression.

COVID-19 associated factors that predict anxiety among the individuals is shown in Table 5. Following factors are found to be statistically significant with anxiety and it includes, infected with COVID-19 (OR=0.938, 95% CI=0.787-1.118, p-value=0.025), chaos in the family (OR=1.042, 95% CI=0.874-1.241, p-value=0.034), stigmatized or labeled if get sick (OR=1.062, 95% CI=0.891-1.266, p-value=0.026), changes in social life (OR=1.046, 95% CI=0.877-1.246, p-value=0.032), difficulty in carrying out daily task (OR=0.913, 95% CI=0.766-1.080, p-value=0.016), only relative died or infected with COVID-19 (OR=1.142, 95% CI=.958-1.361, p-value=0.076), daily COVID-19 follow-up (OR=0.878, 95% CI=.737-1.047, p-value=0.080) are found to be not statistical significant with depression. COVID-19 associated factors that predict anxiety among the individuals is shown in Table 6. All the considered factors are found to be statistically significant with stress and it includes, infected with COVID-19 (OR=0.943, 95% CI=0.792-1.125, p-value=0.027), relative died or infected with COVID-19 (OR=1.017, 95% CI=0.853-1.212, p-value=0.044), daily COVID-19 follow-up (OR=1.121, 95% CI=.940-1.336, p-value=0.019), chaos in the family (OR=1.188, 95% CI=0.966-1.416, p-value=0.030), difficulty in carrying out daily task (OR=0.947, 95% CI=.795-1.129, p-value=0.028), stigmatized or labeled if get sick (OR=0.955, 95% CI=0.801-1.138, p-value=0.031), changes in social life (OR=0.924, 95% CI=.775-1.101, p-value=0.023).

DISCUSSION

COVID-19 has been plaguing human society for more than a year and a half, forcing us to confront the force of mother nature. Indians believed they had the situation under control after the first wave, but the second wave left them in need of oxygen and medical supplies, among other basic requirements. Different approaches have been used by government in dealing with the two waves of extremism. Second wave reaction has been localised and led by the states, compared to the first wave's national lockdown response. The second wave began in Maharashtra in the west, moved north, and is presently peaking in the south of the country. This spread journey makes a national lockdown economically suboptimal. The first wave and its influence on the economy will help us better comprehend the second wave's economic impact. In the first wave, there was a protracted nationwide lockdown and a much smaller number of peak cases. A series of lockdowns had brought to a complete shutdown of manufacturing and the urban economy, but rural economies continued to function. The initial wave's expansion was largely in urban. After five months, urban regions had more instances than rural ones. Rural regions began reporting more cases than urban areas in the second wave as early as the second month. According to a study of more than 50 districts, 26 were located in rural regions. Maharashtra, Andhra Pradesh, and Kerala's rural districts were the most hit. The issue was further worsened by the lack of medical facilities in rural regions and the influx of patients from villages and smaller towns to metropolitan cities.

Considering the concerns about psychiatric disorders worldwide (Xiang et al., 2020) suggested prompt intervention in the COVID-19 times on mental health. In addition, the World Health Organization (WHO, 2020) released guidelines on the psychological concern of humans that may arise during the current pandemic. In this analysis, the findings of the COVID-19 outbreak on mental well-being and associated locking interventions for the general population in India were reported. This study shows that people are in depression, anxiety and stress during the COVID-19 outbreak. These findings have been linked to many risk factors specific to COVID-19, such as infected with COVID-19, a relative died or infected with COVID-19, daily COVID-19 follow-up, chaos in the family, difficulty in carrying out the daily task, stigmatized or labelled if get sick, and changes in social life. The current pandemic COVID-19 culminated in various quarantine and stigmatization acts to physically hold people apart from others in the near future. Data from various participants, including students, housewives, public sector employees, private sector employees, and unemployed, have been gathered for this study.

In terms of sex disparities in stress, anxiety and depression, both males and females were similarly affected. While lockdown and other measures are essential in order to avoid the spread of the current coronavirus, they may have pervasive effects on the health of younger

and older people, including depression, anxiety and stress. This is because old age raises the risk of infection and death associated with COVID-19. There was slightly significant depression, anxiety and stress among divorced people or in non-marital relationships due to loneliness and no substantial correlations between married groups were identified (Matthews et al., 2016). State of work can lead to depression, anxiety and stress. Unemployed and private sector workers faced increased stress and depression. Unemployed people and private sector workers reported more significant stress while students experienced higher levels of depression. However, the family size was not reported significantly to be associated with mental health problems. Fear of infection is also closely linked to mental health conditions, as seen in this paper. Individuals worry that the infection will spread to their families or associates without the understanding that they will be COVID-19 or that they will become asymptomatic that will induce clinical symptoms. In India, the government has to be focused on the complete vaccination of 53 cities with over one million population each. They are centres of economic development and must be removed from the possibility of a third wave. This second wave's influence on diverse segments of society is summarized in the following below points:

- It is estimated that more than 1.7 million homeless individuals are affected by this second wave of the pandemic, which has had significant repercussions for their vulnerability and exposure to ill health. While cleanliness and hunger make children more susceptible to illness, other limitations have a negative influence on their mental and social well-being, leading to mental problems such as schizophrenia and intellectual impairment as well as substance abuse misuse. Mental illness impacts physical well-being, resulting in a downward spiral of health and quality of life. More elderly individuals are seeking therapy or treatment for psychological disorders such as sadness, worry, insomnia, fear, and stress in the second wave of the pandemic.
- Due to a lack of health infrastructure in rural regions, migrants are less equipped to deal with this shock due to their recollections of the uncertainty and fear caused by the economic shock during the first wave of migration. As an example, 68 percent of health care professionals have no formal schooling. The problem is compounded by vaccination reluctance, which is a result of the fact that the illness is new and there are many unknowns. Due to this, many people are clueless and anxious, expressing their feelings via a lack of confidence in official vaccination information, a predisposition to believe in conspiracy theories, and dread of probable adverse effects. As a result, migrant workers engage in more hazardous health and health-seeking behaviors. In addition, in certain communities, returnees have not been "welcomed back", to put it gently, which has implications for their physical and emotional health.
- A factor at least partially responsible for the rapid increase of active cases was the perception that preventative measures such as physical separation were less important after the end of the first wave, as social gatherings resumed in full swing after the first wave. Mental state and psychological well-being have been affected by the pandemic in this community during the last year. Heavy workloads, concerns about infection, scarcity of medical supplies, and the financial strain of medical care have all contributed to psychological stress. Unfortunately, many of these fears were confirmed during the second wave of the disaster. Specifically, students were unable to continue their studies as normal. As a result of the epidemic, many individuals in the middle class felt unsure and gloomy about the future, while social distance also affected interpersonal connections, empathy for others, and even the performance of key rites, such as funerals. The epidemic has also had a significant impact on the elderly, in part owing to their extended seclusion.
- Meanwhile, households with greater incomes were also fighting for their lives. In the second wave of the pandemic, many people had difficulty getting healthcare, although having a better adaptive capacity in general. For example, if there were a scarcity of medical equipment, the situation could not be remedied by just throwing money at it; the ability/willingness to pay any amount was not sufficient. Second-wave COVID acted as a "great social equalizer" in India. The poor and vulnerable were definitely affected considerably harder, even if it was only in a limited way.

Even when there is no epidemic, India has huge socioeconomic gaps between the different sectors of the population. The epidemic has worsened this, highlighting how disparities in material circumstances

in employment, education, income, and housing all affect on health status and health consequences. Despite the fact that this pandemic (particularly the second wave) has disproportionately afflicted those at the bottom of the socioeconomic pyramid, it can nevertheless have good results if it is exploited as a chance to overcome long-standing imbalances in society. In the thick of the second wave, it's hard to discern a silver lining.

CONCLUSION

The current study analyzes the psychological well-being during the second wave of COVID-19 outbreak in India. The second COVID-19 wave will probably be depleted by the end of July and is predicted to record about 20,000 or even fewer cases a day in July. Many higher and middle-class Indians have been affected by the rampant attack of coronavirus in the second wave of COVID-19. In the last two months of the second wave of COVID-19, thousands of lives have been lost to the pandemic. Many of us have received at least one message or call from a colleague or friend demanding assistance to get hospitalization or acquire medication.

In contrast to the first wave, since there is a local lockdown in place, a greater adaptation of people to work from home, online distribution models, e-commerce and digital payments, the effect of the second wave on the real economy seems minimal far. The findings showed that during the lockdown time in India, a large proportion of participants reported depression, anxiety and stress. The analysis further reveals that COVID-19 factors have a significant influence on individuals' mental health. Overall, people's socio-economic circumstances caused public uncertainty and disturbed human life without ensuring the basic need for human life, along with poor governance, communications, healthcare facilities, and infrastructure during the lockdown. Therefore a timely approach is essential that will help to tackle the pandemic and promote the general mental well-being of the people.

India has just recovered from COVID-19 pandemic's second wave while Maharashtra and Kerala raises the alarm for the third wave of infection. SARS-CoV-2 delta mutant was blamed for the second wave of the coronavirus epidemic. Last year, Maharashtra was the first state to report the Delta strain. Despite not being designated as a variation of concern, Delta Plus has already been discovered. In March of this year, the Delta Plus strain was first discovered in Europe. Same samples from India and approximately ten other nations have been found to contain the pathogen. Delta Plus is a mutant form of Delta. However, for some time, it is not known, that the Delta Plus form is more contagious or more lethal than the Delta version. But after sometime, it has been determined that the delta variation is more lethal and capable of generating a more severe COVID-19 infection, leading to a greater rate of hospitalization. Viruses and other organisms benefit from successful mutations because they allow them to flourish. A third wave of SARS-CoV-2 is expected, and the Delta Plus form has become a major source of concern. However, lessons learned from the last two rounds of COVID-19 pandemic can be used to minimize or lessen the threat.

As the number of cases drops, more and more states are opening up. As a result of COVID's constraints, both the public and government need economic activity to accelerate. COVID-19 protocol seems to be laxly enforced by authorities once limitations were relaxed. COVID-19 epidemic returned to India after a few months of first phase of COVID-19 causing the largest global outbreaks. India can undo this lesson at its peril. Due of the COVID-19 epidemic, scientists were forced to create vaccinations at the fastest possible pace in order to protect themselves. The efficacy of SARS-CoV-2 mutant vaccines produced in laboratories varies depending on the candidate. Behavioral vaccinations, on the other hand, give the highest protection against all SARS-CoV-2 variations. Some of the behavioral vaccinations include wearing masks, exercising proper hygiene, and keeping a safe distance from others. Staggering the opening of markets and workplaces can help prevent congestion. Both public governments and private managements should choose for staggered schedules and locations, including the ongoing use of work-from-home modes to prevent the concentration of workers in one spot. This is more significant for businesses with a large number of employees working indoors than for organizations that rely on field personnel. As a result of the wind and sun, SARS-CoV-2 disintegrates more quickly in the interior environment than it does outdoors.

'Test, track and treat' It is the motto of health authorities across the

globe, including WHO. Despite this, this concept has mostly stayed on paper and has been less severely implemented on the ground due to a variety of factors. As the pandemic wave ebbs in India, now may be the best moment to guarantee that COVID-management syndrome does not set in, as it did during the first wave's retreat. Locally, fresh COVID-19 cases should be actively handled, contacts should be tracked, and the treatment regimen should be strictly followed. The best chance against Covid-19, say health experts, is vaccinations, despite regular controversy over their efficacy and usage of specific components, and rumors that have taken over internet. It is well known that pandemics and epidemics fizzle out when a population develops herd immunity, indicating the virus has no further growth potential. Vaccines artificially boost herd immunity. Indian immunization rates are remarkable in absolute terms, but not in percentage terms. Approximately 16 percent of India's eligible population (over the age of 18) has received vaccinations. UK coverage is 59%, US coverage is 50%, Israel's coverage is 62%, while Brazil's coverage is only 22%. India's immediate goal is to have a vaccine coverage rate of 40% against Covid-19. Vaccination of about 1 crore individuals each day might be required by the end of August in India. Daily doses of immunization in June stayed in the 30-35 lakh range. Vaccine production and supply are projected to recover by the end of the July month. Information that is irrelevant to the common man should not be the center of attention, though, wearing a mask and remaining indoors are all that's needed. Government authorities may not be able to stop a new COVID-19 wave, but citizens can.

REFERENCES

- Anjum, S., Ullah, R., Rana, M. S., Ali Khan, H., Memon, F. S., Ahmed, Y., Jabeen, S. & Faryal, R. (2020). COVID-19 Pandemic: A Serious Threat for Public Mental Health Globally. *Psychiatri Danubina*, 32(2), 245-250. <https://doi.org/10.24869/psyd.2020.245>
- Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *The Lancet*, 395(10227), 912-920. [https://doi.org/10.1016/S0140-6736\(20\)30460-8](https://doi.org/10.1016/S0140-6736(20)30460-8)
- Cai, H., Tu, B., Ma, J., Chen, L., Fu, L., Jiang, Y., & Zhuang, Q. (2020). Psychological Impact and Coping Strategies of Frontline Medical Staff in Hunan Between January and March 2020 During the Outbreak of Coronavirus Disease 2019 (COVID-19) in Hubei, China. *Medical science monitor: international medical journal of experimental and clinical research*, 26, e924171-1. <https://doi.org/10.12659/MSM.924171>
- Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J., et al. (2020). The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry Research*. <https://doi.org/10.1016/j.psychres.2020.112934>
- Choudhari, R. (2020). COVID 19 pandemic: mental health challenges of internal migrant workers of India. *Asian journal of psychiatry*, 54, 102254. <https://doi.org/10.1016/j.aip.2020.102254>
- Erren, T. C., Lewis, P., & Shaw, D. M. (2020). COVID-19 and "natural" experiments arising from physical distancing: a hypothetical case study from chronobiology. *Chronobiology International*, 37(7), 1115-1117. <https://doi.org/10.1080/07420528.2020.1779993>
- Hasan, N., & Bao, Y. (2020). Impact of "e-Learning crack-up" perception on psychological distress among college students during COVID-19 pandemic: A mediating role of "fear of academic year loss". *Children and Youth Services Review*, 118, 105355. <https://doi.org/10.1016/j.childyouth.2020.105355>
- Hernández Rincón, E. H., Lamus Lemus, F., Díaz Quijano, D. M., Rojas Alarcón, K. N., Torres Segura, J. J., & Acevedo Moreno, L. F. (2023). Resistencia de la población hacia la vacunación en época de epidemias: a propósito de la COVID-19. *Revista Panamericana de Salud Pública*, 46, e148.
- Kumar, A., & Nayar, K. R. (2020). COVID 19 and its mental health consequences. *Journal of Mental Health*, 1-2. <https://doi.org/10.1080/09638237.2020.1757052>
- Lenzo, V., Quattropiani, M. C., Sardella, A., Martino, G., & Bonanno, G. A. (2021). Depression, anxiety, and stress among healthcare workers during the COVID-19 outbreak and relationships with expressive flexibility and context sensitivity. *Frontiers in Psychology*, 12, 348. <https://doi.org/10.3389/fpsyg.2021.623033>
- Lovibond, P.F., Lovibond, S.H., (1995). The structure of negative emotional states: comparison of the depression anxiety stress scales (DASS) with the beck depression and anxiety inventories. *Behaviour research and therapy*, 33 (3), 335-343. [https://doi.org/10.1016/0005-7967\(94\)00075-U](https://doi.org/10.1016/0005-7967(94)00075-U)
- Marvaldi, M., Mallet, J., Dubertret, C., Moro, M. R., & Guessoum, S. B. (2021). Anxiety, depression, trauma-related, and sleep disorders among healthcare workers during the covid-19 pandemic: A systematic review and meta-analysis. *Neuroscience & Biobehavioral Reviews*. <https://doi.org/10.1016/j.neubiorev.2021.03.024>
- Matthews, T., Danese, A., Wertz, J., Odgers, C. L., Ambler, A., Moffitt, T. E., et al. (2016). Social isolation, loneliness and depression in young adulthood: A behavioural genetic analysis. *Social Psychiatry and Psychiatric Epidemiology*, 51(3), 339-348. <https://doi.org/10.1007/s00127-016-1178-7>
- McCracken, L. M., Badinlou, F., Buhrman, M., & Brocki, K. C. (2021). The role of psychological flexibility in the context of COVID-19: Associations with depression, anxiety, and insomnia. *Journal of Contextual Behavioral Science*, 19, 28-35. <https://doi.org/10.1016/j.jcbs.2020.11.003>
- McIntyre, R. S., & Lee, Y. (2020). Projected increases in suicide in Canada as a consequence of COVID-19. *Psychiatry research*, 113104. <https://doi.org/10.1016/j.psychres.2020.113104>
- Ministry of Health and Family Welfare- Government of India, Psychosocial Issues Among Migrants during COVID-19, 2020, 1-2. <https://www.mohfw.gov.in/pdf/RevisedPsychosocialissuesofmigrantsCOVID19.pdf>
- Mukhra, R., Krishan, K., & Kanchan, T. (2020). Covid-19 Sets off Mass Migration in India. *Archives of Medical Research*. <https://doi.org/10.1016/j.arcmed.2020.06.003>
- Odrizola-gonzález, P., Planchuelo-gómez, A., Jesús, M., & De Luis-garcía, R. (2020). Psychological effects of the COVID-19 outbreak and lockdown among students and workers of a Spanish university. *Psychiatry Research*, 290, Article 113108. <https://doi.org/10.1016/j.psychres.2020.113108>
- Qiu, J., Shen, B., Zhao, M., Wang, Z., Xie, B., & Xu, Y. (2020). A nationwide survey of psychological distress among Chinese people in the COVID-19 epidemic: Implications and policy recommendations. *General Psychiatry*, 33, e100213. <http://dx.doi.org/10.1136/gpsych-2020-100213>
- Ranscombe, P. (2020). Rural areas at risk during COVID-19 pandemic. *The Lancet Infectious Diseases*, 20(5), 545. [https://doi.org/10.1016/S1473-3099\(20\)30301-7](https://doi.org/10.1016/S1473-3099(20)30301-7)
- Röhr, S., Müller, F., Jung, F., Apfelbacher, C., Seidler, A., & Riedel-Heller, S. G. (2020). Psychosocial impact of quarantine measures during serious coronavirus outbreaks: a rapid review. *Psychiatrische Praxis*, 47(4), 179-189. <https://doi.org/10.1055/a-1159-5562>
- Roy, D., Tripathy, S., Kar, S. K., Sharma, N., Verma, S. K., & Kaushal, V. (2020). Study of knowledge, attitude, anxiety & perceived mental healthcare need in Indian population during COVID-19 pandemic. *Asian Journal of Psychiatry*, 102083. <https://doi.org/10.1016/j.aip.2020.102083>
- Samarasekera, U. (2021). India grapples with second wave of COVID-19. *The Lancet Microbe*, 2(6), e238.
- Trejo, R., Diaz-Torres, S. T., Franco, J., Jácome, J. A., Saleme, E., & Talavera, J. O. (2023). Risk management system to reduce COVID-19 infection in health personnelSistema de gestão de riscos para reduzir o contágio de COVID-19 em profissionais de saúde. *Revista Panamericana de Salud Pública= Pan American Journal of Public Health*, 47, e114-e114.
- Varma, P., Junge, M., Meaklim, H., & Jackson, M. L. (2021). Younger people are more vulnerable to stress, anxiety and depression during COVID-19 pandemic: A global cross-sectional survey. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 109, 110236. <https://doi.org/10.1016/j.pnpb.2020.110236>
- Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., & McIntyre, R. S. (2020b). Brain, Behavior, and Immunity A longitudinal study on the mental health of general population during the COVID-19 epidemic in China. *Brain, Behavior, and Immunity*. <https://doi.org/10.1016/j.bbi.2020.04.028>
- Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. C. (2020). Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *International journal of environmental research and public health*, 17(5), 1729. <https://doi.org/10.3390/ijerph17051729>
- WHO. (2020). Mental health and psychosocial considerations during the COVID-19 outbreak [Ebook]. Retrieved from <https://www.who.int/docs/default-source/coronavirus/se/mental-health-considerations.pdf>
- Xiang, Y.T., Yang, Y., Li, W., Zhang, Q., Cheung, T., Hg, C.H., (2020). Timely mental health care for the 2019 novel coronavirus outbreak is urgently needed. *Lancet Psychiatry*, 7(3), 228-229. [https://doi.org/10.1016/S2215-0366\(20\)30046-8](https://doi.org/10.1016/S2215-0366(20)30046-8)
- Zhou, X., Snowsall, C. L., Harding, L. E., Bambling, M., Edirippulige, S., Bai, X., & Smith, A. C. (2020). The role of telehealth in reducing the mental health burden from COVID-19. *Telemedicine and e-Health*, 26(4), 377-379. <https://doi.org/10.1089/tmj.2020.0068>