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## Psychological impact of COVID-19 lockdown on mental health and behaviour

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### ABSTRACT

**Background:** Novel Corona virus disease (COVID-19) pandemic and resultant lockdown due to increased spread of virus were likely to cause negative mental health problems ranging from anxiety, fear, depressive symptoms, sense of loneliness, sleep disturbances among the public.

**Objectives:** This study aimed to assess the fear, perceived stress, and psychological problems related to lockdown due to COVID-19 infection in India.

**Materials and methods:** An online survey was conducted among 246 people to evaluate how lockdown had affected one's emotions, feelings, and behaviors in different aspects of life using a self-administered questionnaire.

**Results:** Out of 246 participants, 61.8% (152) were males and 38.2% (94) were females. Due to lockdown, the respondents were sometimes affected mentally by worrying about getting infection (41.9%), checking COVID-19 spread data (73.2%), difficulty in sleeping (19.1%), difficult to get essentials (44.3%), worried or in stress due to economic condition and jobless (56.9%), excessive use of mobile phones and TV(59.8%), experiencing high level of loneliness(27.6%), feeling high level of anxiety, stress and sadness(28.9%) and loud arguments or fight with other family members(22%). Perceived Stress Scale also shows positive correlation that most of the respondents were sometimes affected due to COVID-19 pandemic and lockdown.

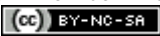
**Conclusion:** This study has revealed various risk factors of mental health during COVID-19 lockdown which helps mental health workers to strategize and deliver interventional methods to maintain psychosocial wellbeing of the population.

**Keywords:** COVID-19, Lockdown, Mental health, Stress, Anxiety

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## INTRODUCTION

On 31 December 2019, the World Health Organization (WHO) received information of cases of pneumonia of unknown cause in Wuhan City, China. The Chinese authorities has identified the cause as being a novel corona virus afterwards named the COVID-19 virus. Due to the rapid increase in the number of cases outside China, on 11 March 2020, WHO Director-General announced that the outbreak could be characterized as a pandemic. [1]

To prevent the rapid rise of cases in India and to curb the community spread, national level lockdown was declared starting from midnight of March 25, 2020 initially for 21 days, which was later extended up to May 3, 2020, with assurance that the basic needs of the general public will be taken care of. The period of lockdown has been characterized by travel restrictions and the mandatory closure of schools, nonessential commercial activities and industries. People were requested to stay at home and socially isolate themselves to prevent the spread.

While lockdown can be a significant and effective strategy of social distancing to tackle the increasing spread of the highly infectious COVID-19 virus, at the same time, it can have some degree of psychological impact on the public. It is well known that quarantine/isolation for any cause and in the context of a pandemic (Severe Acute Respiratory distress Syndrome, 2003) has been associated with significant mental health problems ranging from anxiety, fear, depressive symptoms, sense of loneliness, sleep disturbances, anger, etc., in the immediate few days of isolation, and later with symptoms of posttraumatic stress disorder and depression after discharge from the hospital.[2] However, the psychological impact of lockdown on the general public has not been properly studied yet.

Man being a social animal, such restrictions on free movements can lead to anger, frustration, loneliness and depressive symptoms. There can be fear/apprehension among the public related to supply of basic amenities like groceries and milk supplies, medicines, care of previously sick persons in the family due to other medical causes, elderly persons staying alone, restriction of free movements, having a prevailing sense of being imprisoned in one's own house or being in house arrest, etc., Moreover, lockdown can lead to a panic mode of stockpiling of essential commodities without maintaining social distancing as advised by the government.[3] Recent studies have shown that the COVID-19 pandemic affected the mental health. One recent narrative review (Rajkumar,

2020) comprises 28 articles addressing the issue of mental health revealed the presence of symptoms of anxiety, depression, and self-reported stress associated with disturbed sleep-in response to the pandemic. These articles include samples from China, Iran, Canada, Brazil, Singapore, India, and Japan. The results showed that variables such as female gender, being a student, having symptoms suggestive of COVID-19, and poor perceived health were associated with higher rates of anxiety and depression.[4] Other characteristics that contributed to stress and mental morbidity were unpredictability, uncertainty, seriousness of the disease, misinformation, and social isolation.

Therefore, the current study was planned with an aim to evaluate the psychological impact of lockdown on the general public with an objective to assess the fear, perceived stress, and psychological problems related to lockdown due to COVID-19 infection in India.

## MATERIALS AND METHODS

A cross sectional observational study was conducted among people of age above 18 from April 20 to June 20, 2020. A questionnaire has been developed to evaluate the effect of lockdown on relationship with family members/neighbors/significant others and how lockdown had affected one's emotions, feelings, and behaviors in different aspects of life. The questionnaire was completed in English and the data was collected through google forms which are anonymous to ensure confidentiality and reliability of data. The participants are required to complete an e-consent form prior to the self-administered questionnaire. The data was collected in 3 sections that composed of sociodemographic details, impact of lockdown on mental health and behavior and perceived stress scale.

The inclusion criteria included individuals who were Indian residents above 18 years of age, were literate and had access to our recruiting platforms, that comprised social networking forums, email services and various messenger groups. Individuals who were not well versed with the English language, did not having access to internet, or were not willing to participate were excluded. So, 400 participants were selected and sent questionnaire to them and only 246 participants were filled.

**Perceived stress scale:** It is a 10-item scale widely used to assess the perception of stress. It is a measure of the degree to which situations in one's life are appraised as stressful. Items were designed to tap how unpredictable, uncontrollable, and overloaded respondents find their lives. The scale also includes a number of direct queries about

current levels of experienced stress. [5] The questions are of a general nature and hence are relatively free of content specific to any subpopulation group. The questions in the perceived stress scale (PSS) ask about feelings and thoughts during the last month. It has adequate psychometric properties. [6]

The data was analysed by using standard statistical tools. Graphical representation of data was done by using Microsoft Excel and Word, which was also used to obtain various types of graphs like bar diagram and column diagram.

**RESULTS AND DISCUSSION**

**Sociodemographic Details:** During the survey, about 400 people to whom online questionnaire was distributed, only 61.5% (246) filled the questionnaire. Out of these 246 participants, 61.8% (152) were males and 38.2% (94) were females as in table 1. Out of the participants, 78% (192) were in the age group of 18- 27, 11.8% (29) were in 28-37, 4.9% (12) were in 38- 47, 2.8% (7) were in 48-57 and 2.4% (6) were in above 57 age group.

About majority of respondents were unmarried 81.3% (200) and most of them were resides in rural areas 55.7% (137). Of which half of the participants were graduates 50.4% (124) and most of them are students 65.9% (162). Because of this, they had little or no impact on their economy. But next to it most of them (28% of respondents) lost their savings and some of the employees lost their jobs (5.3%) as in figure 1. 39% of private employees are worried about their salary as it may increase the stress and the people serving in government sector are getting salaries so they don't have any problem.

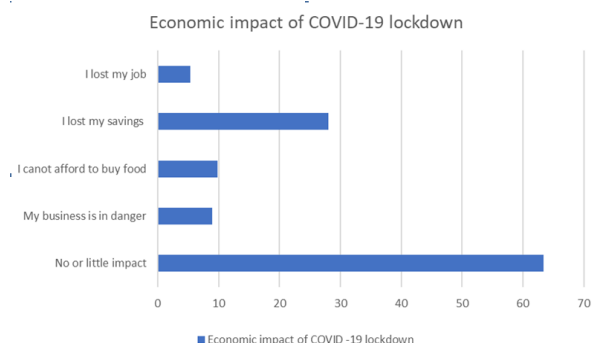


Figure 1: Economic Impact of COVID-19 Lockdown.

Only 5.7% (14) of respondents were smokers and 9.8% (24) were alcoholics. Due to sudden stop of alcohol intake and smoking, most of them feels various symptoms like mood swings, depression, stress, irritability, shivering and headache as in figure 2.

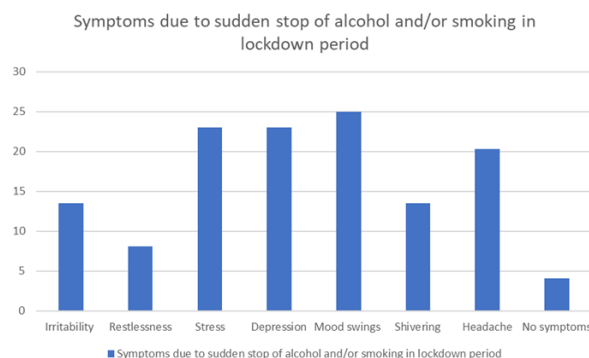


Figure 2: Symptoms due to sudden stop of alcohol and/or smoking during lockdown.

About 8.5% (21) of respondents having chronic diseases like Hypertension, Diabetes mellitus, Asthma and Epilepsy, as it may also increase the stress associated with fear of infection during hospital visits and their transportation to health care center. So, telehealth approaches have been adopted in some cases to avoid these exposures. Most of the respondents (53.7%) moved to home town before lockdown started and some of them moved during lockdown (10.6%).

**Impact of lockdown on mental health and behavior:** Lockdown is meant to prevent the spread of infection from one person to another, to protect ourselves and others. This means, not stepping out of the house except for buying necessities, reducing the number of trips outside, and ideally only a single, healthy family member making the trips when absolutely necessary. In this time, we hear about spread of COVID-19 from all over the world, through television, social media, newspapers, family and friends and other sources. The most common emotion faced by all is fear. It makes us anxious, panicky and can even possibly make us think, say or do things that we might not consider appropriate under normal circumstances.

Table 2 reveals that 41.9% of the respondents were worried about getting infected with corona virus disease and 47.6% of respondents getting afraid when their social circle members suffered from COVID- 19 like symptoms fever, cough, headache and fatigue.

Over 73.2% of respondents were checking daily details of COVID-19 spread data and 77.6% talked to their friends about the infection. 39.8% of respondents affected by the posts of social media and 19.1% feels difficulty in sleeping by being worried about corona virus pandemic. To avoid this, WHO released a newsletter which advices that minimize watching, reading or listening to news about COVID-19 that causes you to feel anxious or distressed and seek information only from trusted sources because the sudden and near-constant

stream of news reports about an outbreak can cause anyone to feel worried. [7]

55.7% of respondents gets all their essentials during lockdown and 44.3% doesn't get at all. The government also said it plans to set up a chain of 20 lakh retail shops called 'Suraksha Stores' across India which will provide daily essentials to citizens while maintaining stringent safety norms, news agency PTI reported.[8]

Due to lockdown, most of them spend their whole day at home by spending time with family members (68.4%), talking with friends (57.3%), active in social Medias (50.9%), playing games (45.3%), involved personal habits (42.3%).

About 56.9% of respondents feels worry or in stress during lockdown due to their economic condition, jobless, being apart from family due to lockdown and difficulty to get essential things. Figure 3 reveals the respondent's reason for feeling worried or in stress such as economic condition, promotion and hike in job, work pressure, transport facilities, study and exam.

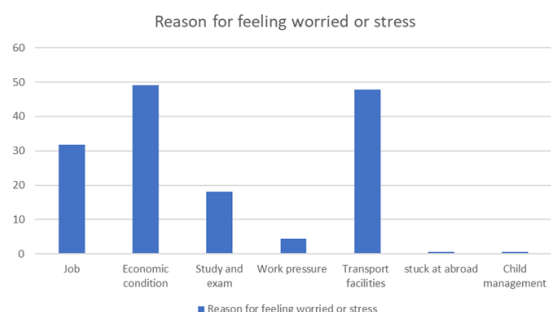


Figure 3: Reason for feeling worried or in stress during lockdown.

58.5% of respondent's think's that this lockdown would lead to economic crises in India. The pandemic has already resulted in income loss due to jobless or reduced income due to lockdown. Recently, news was circulated on the social media that mother because of food problem throws her five children into Ganga River (U.P, India) during COVID-19 lockdown. 2.8% of respondents contrary view holding that the economic problems existed prior to the spread of the pandemic virus as it correlates with Bilal Ahmad Bhat et al.[9]

Majority of the respondents (69.9%) agreed that COVID-19 lockdown will affect their education or their children's as it correlates with Shweta Singh et al. [10] while some of the respondents were of the view that through online classes the academic performance of the students can be secured and the future of the students can be saved. 36.6% (90) believed that the central government were taking adequate actions to control COVID-19. Likewise,

the government recently introduced the AarogyaSetu mobile application to educate citizens about novel coronavirus and help them make informed decisions amid the crisis. 32.9% (81) of respondents need more scrutiny to control COVID-19.[11]

Figure 4 reveals that during this lockdown, the respondents were involved in the excessive use of mobile phones and TV (59.8%) where some of them addicted to playing games, always active in social media. 28.9% of respondents feels high level of anxiety, stress and sadness and 27.6% of respondents experience high level of loneliness. 22% of respondents had loud arguments or fight with other family members. Only few of the respondents (26.4%) did not noticed any harmful increase in these areas.

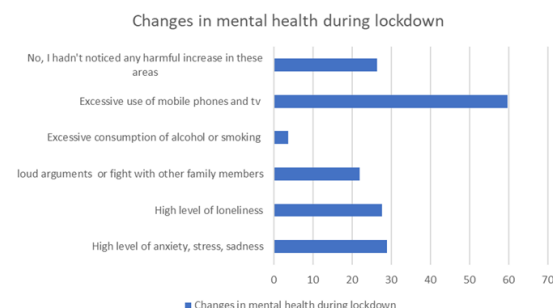


Figure 4 : Changes in mental health during lockdown.

In case of widespread COVID-19 outbreak, most of the people (43.1%) were not well prepared mentally to face the situation. The NIMHANS were also involved in addressing the immediate mental health needs of persons in the community and COVID-19 treatment centres and counsels them through guidance with non- psychiatric medical professionals.[12]

**Perceived stress scale (PSS):** Using this scale, the respondents were assessed for perception of stress and scores are calculated for their responses as 0 (Never), 1 (Almost Never), 2 (Sometimes), 3 (Fairly Often), 4 (Very Often). This scale measures the past month experiences of the respondents that majority of them were sometimes upset unexpectedly (47.6%), unable to control important things in their lives (46.3%), nervous and stressed (45.1%), confident in handling personal problems (38.6%), things going on their way (43.9%), unable to cope with things (48%), able to control things (41.5%), top of things (38.2%), angered because of things out of control (45.1%) and difficult to overcome difficulties (41.5%) as shown in table 3.

**CONCLUSION**

The current COVID-19 pandemic is causing widespread concern, depression and anxiety among

the people all over the world. This study has revealed various risk factors of mental health during COVID-19 lockdown to help authorities and mental health workers to strategize and deliver interventional methods to maintain psychosocial wellbeing of the population. The mental problems caused by COVID-19 lockdown impacted the psychological wellbeing of individuals from the entire community including students, casual labors, healthcare workers and the general population. So health care professionals can also provide telecounseling for those on stress and making them psychologically well.

#### ACKNOWLEDGEMENT

We are thankful to all the respondents from the country for graciously taking their valuable time out as well as all those who supported for their cordial cooperation to conduct the survey.

#### LIMITATIONS

As the data collection was through Google forms even though large number of populations was contacted individuals who filled up the form were less in number.

**Conflict of interest:** The author had no conflict of interest.

Table 1: Sociodemographic Details

Characteristics	N = 246
Gender	
Male	152(61.8%)
female	94(38.2%)
Age	
18-27	192(78%)
28-37	29(11.8%)
38-47	12(4.9%)
48-57	7(2.8%)
Above 57	6(2.4%)
Marital status	
Married	46(18.7%)
Unmarried	200(81.3%)
Residential area	
Rural	137(55.7%)
Urban	109(44.3%)
Education	
High school or below	41(16.7%)
Graduate	124(50.4%)
Post graduate	42(17.1%)
Doctorate	39(15.9%)
Work status	
Student	162(65.9%)
Unemployed	21(8.5%)
Government employee	6(2.4%)
Private employee	37(15%)
Healthcare professional	7(2.8%)
Business man	13(5.3%)
If you are a private employee you have worried about monthly salary	
Yes	69(39.2%)
No	107(60.8%)
Smoking	
Yes	14(5.7%)
No	232(94.3%)
Alcohol consumption	
Yes	24(9.8%)
No	222(90.2%)
History of chronic diseases	
Yes	21(8.5%)

No	225(91.5%)
Are you moved from your working or studying place to home town because of lockdown?	
Yes, before lockdown started	132(53.7%)
Yes, during lockdown period	26(10.6%)
No	88(35.8%)

Table 2: Impact of COVID-19 Lockdown on mental health and behaviour

Variables	N (%)
Are you worried about getting infected with corona virus disease?	
Yes	103(41.9%)
No	143(58.1%)
Did you get afraid if anyone in your social circle being sick	
Yes	117(47.6%)
No	129(52.4%)
Are you checking daily details about COVID -19 spread data?	
Yes	180(73.2%)
No	66(26.8%)
Have you talked to your friends about corona virus infection?	
Yes	191(77.6%)
No	55(22.4%)
Did you affect by the post on social media about corona virus pandemic?	
Yes	98(39.8%)
No	148(60.2%)
Did you feel difficulty in sleeping by being worried about corona virus pandemic?	
Yes	47(19.1%)
No	199(80.9%)
Did lockdown affect your daily activities	
Yes	176(71.5%)
No	70(28.5%)
Did you get all the essentials during this lockdown?	
Yes	137(55.7%)
No	109(44.3%)
How you spend your whole day at home.	
Spending time with family members	160(68.4)
Talking with friends	134(57.3)
Active in social medias	119(50.9)
Playing games	106(45.3)
Involved personal habits	99(42.3)
Are you worried or in stress during lockdown?	
Yes	140(56.9%)
No	106(43.1%)
Do you think this lockdown would lead to economic crisis in India?	
Yes	144(58.5%)
No	7(2.8%)
May be	95(38.6%)
Has COVID-19 affected your education (or your children's)	
Yes	
No	172(69.9%)

	74(30.1%)
Do you believe that our central government is taking an adequate action to control COVID-19?	
Yes, it's adequate	90(36.6%)
No, need more scrutiny	81(32.9%)
Yes, but can be lenient	29(11.8%)
Don't know	46(18.7%)
Is there is a widespread outbreak of COVID-19, are you prepared mentally to face this situation	
Yes, I am very prepared	95(38.6%)
Somewhat prepared	106(43.1%)
Not prepared	45(18.3%)

Table 3: Perceived Stress Scale

Perceived stress scale items	Percentage distribution of item scores				
	0	1	2	3	4
PSS 1	23.6	10.2	47.6	11.4	7.3
PSS 2	23.2	12.2	46.3	10.6	7.7
PSS 3	26.4	11	45.1	10.6	6.9
PSS 4	11.8	13.4	38.6	17.5	18.7
PSS 5	19.9	15.9	43.9	14.2	6.1
PSS 6	20.7	13	48	8.1	10.2
PSS 7	15	12.6	41.5	17.1	13.8
PSS 8	23.6	26.4	38.2	6.9	4.9
PSS 9	19.1	15.9	45.1	13	6.9
PSS 10	25.6	17.5	41.5	8.1	7.3

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