

The psychological impact of COVID-19 pandemic on general population of India

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ABSTRACT

The global COVID-19 pandemic outbreak took origin from the city of Wuhan in China in December, 2019. It caused havoc among the people by the transmission of corona virus from an infected person to a healthy person via the respiratory route. This outbreak, reported in India in the early months of the year 2020, caused the Indian government to enforce strict measurements, policies and precautions to control its spread throughout the country. The Government of India imposed a nationwide lockdown from March 24, 2020, which caused negative effects on the mental status of the people and made them disturbed and afraid of contacting the disease. This study, based on the Hamilton Anxiety Rating (HAM-A) scale, aimed to understand their levels of psychological impact involving anxiety, depression, physiological problems and insomnia during the lockdown. A structured questionnaire was circulated via online platforms such as WhatsApp, Facebook and Instagram through the snowball sampling method so as to collect maximum responses. Informed consent was obtained from the respondents. The results revealed that a majority of people were dealing with anxiety (76.7%), tension (59.6%), fear (69.4%), depression (64.7%) and intellectual problems (59.3%), all ranging from mild to very severe. On the physiological front, majority was towards the negative, with a smaller number of people dealing with cardiovascular problems (13.3%), respiratory problems (12.6%), gastrointestinal problems (23.7%), autonomic problems (27.4%) and somatosensory problems (23.7%) due to the lockdown, again ranging from mild to very severe. Almost half (44.9%) suffered from a certain level of insomnia due to the lockdown. Due to this high level of impact, there is an urgent requirement to attend to the mental issues of the people during the COVID-19 outbreak.

Keywords: COVID-19, HAM-A scale, Psychological Impact

The COVID-19 pandemic due to SARS-CoV-2 started in China in December 2019. It was declared as a public health emergency of international concern by the World Health Organization (WHO) on January 30, 2020^[1] and a pandemic on March 11,

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2020^[2]. A previously unknown beta coronavirus was discovered in samples from pneumonia patients^[3]. Coronaviruses has its name derived from the outer fringe, or 'corona', of embedded envelope protein of the virus. Coronaviruses were earlier believed to cause mild upper respiratory tract infections. However, since 2003, with the SARS-CoV and the more recent MERS-CoV, coronaviruses have been identified as significant causes of severe respiratory disease^[4].

As a precautionary measure, the government took a crucial step of full country lockdown since March 24, 2020, which put the people in an unforeseen, uncomfortable situation. The lockdown halted many services, affecting the global economy brutally^[5]. Apart from the economic effects, the emergence of a new disease also affected the mindset of the people. Loneliness at home and fear of contacting a new disease posed a challenge to psychological stability of the people. People at home complained of idleness. The people in direct contact with the infected people suffered with anxiety due to increase in both the workload and the possibility of infection^[6]. The impact of this pandemic shall be felt for a long time, influencing human lives and slowing all developmental activities^[7].

The COVID-19 crisis is expected to have increased instances of stress, anxiety, and depression. Furthermore, the effects of the lockdown could have on the normal physiology of the people in India has not been adequately evaluated. Data analysing these domains would give an idea on addressing the healthcare needs more efficiently. Hence, this study was conducted to evaluate this impact on the psychology and physiology of the general population in India.

Objective

- To determine the levels of psychological impact of the COVID-19 outbreak using HAM-A scale.

METHODOLOGY

Data Collection Procedures

From 19th April,2020 to 4th May,2020, an online survey was conducted via the google forms platform based on the globally validated HAM scale. The questionnaire was circulated via online platforms such as WhatsApp, Facebook and Instagram through the snowball sampling method so as to collect maximum responses. The participants were requested to forward the survey to as many people as possible. Thus, the link was forwarded to people diverging from the first point of contact. On receiving and clicking the link the participants got auto directed to prior informed consent. After giving consent to participate in the survey, they filled up the demographic details. Then a set of several questions appeared sequentially, which the participants were to answer. Since it was an online study, only people with access to the internet could participate.

Research Instrument

A structured questionnaire was designed which included:

1. the subjects' age, gender, state/union territory of residence, profession, average monthly income of family, family members' presence and extent of COVID-19 spread in their respective areas.
2. the current perceptions of the subjects to the following criteria due to the lockdown implemented because of the COVID-19 breakout: Anxious mood, tension, fear, depressed mood, intellectual problems, cardiovascular problems, respiratory problems, gastrointestinal problems, autonomic problems, somatosensory problems, insomnia.

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Sample Size

A total of 720 responses were recorded over the 16-day period. Out of these, 713 responses were valid. These were recorded from people across different states of India.

Inclusion Criteria

- Adult
- Literate
- Willing to participate in the survey

Exclusion Criteria

- Unwilling or not providing informed consent for the study
- People with any pre-existing mental disorder such as anxiety, depression, bipolar disorder, etc.

Ethical Considerations

All subjects had given informed consent to be part of the survey prior to filling of the form. Confidentiality of the obtained data was strictly ensured. Ethical approval was obtained from the Institutional Ethics Committee (IEC) prior to the beginning of the study.

Statistical Analysis

Descriptive statistics were used to analyse the findings. The software used was IBM SPSS V23.0

REVIEW OF LITERATURE

Since December 2019, a respiratory epidemic started spreading rapidly from the city of Wuhan, Hubei Province.^[8] According to WHO, Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus. Most infected people experience mild to moderate respiratory illness which improves without requiring any special treatment. Factors such as old age and medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are factors leading to a more serious impact.^[9] COVID-19 is transmitted through droplet infection from coughing and sneezing and close contact, if proper protective measures are not undertaken. Transmission through air and faeco-oral route have not yet been verified, though there is a possibility that such transmissions take place.^[10] At present, there is no approved explicit antiviral therapy or vaccination for COVID-19.^[11] However, many ongoing clinical trials are being undertaken for evaluation of potential treatments.

Psychological stress has been given importance lately in both science and popular culture through media of internet, television and newspapers, arising because of reasons such as terrorism, war ^[12], divorce and unemployment ^[13]. Psychological stress is an adaptation to the fight-or-flight response during evolution. It induces many physiological responses of the nervous, endocrine and immune systems, which could be harmful under certain conditions ^[9].

Declared an international public health emergency, COVID-19 poses a great challenge to psychological resilience.^[14] Patients who are confirmed or suspected to be infected experience fear of the consequences of being infected with a potentially fatal disease, and those in quarantine might experience boredom, loneliness, and anger. Also, fever, hypoxia and cough, which are the symptoms of infection, and side effects of the treatment, like insomnia caused by corticosteroids, could lead to worsening of anxiety and distress.^[15] The

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psychological impact of stressful events related to an infectious disease outbreak may be mediated by people's perceptions.^[16]

Many aspects of human psychology came into consideration on analysis of the situation. Factors causing stress included long duration of isolation, frustration, fear of infection, boredom, inadequate supplies and information and stigma.^[17] On elaboration, some primary causes of setbacks on the mental stability of the general population come to light. Insomnia is a common outcome of such an outbreak it is important to restore sleep. Its ill effects should be mentioned to the working staff and patients. Another setback seen is the non-indulgence of certain people in sharing good information, support and concern with others. These people tend to cope well on their own. An important effect is the feeling of solitude. Efforts should be made to overcome interpersonal isolation, from joke sharing in the nursing station to conference calls.^[18] There is a requirement of research data to form strategies based on proven evidence to reduce adverse psychological impacts and psychiatric symptoms during such outbreaks.^[14]

RESULTS

An online survey, aimed to understand the levels of psychological impact involving anxiety, depression, physiological problems and insomnia during the lockdown due to the COVID-19 pandemic, was conducted on the Indian population. A total of 713 responses were recorded. Almost half the number of respondents were between 18-20 years of age (49.1%), followed by people between 21-30 years of age (37.2%). Among the participants, 413 (57.9%) were male and 299 (41.9%) were female. The participants belonged to 23 states or union territories, with almost half the representation from Uttar Pradesh. Approximately 3/4ths of the participants were students. Not much variation was seen in the incomes of the participants, with maximum number of people having average monthly family income being more than 95,000 rupees. Approximately 92% of the participants were staying with their family during the lockdown. Almost 90% of the respondents live in areas of moderate to negligible COVID-19 spread, while almost 10% had high COVID-19 spread in their areas.

Psychological Impact due to Lockdown

Out of the total participants, approximately 60% experienced mild to moderate anxiety, while 16% complained of severe to very severe anxiety due to the lockdown. Almost half of the respondents (46%) felt mild to moderate tension, which included fatiguability, startled responses and trembling. 70% of them accepted sensing some fear like that of contacting the disease and being a part of crowds. Depressed mood, characterized by loss of interest, lack of pleasure in hobbies, depression and diurnal swing, was experienced by about 65% of the participants, ranging from mild to very severe. Almost 40% people experienced mild to moderate intellectual problems like difficulty in concentration and poor memory, while almost 10% people complained of severe to very severe of such problems. (Fig. 1)

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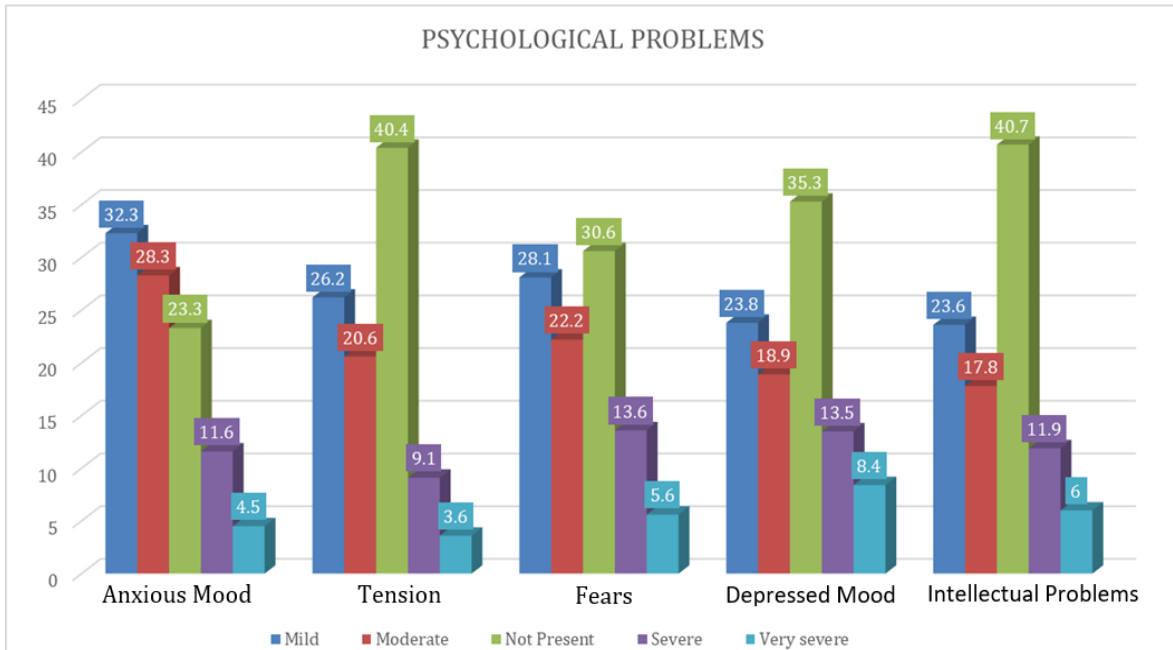


Figure 1 Psychological Problems

Physiological Problems due to Lockdown

Only a minority of the participants (approximately 15%) claimed to experience Cardiovascular problems (like tachycardia, pain in chest, fainting, etc.) or Respiratory problems (like dyspnea, feeling choked, pressure or constriction in chest). Almost 1/4ths of the people experienced mild to very severe gastrointestinal problems (like nausea, vomiting, looseness of bowels, constipation, weight loss). About 1/4ths of the population claimed to be experiencing Autonomic problems (like dry mouth, pallor, headache, tendency to sweat) or Somatosensory problems (like tingling sensation, blurring of vision, feeling of weakness). 45% of the participants suffered from mild to very severe insomnia, which meant difficulty in falling asleep, staying asleep, nightmares, unsatisfying sleep. (Fig. 2)

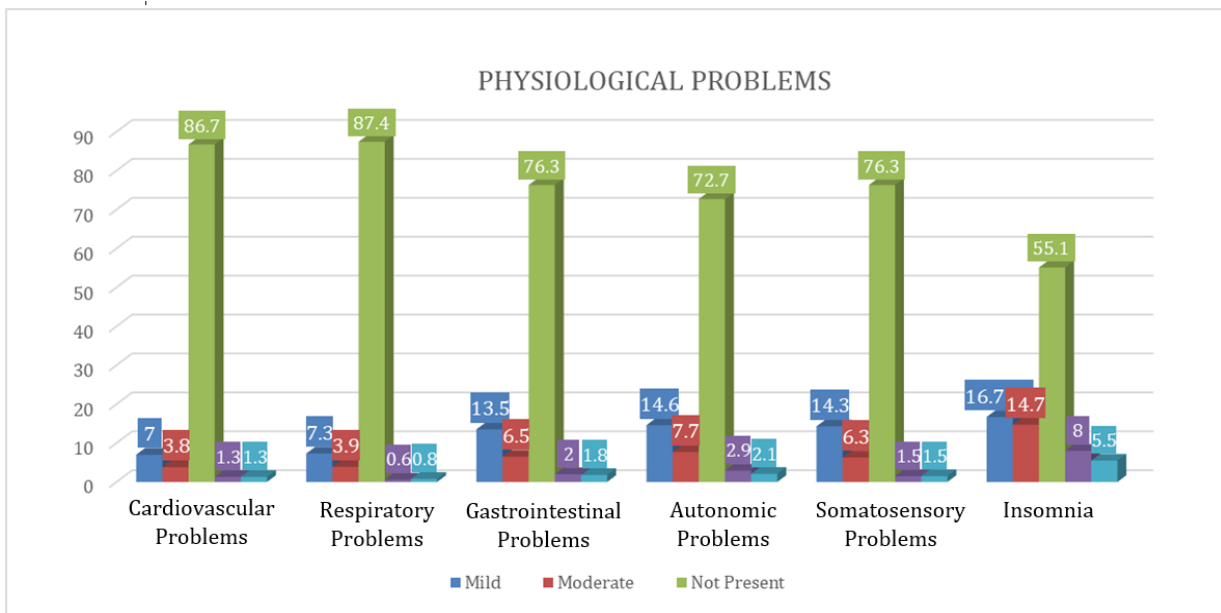


Figure 2 Physiological Problems

DISCUSSION

The COVID-19 pandemic caused widespread concern, depression and anxiety among the people all over the world. Pandemics like this do not only affect the medical aspects; they tend to affect quality of life in an individual, Stigma, xenophobia, mass hysteria and panic are the common offshoots^[19]. With its increasing spread, people tend to panic even in small possibilities of infection, such as cold and cough. They collect medical supplies, avoid social interaction and begin to isolate themselves physically^[20]. Confinement has a psychological impact on individuals^[21]. The fear and anxiety related to such instances also influence the behaviour of people in the community. Hence, this study was aimed at understanding the level up to which the mindset of the general population of India was affected due to the lockdown.

A number of participants showed different levels of anxiety, tension, fears and depression since lockdown was implemented in India in the early days of the pandemic outbreak. Similar studies have also been conducted in China, Europe and America (Altena et al. 2020^[22]; Asmundson and Taylor, 2020^[23]; Sani et al., 2020^[24]; Wang et al., 2020a^[14]; Ozamiz-Etxebarria et al., 2020^[25]). Among the respondents of this study, 76.7% experienced mild to very severe anxious mood, 59.6% experienced a similar range of tension, 69.4% experienced fear of contacting the disease on being a part of crowds, while 64.7% experienced depression by losing interest in hobbies and diurnal mood swings. While Wang et al^[14] arrived at a similar conclusion in psychological impact on the people of China due to the lockdown, with 53.8% people rated the impact as moderate to severe, the figures of the population experiencing depression and anxiety symptoms vary greatly from the same study (16.5% and 28.8% respectively).

On analysing the physiological aspects of the people's health, majority of the people claimed to not experiencing any problems. Only 13.3% people claimed to be experiencing cardiovascular problems, while 12.6% experienced respiratory problems due to lockdown. This was understandable as majority of the participants (90%) were present in areas with low to negligible spread of the disease. A slightly greater number (around 1/4ths of the participants) claimed to experience mild to very severe gastrointestinal, autonomic and somatosensory problems. This could be understood by the fact that such problems may arise due to the anxiety and depression experienced by the people, which lead to changes such as the feeling of nausea, headache, greater tendency to sweat and the feeling of weakness. Stress related sleep problems are common^[26]. This is also reflected in the fact that 44.9% of the participants in this study complained of experiencing mild to very severe insomnia.

Since majority (86.2%) of our participants are between the age group of 10-30 years, the high level of anxiety has been precedented. The most likely cause of such high occurrence among young people is their access to social media, which helps to spread information, including fake news, which could easily induce stress^{[27][28][29]}. Also, since the majority of the younger respondents were students, increased stress levels could also be attributed to their added burden in the attempt to adapt to new educational context without live classes^{[30][31][32][33]}.

Meeting the individual mental needs in times of such crisis becomes an essentiality. The young adult population, though not at a high risk clinically, in terms of acquiring the disease, is at a high risk of impediment of their normal thinking and mental well-being. Since face-to-face interviews for evaluation of mental health is not possible during the lockdown, considering online mental health consultation might be more beneficial^[34].

Limitations

This survey was limited to the people who had smartphones and some means of receiving the link to the questionnaire like Whatsapp, Facebook or Instagram. The person should also be able to read English so as to understand the questions. Since almost all the respondents were educated, this study not be generalized to the whole population. The attitude, anxiety and physiological problems in uneducated people may be different from the findings of our study. Also, since almost 3/4ths of our respondents were students, their psychology would show some contrast when compared to that of the working class. Keeping in mind these limitations of this study, a larger longitudinal study should be conducted in the current time to guide policy makers in understanding the psychological impact.

CONCLUSION

The study discussed the psychological impact on people across different states of India during the nationwide lockdown imposed due to the COVID-19 outbreak. A high level of adverse mental impact was brought to light, especially among the young adult population. Hence, there is a need to address the mental health situation in this time of crisis and intensify awareness about the same.

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Conflict of Interest

The author declared no conflict of interest.

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