



EFFECTS OF COVID-19 ON MENTAL HEALTH: WHEN VIRUS ACTS AS A SILENT KILLER

Clinical Research

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ABSTRACT

Introduction: Addressing and mitigating the negative effect of COVID-19 on the mental health is crucial. It has already been stated that the coronavirus disease 2019 (COVID-19) pandemic had a negative impact on mental health. However, to date, prospective studies are lacking. Moreover, it is important to identify which factors modulate the stress response to the pandemic. **Objective:** With the unexpected changes to normalcy caused by the COVID-19 outbreak and subsequent lockdown, we decided to prospectively study the effects of COVID-19 pandemic on the mental health of the people. Our study aimed to investigate the immediate impact of the COVID-19 pandemic on the mental health and quality of life of people. **Methods:** A prospective longitudinal study was conducted on 100 people (50 males & 50 females) aged above 18 years, from March 2021 to April 2021. A self-assessment survey was conducted via Google form whose link was sent through personal email IDs of the participants consisting of 24 questions. Cross-sectional and longitudinal comparison of overall parameters recorded from the study was done with respect to age and gender. A descriptive statistic was performed. Data was analyzed to assess the statistical significance. A p value < 0.05 was considered statistically significant. **Results:** A total of 100 participants completed the study. The mean age of participants was 35.77 years, male (36.72 years) & female (34.32 years). All of them were above 18 years of age, having different job profiles. Marital status, no. of children and financial status were also taken into account of each participant. It is important to mention here that 70 of the participants of our study have lost someone close in their family due to the pandemic. In our study though we don't find any significant relation of the parameters (Hypertension, diabetes, cardiovascular diseases, respiratory diseases, stress/ anxiety/ depression, difficulty to relax, dryness in mouth and trembling in hands) with respect to gender. However, correlation has been observed between these parameters and age. p value significant < 0.05 in each category. (As mentioned in table 1) Poor sleep quality, higher levels of baseline depression, anxiety, and stress, COVID-19 patients in family/friends were found to be significant predictors of negative mental health of people. **Conclusions:** While the effects of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) on the nervous system remain unclear, there is no doubt that the COVID-19 pandemic is bad for mental health. Studying the effects of COVID in a long run might provide further information on the neurological effects of the virus, and its physical and mental consequences.

KEYWORDS

COVID-19, mental health, depression, anxiety, stress

INTRODUCTION:

A pandemic is not just a medical phenomenon; it affects individuals and society and causes disruption, anxiety, stress, stigma, and xenophobia. It is well known that pandemics pose a threat to mental health.¹⁻³ Since the first case of novel coronavirus disease 2019 (COVID-19) was diagnosed in December 2019, it has swept across the world and galvanized global action. In the wake of this global health crisis, stringent public health measures have been implemented to curtail the spread of COVID-19.⁴ Widespread outbreaks of infectious disease are associated with psychological distress and symptoms of mental illness.⁵

Rapid human-to-human transmission of the SARS-CoV-2 resulted in the enforcement of regional lockdowns to stem the further spread of the disease. Isolation, social distancing, and closure of educational institutes, workplaces, and entertainment venues consigned people to stay in their homes to help break the chain of transmission.⁶ However, the restrictive measures undoubtedly have affected the social and mental health of individuals from across the board.⁷

Kids can experience anxiety, distress, social isolation, and an abusive environment that can have short- or long-term effects on their mental health. Some common changes in children's behavior can be excessive crying and annoying behavior, increased sadness, depression, difficulties with concentration and attention, changes in, or avoiding, activities that they enjoyed in the past, unexpected headaches and pain throughout their bodies. Changes in eating habits can also be seen. To help offset negative behaviors, requires parents to remain calm, deal with the situation wisely, and answer all of the child's questions to the best of their abilities. Parents can take some time to talk to their children about the COVID-19 outbreak and share some positive facts, figures, and information. Parents can help to reassure them that they are safe at home and encourage them to engage in some healthy activities including indoor sports and some physical and mental exercises. Parents should show less stress or anxiety at their home as children perceive and feel negative energy from their parents. The involvement of parents in healthy activities with their children can help to reduce stress and anxiety and bring relief to the overall situation.⁸

However, elderly people are more prone to the COVID-19 outbreak

due to both clinical and social reasons such as having a weaker immune system or other underlying health conditions and distancing from their families and friends due to their busy schedules. Family members may witness any of the following changes to the behavior of older relatives; such as irritating and shouting behavior, change in their sleeping and eating habits, and emotional outbursts.⁹

Doctors, nurses, and paramedics working as a front-line force to fight the COVID-19 outbreak may be more susceptible to develop mental health symptoms. Fear of catching a disease, long working hours, and unavailability of protective gear and supplies, patient load, unavailability of effective COVID-19 medication, death of their colleagues after exposure to COVID-19, social distancing and isolation from their family and friends, and the dire situation of their patients may take a negative toll of the mental health of health workers. The working efficiency of health professionals may decrease gradually as the pandemic prevails. Health workers should take short breaks between their working hours and deal with the situation calmly and in a relaxed manner.¹⁰⁻¹⁵

MATERIALS AND METHODS

Participants and setting: The study was conducted on 100 people above 18 years of age with a self-assessment questionnaire consisting of 24 questions to assess the impact of COVID-19 on mental health of the people. The participants were explained about the objective of the study and were informed that the participation was voluntary, and confidentiality will be maintained. The survey was conducted via Google form whose link was sent through personal email IDs of the participants. This protocol was exercised in order to follow strict social distancing protocol and to avoid direct contact. The survey included five sections; first section had a detailed description of the purpose of the study, along with the informed consent. This section explained the importance and benefits of the survey in the current pandemic, highlighting the voluntary nature of participation and assurance of confidentiality of the collected data. Only after consenting to the study, the participants could access the remaining sections. The successive sections collected responses for demographic details and other personal details required for the study.

RESULTS

A total of 100 participants (50 males and 50 females) completed the study. The mean age of participants was 35.77 years, male (36.72 years) & female (34.32 years). 79 participants were between 18-15 years of age group and 21 were above 45 years of age. As far as comorbidities are concerned, hypertension was noticed in 24 people, diabetes in 13, cardiovascular disease in 10, respiratory diseases in 12 and stress / anxiety / depression was reported in 68 participants. Symptoms such as difficulty to relax was comprehended in 70 people, dryness in mouth in 30 and trembling in hands in 33 participants. In our study though we did not find any significant relation of the parameters (Hypertension, diabetes, cardiovascular diseases, respiratory diseases, stress/ anxiety/ depression, difficulty to relax, dryness in mouth and trembling in hands) with respect to gender. However, correlation has been observed between these parameters and age. p value significant <0.05 in each category. (As mentioned in table 1)

Signs	Gender	Age
HYPERTENSION	0.1633747359	0.0000004585403199
DIABETES	0.1402331537	0.0002448444648
CARDIOVASCULAR DISEASES	0.1864370118	0.000379467599
RESPIRATORY DISEASES	0.5430352483	0.0001956595494
STRESS/ ANXIETY / DEPRESSION	0.9999999938	0
Difficult to relax	0.3878584655	0
Dryness in mouth	0.0824574442	0
Trembling in your hands	0.2923822428	0.000005736991298
		p value

Table 1: Correlation between different parameters of our study with respect to gender and age. p value significant <0.05

DISCUSSION:

Recent studies explain the importance of mental health in the pandemic. The total of 100 people were included in our study, 50 were males and 50 females. The mean age of participants was 35.77 years, male (36.72 years) & female (34.32 years). All of them were above 18 years of age, having different job profiles. Marital status, no. of children and financial status were also taken into account of each participant. Our study included people from different job profiles which consist of 8 home makers, 43 health care workers, 41 people were working from home and 8 currently had no job. 63 participants were married and 37 were unmarried. All the participants of our study are now vaccinated for covid-19 (both the doses). For the treatment of the disease 56 people recovered by home isolation, however 44 participants required hospitalization. 40 people reported to sleep for less than 6 hours and 60 participants for more than 6 hours. Hypertension, diabetes, cardiovascular disease, respiratory disease and dryness in mouth were reported more among people above 45 years of age. However, stress/ anxiety, depression, difficulty to relax and trembling of hands was seen among 18-45 years of age group. It is important to mention here that 70 of the participants of our study have lost someone close in their family due to the pandemic. It's a very important parameter to analyze the effect of pandemic on the mental health of the person.

Two recent reviews found a negative impact of COVID-19 on mental health, with 16–18% of participants showing symptoms of anxiety and depression.^{16,17} In concordance with our study, these studies indicate that younger people,^{18,19,20} and those with a poor sleep quality^{18,20} are at an increased risk for mental health problems. However we didn't find any significant relation of stress with respect to females.^{18,19} Stress/ anxiety, depression, difficulty to relax and trembling of hands was seen among 18-45 years of age group which is in line with other studies.^{18,19,20}

Despite the wide scope and spread of COVID-19 could lead to a true mental health crisis, especially in countries with high caseloads which would require both large-scale psychosocial crisis interventions, and the incorporation of mental health care in disaster management plans in the future.²¹ Bao et al. (2020) highlighted the services that were already being provided in China, and also provided a list of strategies for the general public to minimize outbreak-related stress: (1) assessment of the accuracy of information, (2) enhancing social support, (3) reducing the stigma associated with the disease, (4) maintaining as normal a life as feasible while adhering to safety measures, (5) use of available psychosocial services, particularly

online services, when needed.⁵ Such methods, in their opinion, would empower society to handle the COVID-19 outbreak in an adaptive manner. Similar strategies were reiterated in a paper from Singapore (Ho et al., 2020) which also discussed the role of improved screening for mental disorders, improving links between community and hospital services, and providing accurate information to the general public in order to minimize maladaptive responses such as “panic” and paranoia regarding the disease and its transmission.²² A brief review paper (Lima et al., 2020) highlighted the role of anxiety as the dominant emotional response to an outbreak, and the need for adequate training of healthcare personnel and the optimal use of technological advances to deliver mental health care.²³

Strengths and limitations of the study The study investigated the mental health status of the 100 people above 18 years of age who have recovered from COVID-19. We elaborately studied the influence of demographic variables, stressors related to COVID-19 by categorizing them into different variables. With the known impact of negative mental health on the life of people of all generations, the results of our study is important due to the insights provided, that will help the doctors to address and devise strategies to overcome the pandemic-induced negative impact on the mental health. Though our study population includes people recovered from COVID-19, relative small sample size is the major limitation of the study. Despite promising confidentiality, there could have been possible response bias by the participants in answering the survey. Despite these limitations, the findings of the current study improve our understanding of the mental health consequences of COVID-19.

CONCLUSION

Understanding the effects of the COVID-19 outbreak on the mental health of people are as important as understanding its clinical features, transmission patterns, and management. The long-term mental health impact of COVID-19 may take weeks or months to become fully apparent, and managing this impact requires concerted effort not just from psychiatrists but from the health care system at large.²⁴ There is a need for further research to assess the scope of this pandemic in other countries, particularly in those where mental health infrastructure is less developed and the impact is likely to be more severe.²⁵ Researchers should also attempt to assess the impact of COVID-19 on other vulnerable populations, such as children and adolescents, those in remote or rural areas who face barriers in accessing health care, and those belonging to lower socio-economic strata. Further, there is a need to develop mental health interventions which are time-limited, culturally sensitive, and can be taught to healthcare workers and volunteers. Once developed, such interventions should be tested, so that information regarding effective therapeutic strategies can be widely disseminated among those working in this field. Psychiatrists across the world should be aware of the manifestations, their correlates, and strategies to manage them that encompass both the needs of specific populations²⁶ and the precautionary measures necessary to contain the spread of COVID-19.¹⁸

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