

Mental health effects of COVID-19 pandemic: a review of published original articles

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ABSTRACT

Background and objective: The Novel Coronavirus (2019-nCov) Disease (COVID-19) pandemic rapidly spreading around the world is profoundly impacting global health, particularly mental health. In this review, we discussed the mental health effects of COVID-19 Pandemic via published original articles retrieved through electronic databases. **Methods:** We reviewed 25 original articles related to COVID19 and mental health; these studies obtained from the general population, health workers, college students, and vulnerable population. Electronic databases, including, PubMed, PMC, and Google Scholar were searched for the relevant studies that have been conducted since the outbreak (December 2019). **Results:** Most of the literature review showed one-third of the total sample reported moderate to severe level of stress, anxiety, depression, fear, frustration, confusion, sleep disturbance, insomnia, insecure social support and stigma. The Overall prevalence of anxiety, stress and depressive symptoms was 28.8%, 16.5% and 8.1%, respectively. Further, findings revealed that during the COVID-19 outbreak, frontline healthcare worker, female gender and vulnerable population were at high risk of displaying psychological distress. **Conclusion:** Reviewed all original articles showed mild to severe levels of psychological distress in outgoing COVID-19 pandemic. Mental health interventions should be formally integrated into public health preparedness and emergency response plans.

Keywords: COVID-19 Pandemic; Mental Health; Health worker

The emergence of COVID-19 has caused a large global epidemic and it is a major public issue. The World Health Organization (WHO) declared the 2019-20 coronavirus outbreak a Public Health Emergency of International Concern (PHEIC) on 30 January¹ and a Pandemic on 11 March 2020². The novel Coronavirus (2019-nCov) pandemic rapidly spreading around the globe is profoundly impacting global health. According to the official website of the World Health Organization as of May 2, 3181642 have been confirmed to have a 2019-nCoV infection, and 224301 deaths have resulted from 2019nCoV in 215 countries, area or territories³. The Novel Coronavirus (2019-nCov) pandemic rapidly sweeps across the world and impacting the mental health of the general public. Recent evidence suggests that individual who are kept in isolation and quarantine experienced

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negative psychological effects including, stress, anxiety, frustration, anger, fear and Confusion⁴. These negative psychological effects not only affect attention, understanding and decision-making capacity of health workers, which could hinder the fight against COVID-19, but they could also have lasting effects on their overall well-being⁵.

The outbreak of COVID-19 has caused public panic and mental health stress⁶. Most of the health professional working in isolation units and hospitals very often does not receive any training for providing mental health care⁷. The emerging mental health issues related to COVID-19 may evolve into a long-lasting health problem, isolation and stigma. Global health measures should be taken to address mental health concerns, particularly related to quarantine, anxiety and vulnerability among the general population⁸. Concerning the above fact, this review aimed to summarize the published original articles related to mental health effects of COVID-19 pandemic through electronic database. Suggestions of this literature review can help in conducting further epidemic and psychological intervention studies on outgoing novel COVID-19 and mental health.

MATERIAL AND METHODOLOGY

The present literature review is summarizing published original articles related to mental health effects of COVID-19 Pandemic. Accordingly, the electronic databases, including, PubMed, PMC, and Google Scholar were searched for the relevant studies that have been conducted since the outbreak (December 2019) to till date (May 2, 2020). Search terms 'nCov' "coronavirus", "novel coronavirus", "COVID-19", "mental health", "psychological distress", "anxiety", "depression", "psychiatry", and "public health" were used in assorted combination. The following inclusive and exclusive criteria were used in the selection of published articles.: **Inclusive Criteria:** Cross-Sectional and observation/Survey design and, **Exclusive Criteria:** Opinion pieces, reports, letters to editors, editorial or commentary, studies other languages with no English translation and article dealt with other aspects of COVID-19 outbreak.

RESULTS AND DISCUSSION

In this section, reviewed articles were summarized. We found a total of 25 pieces of literature related to COVID19 and mental health through electronic databases; these studies obtained from the general population, health workers, college students, and vulnerable population. The majority of published articles were from China, 22 (88 %), 2 (8 %) from Italy and 1(4%) form India. Three major themes were identified across the 25 studies, and were used to organize the reviews: 1) Studies related to COVID-19 pandemic and mental health concerns in the general population, 2) Studies related to COVID-19 pandemic and mental health concerns in the health worker and, 3) Studies related to COVID-19 pandemic and mental health in the vulnerable population. Theme wise summary had been given below.

Studies related to COVID-19 pandemic and mental health concerns in the general population:

There were 12 articles found related to COVID-19 pandemic and mental health concerns on the general population, out of that 9 studies conducted in China, 2 studies belong to Italy and one from India. Findings of these studies were summarizing below.

A web-based cross-sectional survey was conducted on the general population in China to understand their levels of psychological impact, depression, anxiety, and stress during the initial stage of the COVID-19 outbreak and noticed 53.8% respondents rated the psychological impact of the outbreak as moderate or severe; 28.8% reported moderate to

severe anxiety symptoms, 16.5% reported moderate to severe depressive symptoms; 8.1% reported moderate to severe stress symptoms. Further results showed that female gender experienced significantly higher levels of anxiety, stress, and depression ($P < 0.05$)⁹. Prevalence of Posttraumatic Stress Symptoms (PTSS) in China hardest-hit areas a month after the COVID-19 outbreak was 7%. Women reported significant higher PTSS in the domains of re-experiencing, negative alterations in cognition or mood, and hyper-arousal, Participation with better sleep quality or less frequency of early awakenings reported lower PTSS¹⁰. A similar study was done in Italy and they found psychological distress in the Italian general population during the early phase of the COVID-19 outbreak¹¹. Authors found 19.4% and 18.6% reported mild and moderate- to severe likelihood, whereas 62% of the individual reported no livelihood; and high rates of negative mental health comes in the Italian general population three weeks -into COVID-19 lockdown¹². Moderate-to-severe stress, anxiety and depression were noted in 8.1%, 28.8% and 16.5 % respectively and there were no significant longitudinal changes found in stress, anxiety and depression levels ($P > 0.005$)⁹. Immediate impact of the COVID-19 pandemic on mental health and quality life among local Chinese were stressful at mild level¹³. Persons who ever self-isolated at home for 14 days in January 2020 during COVID-19 epidemic in central China showed anxiety, positively correlated with stress symptoms and negatively with sleep quality; increased social capital improved sleep quality by reducing stress and anxiety¹⁴. Authors assessed the wellbeing of normal adults living and working after one month of confinement to contain the COVID-19 outbreak in China and result illustrated that physically active people might be more prone to wellbeing issues during the Lockdown¹⁵. The mental health problem of parents of hospitalized children during the epidemic was more serious, and the anxiety and depression symptoms were more obvious¹⁶.

In China a study was conducted to examine the association between mental health and social media exposure in China and noticed that there was a high prevalence of mental health problems, which positively associated with frequency of social media exposure during the COVID-19 outbreak¹⁷. Paranoia disorder about acquiring COVID-19 infection and distress related social media were reported in 12.5%, 37.8% and 36.4% participants respectively; the perceived mental healthcare need was seen in more than 80% of participants¹⁸. A study was done in China and observed, that COVID-19 knowledge score was significantly associated with a lower likelihood of negative attitude and preventive practice towards COVID-2019 pandemic¹⁹.

Studies related to COVID-19 pandemic and mental health concerns in the health worker:

Eight studies were found related to COVID-19 pandemic and mental health concerns in the health worker. All these studies originated from China. Findings of these studies were summarized below. During the COVID-19 outbreak 4.98% medical staff had shown middle and high levels of anxiety while 13.47% of the respondent reported a middle and high level of depression²⁰. Nurses, frontline medical staff and younger staff were more prone to have anxiety and depression than physicians, non-frontline medical staff and older medical staff respectively. Medical health worker experienced more psychological distress compared to nonmedical health worker during the COVID-19 outbreak¹⁵. Another couple of study noticed that severity of fear, anxiety, depression was higher in, front-line medical staff compare to non-medical staff^{21, 22}. Zhao and Huang noticed health worker and young people were at risk of displaying psychological issues²³.

Frontline health care worker, especially nurses, women directly engaged in the diagnosis, treatment and care of patients with COVID -19 hence they experienced psychological

burden²⁴. Nurses who fight against COVID-19 in Wuhan, China was under stress²⁵. A sudden increase in the confirmed case has brought tremendous stress and anxiety to the frontline surgical staff²⁶.

Studies related to COVID-19 pandemic and mental health in vulnerable population.

Total of five studies was found related to COVID-19 pandemic and mental health concerns in the health worker. All these studies originated from China. Findings of these studies were summarizing below.

Authors had conducted a study to identify high-risk groups whose mental health conditions were vulnerable to the COVID-19 outbreak. They revealed that the overall prevalence of anxiety symptoms were 35.1%, depressive symptoms were, and 20.1% and poor sleep quality symptoms were 18.2%. Whereas Adult aged < 35 years reported a higher prevalence of anxiety symptoms and depressive symptoms than people aged 35≥ years. Additionally, they observed, health workers people who spent a high level of time (≥ 3hours/ day) showed higher anxiety symptoms than in those who spent less time (<1 hour/ day and 1-2 hours/day) on the outbreak. Academic activities of college student were positively associated with anxiety symptoms (p<.001). However, social support was negatively correlated (P<.001) with the level of anxiety^{27, 28}. In a related study, it was pointed out that nearly 40.4% of youth group tended to have psychological problems²⁹. Anxiety and depression were different in age groups; the outbreak of COVID-19 and has more impact on the psychology of the elderly people, resulting in anxiety, depression³⁰. During the COVID-19 outbreak, children's ADHD symptoms significantly increased compared to the normal state³¹.

In summary, we conclude that all the three groups (General Population, Health workers, and Vulnerable Group) reported stress, anxiety and depression during ongoing COVID-19 pandemic, hence psychological interventions are essential. The Government could establish and improve the intervention system based on sound scientific advice, to effectively deal with mental health issues caused by public health emergence³².

CONCLUSION

In conclusion, most of the article shows there are moderate to severe level of psychological distress during the COVID-19 pandemic. Further; findings revealed that during the COVID-19 outbreak, frontline healthcare worker, female gender and vulnerable population were at high risk of displaying psychological distress. There is no literature found on mental health intervention during COVID-19 outbreak. Hence, it is important to develop a comprehensive mental health intervention programme in various populations (general populations, vulnerable populations, health workers group). There is also a need for more representative research from other affected countries around the globe. Finally, Various Governments should regularly organize the awareness program and address the mental health issues of people during the COVID-19 Pandemic. Public mental health intervention/psychological counselling should be formally integrated into public health preparedness and emergency response plans³³.

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Conflict of Interest

The author declared no conflict of interest.

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