



## Stressful COVID-19 outbreaks in hospitals

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### Abstract:

**Background and Objective:** Citizens of all societies are currently exposed to the anxiety of COVID-19 epidemic. This study is to evaluate the COVID-19 effect on mental health, stress, and anxiety in people directly and indirectly associated with COVID-19 outbreaks in hospitals.

**Methods:** This study is a narrative review of studies focusing on the effect of COVID-19 on people working in hospitals, referring to hospitals and their families.

**Results:** Based on 25 articles, various aspects of the COVID-19 stress in health workers, post-traumatic stress disorder (PTSD) in health workers, fear of COVID-19 and family relationships, and COVID-19 stress in maternity hospitals were reviewed.

**Conclusion:** In the COVID-19 epidemic, people's mental health is especially important, mainly in people who are in direct contact with medical centers as well as hospitals. Despite all the resources used to combat the outbreak of COVID-19, additional global strategies are needed to address mental health issues. In this study, stressors in the COVID-19 epidemic in hospitals and groups susceptible to these factors, including health workers, children, and pregnant women were examined.

**Keywords:** COVID-19, Mental health, stress, Hospital

### Introduction and Objective:

Anxiety is a sensation of concern, nervousness, or unhappiness over something whose result is uncertain. The unpredictability of the COVID-19 pandemic makes people vulnerable to extreme anxiety<sup>1</sup>. The viral disease of COVID-19 has spread rapidly worldwide. As the number of diseases and deaths grew, many patients experienced both physical and mental suffering. Patients with COVID-19 need care in isolated hospitals (2) as per treatment guidelines in China<sup>2</sup>. Patients with COVID-19 may feel lonely, angry, anxious, or depressed due to perceived social isolation, perceived danger, vulnerability, physical discomfort, drug-side effects, fear of transmitting the virus to others, and negative news on social media. Experience of insomnia during disease course can harm social and job performance and quality of life<sup>3</sup>. It should be noted that most COVID-19 patients suffer from symptoms of post-traumatic stress associated with this illness, which can lead to negative outcomes such as inferior quality of life and dysfunction<sup>4</sup>.

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Previous research has shown that epidemics can have severe and variable psychological effects on individuals. An outbreak of COVID-19 in the general population can lead to new psychiatric symptoms and worsening of previous illnesses<sup>5</sup>. They may exhibit fear of become sick or die, unnecessary worry and anxiety, helplessness, and a tendency to blame other sick people, regardless of whether a person is exposed to the virus or not.

Psychiatric disorders in people include depression, anxiety, panic attacks, physical symptoms, and post-traumatic stress disorder symptoms of delirium, hallucinations, and even suicide, which is why families around the world now have a new spectrum. They experience stressors that threaten their health, safety, and economic well-being<sup>6</sup>. In general, health workers experience huge stress in the epidemic, followed by children, mainly children of health worker parents, and finally, the pregnant women.

## Methods

This study was a narrative review. This study has aimed to provide an overview of current knowledge in the field of COVID-19 and stress by summarizing known opinions and highlighting new perspectives or posing unanswered questions. In this narrative review study, all the documents in the field of the COVID-19 and stress were considered in the study. The data of this study are extracted from studies that met the inclusion criteria. Our inclusion criteria were studies focusing on the effect of COVID-19 on people working in hospitals, referring to hospitals and their families. The search steps were as follows: The review was performed utilizing keywords of “COVID-19” in

combination with “stress”, “anxiety”, and in combination with “hospital”, in Medline, Scopus, and ScienceDirect databases. Final resources of related articles were also reviewed to identify any other related studies. There was no time limit in searching for articles (the last date to search for sources was October 2020). One of the limitations of this study was the lack of access to some databases and articles on the Internet, as well as the lack of access to the full text of articles, which was addressed by direct correspondence with the authors of the article.

## Results

A total number of 25 studies were finally included in our study after excluding irrelevant articles. After reading full texts 7 studies addressed COVID-19 stress in health workers, 6 assessed PTSD in health workers, 4 were about fear of COVID-19 and family relationships, and 7 studies about COVID-19 stress in maternity hospitals.

### COVID-19 stress in health workers

The COVID-19 epidemic is a major challenge for health systems. As the number of patients with COVID-19 increases, health resources, including staff, beds, and facilities, are at their maximum capacity. With limited resources, people will be under more pressure, and health care workers in particular will be more distressed<sup>7</sup>. Among health care workers, front-line workers who are directly involved in caring for these patients are more at risk. Reasons for such adverse psychological consequences include excessive workload, inadequate personal protective equipment, overly enthusiastic media news, the need for difficult ethical decisions about care quotas, feelings of inadequate support, and other important

reasons. Being infected is among the medical staff<sup>8</sup>. According to a study by Lai et al., Being a woman and having a moderate professional title is associated with higher anxiety, depression, and distress<sup>9</sup> and according to a study by Cai et al., Medical staff between the ages of 31 and 40 were more concerned about infecting their families<sup>10</sup>. But regardless of age and sex, the safety of colleagues and lack of treatment COVID-19 has been cited as the main causes of stress in all medical staff<sup>11</sup>. Among medical staff, people who have experienced quarantine or worked inwards for infected patients are two to three times more likely to develop symptoms of post-traumatic stress disorder<sup>12</sup>, according to a study by Jianyu Que Et al. Anxiety is observed in nurses (51.44%)<sup>13</sup>.

### **Post-traumatic stress disorder (PTSD) in health workers:**

Healthcare workers in emergency care centers are at risk for PTSD due to the highly stressful conditions they are exposed to, which include: management of critical medical conditions, care for severely injured, frequent deaths and trauma, working in crowded environments, and disturbing the circadian rhythm due to shifts<sup>14</sup>. PTSD is defined as the development of symptoms related to avoidance, negative changes in cognition and mood, arousal, and reaction after exposure to a traumatic event. Even among those who do not meet the full diagnostic criteria, the symptoms of post-traumatic stress disorder are associated with dysfunction<sup>15</sup>. The incidence of PTSD varies from 10% to about 20% among the medical staff but also varies by up to 30% among ICU staff<sup>16</sup>.

Although most people prove resilient after being exposed to a traumatic event, several risk factors may compromise the adaptive effect; Including the previous history of psychiatry, female gender, lack of social support, and having young children<sup>17</sup>. This interaction of risk factors and resilience becomes more complex and challenging when applied in the context of an infectious epidemic<sup>18</sup>. It is noteworthy that in the context of epidemics, medical personnel are at the forefront of dealing with the first clinical challenges that are inherently related to the course of the disease and pose a constant personal threat of infection<sup>19</sup>.

### **Fear of COVID-19 and family relationships:**

Hospital health workers are at the heart of the battle against COVID-19. But the hospital presence has generated concern for their family relationships. While COVID-19 is not the only community-threatening global health problem, it is likely to have long-term adverse effects on children and families today<sup>20</sup>. Knowledge of the impact of stress offers an opportunity to understand better how stressors increase within the family. The worldwide COVID-19 outbreak is a stressor that originates from outside the family but is likely to be a major stressor for many parents and children, given its creativity and confusion about the disease<sup>21</sup>. Research has now demonstrated parents' perceived effect of COVID-19 is linked to increased parental stress and, in turn, an increased risk of parental violence. Also, families not directly exposed to the virus are more likely to have indirect COVID-19 effects<sup>22</sup>. In countries outside the United States, for example, COVID-19 has put serious stress on mental health with the prevalence of anxiety, depression, and sleep

problems, especially in younger people who are thinking about the disease. Parents with high stress and anxiety and depressive symptoms at the same time have been shown to respond less to their children's needs, which in turn is a strong predictor of child abuse<sup>23</sup>.

While measures to reduce the transmission of COVID-19 have been taken by public health since its inception, these initiatives have had unintended effects that could further parental stress. As a result, households are more likely to be more socially isolated, unable to access help and education services, and economic problems that may exacerbate stress in many households. Social isolation increases stress sensitivity and may have detrimental effects on mental and physical health<sup>24</sup>.

### **COVID-19 stress in Maternity hospitals and pregnancy**

Pregnancy is one of the times in life with strong feelings and high susceptibility to emotional problems<sup>25</sup>. In general, mental health issues affect 10-20 percent of pregnant women as well as women in the early postpartum period<sup>26</sup>. Risk factors for anxiety are similar for the general population and during pregnancy. It has also been documented that a history of parental disorders, violence and corporal punishment and low economic status increase the risk of anxiety<sup>27</sup>. The psychological impact of COVID-19 and related quarantine measures on pregnant women and new mothers is a concern. More than the effect of COVID-19 infection on a pregnant woman, there are concerns about the potential effect on fetal and neonatal outcomes<sup>28</sup>. Therefore, pregnant women pay special attention to prevention, diagnosis and management.

COVID-19 anxiety in pregnant women harms pregnancy; These include an increased risk of preeclampsia, depression, nausea, vomiting, and can even lead to preterm labor or miscarriage<sup>29</sup>. In addition, maternal anxiety may lead to low birth weight, growth retardation, or low APGAR scores<sup>30</sup>, and the clinical features of COVID-19 in pregnant women are the same as in non-pregnant adults and indicate the presence of stress. This additional psychological burden may add to the anxiety of pregnant women, especially those with deficient support systems, as effective social support systems may alleviate such problems<sup>31</sup>.

### **Conclusion**

Health care staff are at elevated risk of infection in the COVID-19 medical centers and have insufficient protection against overwork, loneliness, lack of family interaction, and exhaustion. The current condition causes issues of mental health, such as stress, anxiety, symptoms of depression, insomnia, denial, frustration, and fear. These mental health concerns not only affect the medical staff's concentration, understanding, and decision-making capacity, but also have a lasting impact on their overall health. Consequently, individuals who historically have become emotionally fragile should be provided with mental health resources and follow-up 6 months after isolation. Because of the COVID-19 epidemic, families around the world are experiencing a new array of stressors that threaten their health and economic well-being.

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