

# Mental Health in Healthcare Workers and the Covid-19 Pandemic Era: Novel Challenge for Critical Care

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## Abstract

During the COVID-19 outbreak, the front-line Health Care Workers have experienced a varying levels of stress, anxiety, and insomnia. Targeted interventions are needed to enhance psychological wellbeing of Health Care Workers and strengthen the healthcare systems' capacity during pandemic. Clear communication, limitation of shift hours, provision of rest areas as well as broad access and detailed rules on the use and management of protective personal equipment and specialized training on handling COVID-19 patients could reduce anxiety coming from the perceived unfamiliarity and uncontrollability of the hazards involved.

**Keywords:** COVID-19, Coronavirus disease, Protective personal equipment, Workers health, Pandemics.

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## Introduction

The burden for critical care services has risen exponentially in response to the COVID-19 pandemic and need to be adapted [1]; 30% of hospitalized patients will require ICU care and up to 29% will require mechanical ventilation [2]. Achieving the zero rate in nosocomial infections among Health Care Workers (HCWs) should be the goal in the COVID-19 pandemic [3,4] to enhance physical, mental, and social wellbeing of HCWs and strengthen the healthcare systems' capacity during acute outbreak [5]; in several EU/EEA countries, 9-26% of all diagnosed COVID-19 cases have been detected in HCWs [6]. Only in Spain, for instance, more than 35,000 HCWs have been infected, while majority of them have been nurses. At the same time, the front-line HCWs, particularly those working in emergency units, ICUs, and infectious disease wards, have experienced a varying levels of stress, anxiety, and insomnia. In addition, they have faced loneliness and rigid expectations, which can lead to anger, anxiety, and uncertainty of the outbreak [7].

## Stress

During the COVID-19 outbreak, HCWs have been coping with high emotional distress due to the risk of exposure, excessive workload/work hours, moral ethical dilemmas [2,8,9], and shortage of protective personal equipment (PPE) [10]. In Pakistan, for instance, large numbers of HCWs reported moderate (42%) to severe (26%) psychological distress [11] whereas the pooled prevalence of depression has been

23% [8]. In Canada, 47% of HCWs have reported a need for psychological support [10].

The lack of knowledge has been associated with higher infection rate [4]. In addition, several socio-demographic (e.g., gender, age, profession) and psychological variables (e.g., social support, self-efficacy) have been associated with increased level of stress, anxiety, depressive symptoms, and insomnia in HSWs [10]. Respectively, HCWs who have been confident about infection control have had the lowest level of stress [12]. To deal with the stressors, people may resort to different negative ways of coping [11].

Research on past epidemics has highlighted the negative impact of outbreaks of infectious diseases on people's mental health [11]. HCWs have been 2 to 3 times more likely to have posttraumatic stress (PTS) symptoms when quarantined, located in high-risk area, or had friends and relatives that had contacted

infection whereas the level of PTS symptoms have been highest in the youngest (< 50 years old) HCWs [13]. The same phenomenon has also been shown during the SARS outbreak; compared to the staff in psychiatric ward, the HCWs in the emergency ward has been at higher risk for developing PTS disorder [14].

## Anxiety

During the COVID-19 pandemic, the pooled prevalence of anxiety has been 23% [8]. Only in China [11], HCWs reported high rates of anxiety (45%) and insomnia (34%). The pooled prevalence of mild and moderate/severe anxiety have been 17.9 and 6.9, respectively [8].

According to current knowledge, the anxiety has been arisen from exposure to life-threatening viral infections [9,15], shortage of PPE, risk of infecting family [2,15], concerns regarding family care and responsibilities, and lack of updated information [15]. In addition, HCWs have expressed concern about ICU staffing, laboratory turnaround time for COVID-19 testing, and keeping up with information on management strategies [2].

The level of anxiety has been associated with age, gender, insufficient medical supplies, and level of knowledge regarding infection control (e.g., virus prevention and transmission), while nurses have felt more severe anxiety compared to other professionals [10].

## Insomnia

Stress is considered as the primary source of insomnia [16]. In the previous literature, approximately 34–39% of HCWs have had symptoms of insomnia [8,17]. The symptoms of insomnia have been associated with an education level, occupation, and an isolation environment. In addition, insomnia has been associated with worry about being infected by COVID-19 [17]. Shift work and increased workload have also impaired in HCWs' ability to sleep, resulting in insomnia, severe sleep debt, and daytime sleepiness [18].

## Discussion

In future, a follow-up studies are needed to assess the PTS syndrome and moral distress are required. Clear communication, limitation of shift hours, provision of rest areas as well as broad access and detailed rules on the use and management of PPE and specialized training on handling COVID-19 patients could reduce anxiety coming from the perceived unfamiliarity and uncontrollability of the hazards involved [19].

Special attention should be paid to minimize the risk of hospital outbreak of COVID-19: in Netherlands, for instance, approximately 63% of infected HCWs have reported been working in the hospital while being symptomatic [20]. Early identification and contact tracking of exposed HCWs and patients should be conducted to reduce the risk of nosocomial infection.

## Conclusion

Targeted interventions are needed to enhance psychological wellbeing of HCWs and strengthen the healthcare systems'

capacity during pandemic. A key focus of healthcare institutions should be in ensuring sufficient support, providing tailored education and training, and ensuring adequate resources. In addition, psychosocial need should be monitored, and psychosocial services could be delivered by telemedicine, for instance. In literature, social support has increased HCWs' self-efficacy and reduced the levels of anxiety and stress. Unfortunately, however, no relation has been found between social support and sleep quality.

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