ORIGINAL ARTICLE

COVID-19 and its Mental Health Effects on Nurses and Health Workers – A Narrative Review

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ABSTRACT

Since December 2019, outbreak of a novel viral disease was reported in Hubei province of China, which was caused by a novel coronavirus (COVID-19). The WHO declared the outbreak a public health emergency of international concern. The pandemic could have severe effects on the mental health of workers. This disease will not only raise public health concerns but also cause several forms of psychological distress, including anxiety, fear, depression, stigmatization, avoidance behaviors, and posttraumatic stress disorder (PTSD). Therefore, it is essential to explore the psychological side of the pandemic and the factors related to mental health in the workplace. We performed a literature search using Google Scholar and PubMed, selecting papers focusing on nurses and health workers' psychological problems that can be related to the workplace during the pandemic. Eight articles were included. Mental issues related to the health emergency, such as anxiety, depression, and post-traumatic stress disorder (PTSD), especially those on the frontline workers. The results of study showed that the COVID-19 epidemic crisis has caused psychological consequences such as depression, decreased concentration and mental disorder, lack of self-confidence, negative attitude towards the organization, interpersonal conflict, frustration, stress, and demoralization in nurses and health workers.
Keywords: COVID-19, Pandemic, Mental, Health, Nurses

INTRODUCTION

Since December 2019 in the Hubei province of China, the novel coronavirus disease (COVID-19) is spreading rapidly both locally and internationally(1). The pathogen, a novel coronavirus (SARS-CoV-2), was identified by local hospitals, as stated by the WHO on 9 January 2020. Subsequently, COVID-19 has spread rapidly throughout the world and has reached pandemic proportions affecting all continents. The WHO declared the outbreak a public health emergency of international concern on 30 January 2020, when all 34 regions of China showed cases of infection and the total number of infections exceeded that of severe acute respiratory syndrome (SARS) of 2003. On 11 March 2020, the outbreak was declared a global pandemic (2).

Previous study conducted on other infectious diseases, including the Severe Acute Respiratory Syndrome (SARS), the Middle East respiratory syndrome (MERS) and the Ebola virus disease, consistently showed that many healthcare professionals especially nurses reported symptoms of anxiety and depression during the outbreak, causing a severe impact on their coping abilities, in some cases with long-lasting effects(3-4).

The pandemic could have severe effects on the mental health of workers. Experts point out that both people who already suffered from psychiatric problems, and others who have never experienced symptoms, could be at risk (5).

Due to the changes determined by the COVID-19 in the workplaces, and in the way to perform work activities, it can be hypothesized that some occupational and organizational factors could play a relevant role in the mental health of workers and their ability to cope with a new challenging working problems. It has been widely showed that the work environment, work organization, and work-related behaviors are factors capable of influencing mental health and psychological well-being of workers especially in nurses (6).

One of the most important psychological disorders that can damage the mental health of people with COVID-19 is post-traumatic stress disorder (7). Post-traumatic stress disorder is a stress-related psychological problem that occurs in people who experience life-threatening conditions (8). Experiencing life-threatening physical illnesses such as COVID-19 can be a cause of symptoms of PTSD. Sleep disturbance is another problem in people with COVID-19.The results of a study conducted in China during the publication of COVID-19 disease in Wuhan show that the sleep quality index in these people decreases sharply (7).

Another consequence of chronic exposure to stressors like COVID-19 is burnout, a state of depleted psychological resources (9). Burnout is commonly described as multidimensional, consisting of emotional exhaustion, depersonalization and diminished sense of personal accomplishment. Risk factors for clinician burnout have been identified as: stressful professional experience; increased work-load; reduced quality of work; social isolation; and younger age and career stage (10).

Therefore, in addition to the medical or economic implications, it is essential to analyze the psychological side of the pandemic and the factors related to mental health in the workplace.

METHOD

We identified 198 studies published in English and Persian between December 2019 and October 2020 available in PubMed (125) and Google Scholar (73) (fig. 1). Following the PICO strategy (population, intervention, comparison, outcomes) for scientific research, we used a specific string

of search (11). In order to include relevant literature about the theme, we combined several search terms belonging to each PICO section:
Population: health workers, nurses
Intervention: health place, organization, job
Comparison: COVID-19, SARS-CoV-2, 2019-nCoV, coronavirus, pandemic
Outcome: mental health, mental illness, psychological health, psychological disorders, stress, post-traumatic stress disorder, depression.

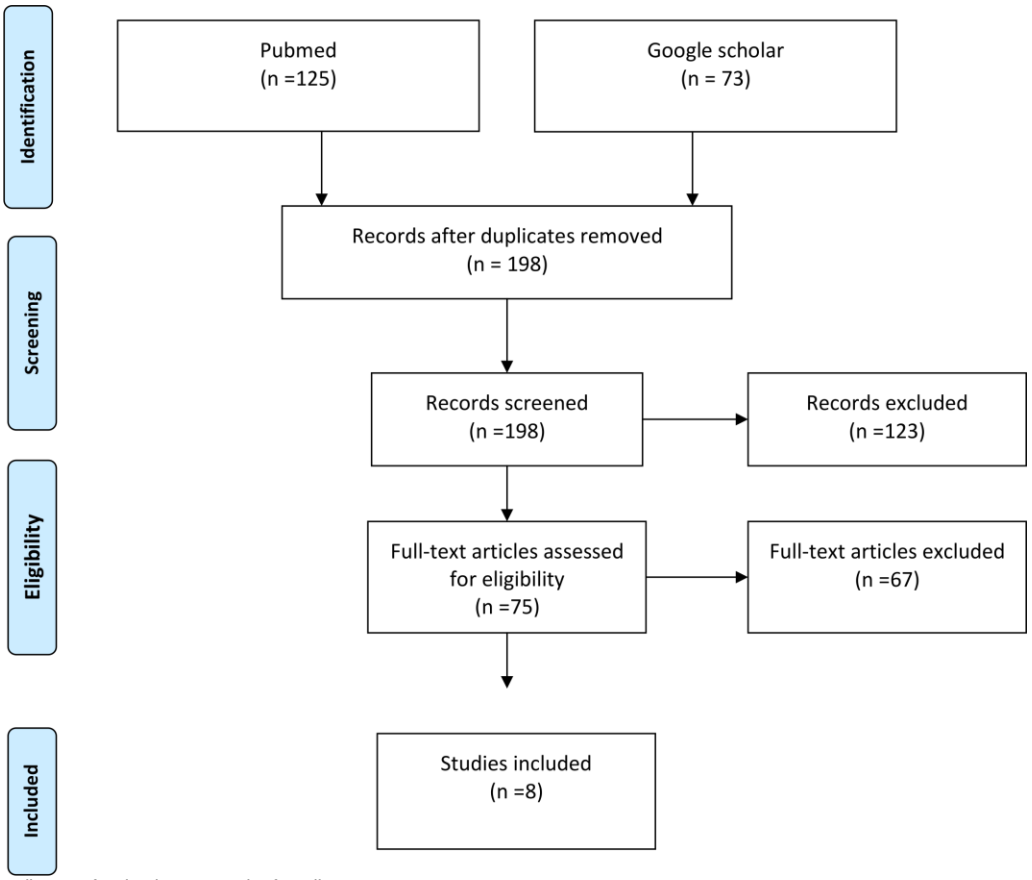

Fig. 1 PRISMA flow diagram for database search of studies

Table 1. Summary of included articles

Authors, year country	Study title	Study design And population	Study Setting and Main Results	Outcome
Kang et al. ,2020 China (12)	The mental health of medical workers in Wuhan, China dealing with the 2019 novel coronavirus	Cross-sectional study N=994	36.9 % had sub threshold mental health disturbances, 34.4 % had mild disturbances, 22.4 % had moderate disturbances, and 6.2 % had severe disturbances	Positive psychological outcome
Cai et al. ,2020 China (13)	Psychological impact and coping strategies of frontline medical staff in Hunan between January and March2020 during the outbreak of coronavirus disease 2019	Cross-sectional study N=534	Medical staff experienced emotional stress during the COVID-19	Negative psychological outcome
Liang et al. ,2020 China (14)	Screening for Chinese medical staff mental health by SDS and SAS during the outbreak of COVID-19	Cross-sectional study N=59	Several staff were experiencing clinically significant depressive symptoms	Negative psychological outcome
Xiao et al. ,2020 China (15)	The effects of social support on sleep quality of medical staff treating patients with coronavirus disease 2019 (COVID-19)in January and February 2020 in China	Cross-sectional study N=180	Levels of social support were significantly associated with self-efficacy and sleep quality and negatively associated with the degree of anxiety and stress.	Negative psychological outcome

Zhang et al. ,2020 Iran (16)	At the height of the storm: Healthcare staff's health conditions and job satisfaction and their associated predictors during the epidemic peak of COVID-19	Cross-sectional study N=304	Results indicate that a substantial portion of the sample reached the cutoff levels of disorders in anxiety (28.0%), depression (30.6%), and distress (20.1%).	Negative psychological outcome
Sögüt et al. ,2020 Turkey (17)	The relationship betweenCOVID-19 knowledge level sand anxiety states of midwifery students during the outbreak: A cross-sectional web-based survey	Cross-sectional study N=972	Results indicate that anxiety levels of the female students were high among those who visit the hospital during the pandemic and had parents or relatives who had chronic diseases. Female midwifery students had a high level of knowledge regarding COVID-19.	Positive psychological outcome
Huang et al. ,2020 China (18)	Mental health survey of 230 medical staff in a tertiary infectious disease hospital for COVID-19	Cross-sectional study N=246	Overall anxiety (23.04%) Severe anxiety (2.17%) Moderate anxiety (4.78%) Mild anxiety (16.09%) Anxiety in females higher than males (25.67% vs. 11.63%) Anxiety in nurses higher than doctors (26.88% vs. 14.29%) Stress disorder (27.39%)	Negative psychological outcome
Jianbo Lai et al. 2020, China (19)	Factors associated with Mental Health outcomes Among Health Care Workers Exposed to Coronavirus Disease 2019 pneumonia	Cross-sectional study N=1257	Depression (50.4%) Anxiety (44.6%) Insomnia (34.0%) Distress (71.5%) More psychological burden among nurses, women, those in Wuhan, and frontline healthcare workers	Negative psychological outcome

DISCUSSION

The rapid outbreak of COVID-19 in the early 2020s of the world has put severe physical and psychological pressure on the medical staff of hospitals involved in the care of patients with COVID-19, to the extent that the risk of post-traumatic stress disorder (PTSD) is this group grew. The aim of this study was to evaluate the mental health status of hospital staff involved in the care of COVID-19 patients. The current review suggests that nurses and health workers are encountering a considerable degree of stress, anxiety and depression due to the COVID-19 pandemic.

Nurses and health workers with higher levels of mental health problems were more interested in skills for self-rescue and showed more urgent desires to seek help from psychotherapists and psychiatrists.

Battling COVID-19 on the frontline makes nurses and health workers vulnerable to psychological distress. Finding shows high levels of depression, stress, anxiety, distress, anger, fear, insomnia, and post-traumatic stress disorder in the nurses and health workers. Females and nurses were disproportionately affected more from mental health consequences. Frontline female nurses work in close contact with patients for longer working hours, which may result in fatigue, stress, and anxiety. However, this finding warrants for further research to better prepare for the future (20).

The results of a study showed that the COVID-19 epidemic crisis has caused psychological consequences such as depression, decreased concentration and mental disorder, lack of self-confidence, negative attitude towards the organization, interpersonal conflict, frustration, stress, and demoralization in nurses (21).

The conditions created by the COVID-19 epidemic in Iran and around the world have caused health care workers who are directly involved in the diagnosis, treatment and care of patients with COVID-19 to be exposed to many risks, especially in terms of mental distress and other health symptoms (22).

The growing number of confirmed and suspected cases, the high pressure of work, the reduction of personal protective equipment, the widespread media coverage, the lack of certain medications and the feeling of insufficient support for them may all contribute to the psychological stress of these people.

Although the factors that cause various mental states in the staff of the medical units of COVID-19 have been studied and identified, but the consequences that this disease will have on the medical staff in the future have not been analyzed. Many nurses stated that they did not need psychological services, but needed more rest and personal protective equipment. They suggested that they need to be adequately trained in psychological skills to deal with anxiety and panic as well as other emotional problems (23).

It seems that taking supportive measures for nurses in the field of their mental health will be an effective approach to control infection. In this regard, we refer to some measures: 1) Providing a place for temporary rest away from family members for nurses, 2) Providing the necessary food when nurses are in medical centers, 3) Providing facilities for making a video of yourself and Sharing them with family members, 4) Incorporating crisis management content into pre- and in-service training programs, 5) Utilizing hospital security staff to assist nurses in dealing with patients without cooperative relationships, 6) Preparing and drafting laws for benefit Taking personal protective equipment, 7) Providing leisure time and training on how to perform measures such as relaxation for nurses, 8) Providing regular counseling services to nurses and listening to nurses' problems related to issues related to the COVID-19 crisis (24).

However, there is almost no doubt that the mental health status of health care workers in other countries will probably not be satisfactory. Take Italy, for example. Doctors in this country had to choose from among the patients who should be placed under the ventilator (due to the high rate of patients). This is a daunting decision that may cause lasting psychological distress. In addition, the number of infectious disease specialists is not enough to treat COVID-19 patients, so other physicians, such as ophthalmologists and dermatologists, are working to care for patients. For example, they are trained in the principles

of oxygen delivery. Most of them do not have experience of how the patient dies due to shortness of breath and even inexperienced medical staff has not seen the moment of the patient's death up close and this can be traumatic. In fact, some may develop post-traumatic stress disorder or other mental health problems.

Early stress management can prevent long-term mental health problems. If you have an acute increase in anxiety, depression, or other illness, seek professional help as soon as possible. Many therapists now offer telemedicine options. There are also a variety of meditation techniques that you can try for free. Many neuroscience studies have shown that meditation can help us not only calm our anxiety, but also behave differently.

CONCLUSIONS

Nurses and health workers are at risk for developing physical and mental health consequences due to their role in providing care to patients with COVID-19. Implementation of the following strategies may help reduce the burden of health consequences: the adequate provision and training on the use of personal protective equipment, strict infection control practices, shorter shift length, and provision of mental health and support services.

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