

Evaluation of Symptoms of Post-Traumatic Stress Disorder in COVID-19 First Line Staff in Iran

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ABSTRACT

The outbreak of the Corona pandemic at the end of 2019 has led to an increase in workload among first-line staff at Corona patient care centers. The aim of this study was to evaluate the symptoms of PTSD in corona first line staff and other staff of Iranian hospitals.

This cross-sectional study was conducted in 2020 in COVID-19 hospitals and general hospitals. The sample consisted of 90 general hospital staff and 92 COVID-19 hospitals who were selected by convenience sampling. The PTSD Checklist for DSM-5 (PCL-5) was also research tool. One-way analysis of variance through SPSS 19 software was used to analyze the data.

The result shows that COVID-19 front-line staff had higher levels of PTSD than other staff ($p < 0.001$). Also, female staff experience more PTSD symptoms than male staff at COVID-19 first line hospital ($p = 0.025$).

According to the result, it can be said that among the first line staff of Corona virus in Iran, the rate of PTSD symptoms is higher than other staff. Also, among these people, women have more symptoms. The reason for this increase in first-line staff can be considered the exposure to quarantine conditions, exposure to death and severe symptoms of the virus, and ambiguity of treatment and prognosis of the disease. Also, female staff have more symptoms than male staff, which indicates the need to study and provide more psychological services to this group.

Keywords: covid-19, PTSD, first line staff.

Introduction

In recent years, infectious disease outbreaks such as H1N1 influenza, Ebola o, and the Zika+ virus outbreaks have frequently occurred, which seriously threatened human life. The coronavirus disease (COVID-19) epidemic in China is a global health threat (NHC,2020), the World Health Organization (WHO) announced the COVID-19 outbreak a public health emergency of international concern and suggested that it be named “COVID-19”. (Fauci, Lane, & Redfield, 2020). With the outbreak of the Corona virus, like the SARS virus in 2003 and Ebola in 2014, fear has become widespread and hyperactive behavior has become widespread (Du et al, 2020). With the advent of the Corona virus in most parts of the world, the level of fear and symptoms of PTSD has spread. Iran was also one of the countries that declared the emergence of coronavirus cases in early 2020.

With the development of the epidemic, the number of confirmed and suspected patients has continued to increase, and the workload and work pressure of front-line clinical staff to fight the epidemic have also increased. Front-line health care workers face not only heavy workloads, but also the risk of infection. Due to the special and high-risk work of clinical frontline medical staff, their psychological pressure is large, which affects their quality of life and mental health. PTSD is the one of psychological consequence to faced with threat life condition as violent physical assaults, torture, accidents, rape or natural disasters and is characterized by a typical symptom pattern of intrusions, persistence of trauma, avoidance, numbing and physiological hyper-arousal (Deja et al, 2006). Post-traumatic stress disorder (PTSD) is the most frequent psychopathological consequence of traumatic events. Chronic PTSD is tenacious, debilitating and frequently intractable. Early PTSD symptoms are sensitive but non-specific predictors of chronic PTSD. They subside in over 70% of those expressing them (Shalev et al, 2019). common human experience such Several studies have explored the psychological effect during such epidemics, such as Severe Acute Respiratory Syndrome (SARS) and H1N1. Ko et al (2006) reported that 3.7% of public cases, including 9.6% of “impacted group” (they or their friends and family had been quarantined, or suspected of being infected), had experienced depression symptoms since the SARS outbreak. Liu et al (2006) showed 17.3% significant mental symptoms among health care workers during SARS epidemic. And research to relate PTSS, Mak et al. (2010) reported more than 40% of SARS survivors had experienced PTSS at one time during the outbreak. Meanwhile, those respondents who had been isolated, worked in high-risk workplaces such as SARS wards, or had friends or close relatives who contacted SARS were two to three times more likely to have high levels of PTSS than those who were not exposed to the virus(Wu et al., 2009). In consequence, PTSS should be pay more attention during the outbreak of COVID-19.

As the number of infections increasing, the lack of clear and definite information of virus from the media, work pressure, large work loud and facing death in the staff of medical center of COVID-19 induce develop of post-traumatic stress syndrome.

Posttraumatic stress disorder (PTSD) and insomnia are comorbid clinical conditions that are thought to result from genetic and environmental effects. Insomnia is a sleep disorder characterized by difficulties falling asleep and/or staying asleep, resulting in distress and daytime impairment (APA, 2013). In addition to elevated sleep disturbance in PTSD as noted by the inclusion of sleep disturbance in PTSD symptom criteria, approximately 30–60% of individuals with PTSD meet criteria for comorbid insomnia (Inman, Silver, & Doghramji, 1990). Because the staff of COVID-19 centers have difficulty sleeping, it seems that there are more symptoms in this group. Therefore, the aim of this research is investigation of PTSD symptoms in COVID-19 staff.

Materials and methods

Setting and Participants

We adopted a cross-sectional survey design to assess PTSD symptoms in staff of COVID-19 care giver center. The statistical population of the study included the staff of Corona care centers in Isfahan. Statistical samples were selected from three hospitals of Amin, Khorshid and Al-Zahra. Also, for comparison PTSD symptoms were used in health care staff of COVID-19 hospitals and other staff of general hospitals as a control group. The inclusion criteria of study were employment in specialized hospitals in COVID- 19 and not having a history of physical or mental illness. Exclusion criteria was history of mental or physical illness. We examine staff of 3 general hospital contained Sadooghi, Kashani and Shariati for compare with staff of corona care system. With the necessary coordination made with the vice chancellor for treatment of Isfahan university of medical sciences, a list of nurses and doctors of these hospitals was prepared and they were randomly contacted via WhatsApp. The questions of the questionnaires were distributed among the sample through an online questionnaire. Finally, 92 people in the experimental and 90 people in control group responded to the questions. The demographic characteristics of the sample are shown in the table below.

Table 1. Demographic characteristics of the studied sample

Sex		Age				Job					
Experiment		Control		Experiment		Control		Experiment		Control	
Male	Female	Male	Female	Mean	Sd	Mean	Sd	Doctor	Nurse	Doctor	Nurse
44	48	43	47	38	8.5	35	9.2	20	80	19	79

The results of the chi-square test for the gender($p=0.891$) and job($p=0.991$) variable show that there is no difference between the two groups. Also, the results of the T-

Student test for the age variable indicate that there is no difference between the two groups ($p=0.523$). According to these findings, it can be said that the samples in the groups compared did not differ in demographic characteristics.

Instrument

PTSD Checklist for DSM-5 (PCL-5)

PTSS were assessed by the PTSD Checklist for DSM-5 (PCL-5) (Blevins et al., 2015). The PCL-5 is a self-report measure, consisting of 20 items that correspond directly to the DSM-5 PTSD. Each item reflected the severity of a particular symptom, rated on a five-point Likert scale from 0 (not at all) to 4 (extremely) during the previous month. The score of each symptom cluster was calculated as the sum of the corresponding items. PTSS severity (total symptoms) was defined as the sum of the scores of all PCL-5 symptom clusters. The PCL-5 can determine a provisional diagnosis in two ways, a) the presence (endorsed as 2 or greater) of at least one re-experiencing symptom (Criterion B item; questions 1–5), one avoidance symptom (Criterion C item; questions 6–7), two negative alterations in cognition or mood symptoms (Criterion D items; questions 8–14) and two arousal symptoms (Criterion E items; questions 15–20), and b) the sum of total score over cut-point score of 33 point. For the present study, the Persian version of the questionnaire was prepared and the validity and reliability characteristics of the test were confirmed.

data analysis

First, descriptive statistics related to PTSD symptoms in the study groups were examined and then t student test was used to compare the PTSD symptoms of COVID-19 first line staff and other medical staff.

Finding

In this study, 92 people in the experimental group and 90 people in the control group answered the questionnaires. The response rate was 91%. The mean work experience of the subjects at the time of the study was 8.2+ 6.2 in the experimental group and 9.6+ 6.5 in the control group.

Table 2. Mean and standard deviation of PTSD symptoms and the results of one-way analysis of variance for the difference between the two groups of COVID-19 first line staff and other medical personnel

		Respondents		PCL-5 Scores		f	p-value
		N	%	Mean	Sd		
first-line medical staff		92	50.54	26.09	25.62	5.23	0.001
Other medical staff		90	49.46	14.20	10.25		
first-line medical staff	male	44	47.82	24.11	10.25	3.24	0.025
	female	48	52.17	27.98	12.98		

Other medical staff	male	43	47.7	13.2	11.25	1.012	0.215
	female	47	52.22	14.8	12.39		

As can be seen in the table above, the mean and standard deviation of PTSD scores of individuals in the two groups and t student test are available to determine their differences. table also shows that COVID-19 front-line staff had higher levels of PTSD than other staff. Female staff also experience more PTSD symptoms than male staff at COVIDe19 first line hospital.

Discussion

The findings of this study primarily show that the rate of PTSD symptoms in the first line staff of COVID - 19 is higher than other hospital staff. These findings also show that PTSD symptoms are higher among women than men. However, the symptoms of PTSD do not differ between men and women in non-COVID-19 hospitals. These results are in line with research conducted in China. Which found a high prevalence of anxiety and depression in COVID-19 front-line staff (Huang et al, 2020). huang et al (2020) suggest that Medical institutions should strengthen the training of psychological skills of medical staff. Special attention should be paid to the mental health of female nurses. As, in the present study, it is necessary to address the mental condition of first line staff, especially female personnel. These results are also in line with Chen et al (2020) study that examined the symptoms of COVID 19 hospital staff. The researchers observed stress symptoms, irritability and sleep deprivation in staff. Some researchers attribute the symptoms of anxiety and depression among COVID-19 first-line staff to long working hours, ambiguity about illness, fear of quarantine, and fear of transmitting the virus to family members (du et al, 2020). Especially in female nurses, these symptoms were more severe, however, they denied these symptoms. As the present study shows, PTSD symptoms are more common in female staff. Previous research has shown that the rate of PTSD is higher among women than men, and the reasons for this are considered to be biological and psychosocial preparations. Because women are more at risk of rape, violence, and so on. Therefore, in the face of stressful events, they are more likely to show symptoms of PTSD. (Kimerling, Allen, & Duncan, 2018). One of the reasons for the increase in Because first-line Coronaviruses staff experience more insomnia, they have more PTSD symptoms than other employees. One of the limitations of this study was the impossibility of monthly follow-up of individuals, which limited the possibility of comparing individuals' symptoms over time. Also, due to social distance, the possibility of clinical evaluation and clinical interviews of individuals was not possible. Therefore, to examine the symptoms, researchers relied solely on the data obtained from the questionnaire. Therefore, it is suggested that in future research, structured interviews be used to examine the symptoms and that the symptoms of individuals be examined over time. coronavirus symptoms among front-line staff is

their exposure to quarantine conditions (Brooks et al, 2020) and coronary deaths. Recent research has shown that quarantine is associated with symptoms of post-traumatic stress, anger and stress. Symptoms of post-traumatic stress have increased as first-line coronavirus personnel experience quarantine conditions. Insomnia is another cause of increased PTSD symptom in first-line Corona staff. Research has shown that people who experience more insomnia are more prone to post-traumatic stress disorder also one of the symptoms of post-traumatic stress disorder is insomnia (Mac et al, 2010).

In general, it can be said that among the first line staff of Corona virus in Iran, the rate of PTSD symptoms is higher than other staff. Also, among these people, women have more symptoms. The reason for this increase in first-line personnel can be considered the exposure to quarantine conditions, exposure to death and severe symptoms of the virus, and ambiguity of treatment and prognosis of the disease. Also, female staff have more symptoms than male staff, which indicates the need to study and provide more psychological services to this group.

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