

Prevalence of Post-Traumatic Stress Disorder (PTSD) among Healthcare Workers Following COVID-19 Pandemic in Jazan Region, KSA

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Abstract

Background: COVID-19 was declared a worldwide pandemic by the World Health Organization in 2020. Many pieces of research have been published on the virus's pattern and transmission routes, and a few studies have been published on its psychological repercussions for the general public and health care workers in particular. We aimed in this study to figure out the impact of COVID-19 pandemic on the mental health of health care workers in the Jazan region and compare it to non-health care workers. **Results:** There were 221 participants in this study conducted in the Jazan region KSA, during the first part of 2022. 117 participants were non-HCWs (Health Care Workers) and 104 participants were HCWs. 31.7% of HCWs had high score of PTSD symptoms which may suppress their immunity, PTSD was a clinical concern in 12.5%, 6.7% had probable PTSD, and 49% had no PTSD. The average PTSD score in HCWs was 26.14. In contrast, the great majority of non-HCWs (69.2%) had no PTSD; PTSD was a clinical concern in 16.2%, 11.1% had a score indicating PTSD had the potential for immunosuppression, and 3.4% had probable PTSD. **Conclusion:** The COVID-19 pandemic did not affect just those who were infected with the virus, nor was it restricted to the mental health of those afflicted; rather, the influence expanded until it reached the general public and, in particular, those who had contact with patients, such as health care workers. As a result, mental health investigation, follow-up, and therapy are required to preserve the mental health of health care workers as well as the general population.

Keywords

COVID-19, PTSD, Health Care Workers

1. Introduction

The World Health Organization declared COVID-19 a pandemic on March 11 2020 [1]. COVID-19 is considered a life-threatening condition that has become a major public health crisis [2]. Millions of confirmed COVID-19 cases around the world have been documented since the outbreak started in December 2019 [2]. Because of the unexpected spread of the disease, health care workers were more vulnerable than others to come in contact with COVID-19 cases which make them more susceptible to getting infected than others. According to previous studies, frontline healthcare workers are more likely to develop mental health effects such as obsessive-compulsive (OCD) and post-traumatic stress disorder (PTSD) [2]. Due to the nature of the emergency work environment and the continuous entrance of emergency patients for an extended length of time, health care personnel in the ED are more prone to exhaustion and psychological disfunctions [1]. In challenging circumstances, such as the COVID-19 pandemic, PTSD symptoms have been found in caregivers [3]. Post-traumatic stress disorder is an anxiety disorder that develops in reaction to physical injury or severe mental or emotional distress, such as military combat, violent assault, natural disaster or other life threatening events like the COVID-19 pandemic [4]. Therefore, susceptibility of HCWs to be contaminated, loss of patients, be responsible for vital decision making, put them at great risk to develop PTSD symptoms [3]. A prior study found that the mental health impacts are caused not just by direct exposure of patients with the infection but also through events in their personal lives, such as having close friends who are infected with COVID-19 or losing loved ones as a result of COVID-19 exposure [5]. There are certain infections and serious diseases that are deemed harmful once exposed to, such as hepatitis viruses and HIV; thus, becoming infected with any of them is rare in light of taking preventive measures; however, the situation was different with COVID-19, as any symptoms that appear in a person may have a serious impact due to the characteristics of COVID-19 disease outbreak [5]. According to a previous study, women who work on the front lines of the COVID-19 struggle are more susceptible to negative impacts on mental health [6]. These variables, which include exposure level, job role, years of work experience, social and work support, COVID-19 quarantine, age, gender, marital status, and others, were discovered to be relevant risk factors for developing symptoms of Post-Traumatic Stress Disorder [7]. From another angle, it is well understood that all humans are prone to psychological suffering once isolated; however, the most vulnerable members of society in these settings include children, teenagers, the elderly, low-income persons, females and people who have previously experienced mental health dif-

faculties [8]. The COVID-19 pandemic may have long-term implications that require people to cope with as well as recover from it over the time after. Therefore, addressing these problems assist in coping with identical issues in the future and mitigating or curbing them. The consideration of early mental health caring and intervention for everybody, particularly health workers, would therefore make them an impervious barrier to combat these diseases and work diligently and without frustration throughout the rise of infectious disease outbreaks. By conducting this study, we will be capable of determining the impact of the COVID-19 pandemic on the psychological well-being of healthcare workers in the Jazan region compared with the general public. Moreover, we will be able to identify the manifestations of post-traumatic stress disorder (PTSD) among healthcare workers and general public in the context of COVID-19. The IES-R [9] [10] scale utilized in this study is particularly developed to assess PTSD symptoms via three parameters: intrusion, avoidance, and hyperarousal.

2. Method

This cross-sectional study was conducted in the Jazan Region of KSA from January 29, 2022 to April 26, 2022. The target demographic population was health care workers in the Jazan region. The purpose of this study was to investigate the impact of COVID-19 pandemic on the mental health of health care workers and compare it to the mental health of those who do not work in the health care field. The questionnaire used was the Impact of Event Scale-Revised (IES-R) [10] questionnaire which is a self-report questionnaire (Given at the bottom as appendix: hyperlink). The measure was designed to assess the psychological consequences of a traumatic event. It consists of 22 questions, the answers to which were documented on a 5-point Likert scale. The questionnaire included a part with general sociodemographic questions regarding age, gender, and educational level. The IES-R questionnaire is divided into three subscales:

- 1) Intrusion: evaluating unwanted thoughts, nightmares, and dissociative emotions.
- 2) Avoidance is characterized by a lack of reactivity to situations and ideas.
- 3) Hyperarousal: rage, inability to concentrate, and heightened startle.

The IES-R is a 22-item measure with three subscales that quantify mean intrusion, avoidance, and hyperarousal [11]. Responses to each item are graded on a scale of 0 to 4, with 0 signaling not at all and 4 indicating extremely. The overall score was classified into Normal (0 to 23), Mild (24 - 32), Moderate (33 - 36), and Severe (greater than 37). After transferring the data from Google Sheets, the IES-R score was calculated in Microsoft Excel. The subscales of avoidance, intrusion, and hyperarousal were scored. The avoidance subscale score was calculated by using the mean of question item numbers 5, 7, 8, 11, 12, 13, 17, and 22. The incursion subscale score was calculated by taking the mean of question item numbers 1, 2, 3, 6, 9, 14, 16, and 20. The hyperarousal subscale score was calculated by taking the mean of question item numbers 4, 10, 15, 18, 19, and 21. The IES-R score was then

used to calculate the average for each of the two categories (healthcare workers and non-healthcare workers). The IES-R scale ranges from 0 to 88. Any score higher than 24 is connected with a meaningful PTSD score. Then, according to **Table 1** below, the outcome of each score was entered as a comment.

3. Results

This was a cross-sectional study with 221 participants. A Google form was used and sent through social media and channels to the participants. The Revised version of Impact of Event Scale questionnaire, a standard tool, was used to gather data for this study. There were 104 HCWs and 117 non-HCWs participants in this study. Governates distribution and work nature distribution are given in **Table 2**. The impact of the Event Scale-Revised (IES-R) score was assessed and

Table 1. IES-R scale.

Score	outcome
24 or more	PTSD is a clinical concern [12]. Individuals with such a high score who may not qualify for complete PTSD may have partial PTSD or only a few of the symptoms.
33 and above	This score is the suggested threshold for probable PTSD diagnosis [13].
37 or more	This outstanding feature has the potential to suppress immunity (even years after an impact event) [14].

Table 2. Governates distribution and work nature distribution.

Variables	Frequency %
Governorates	
Jizan city	65 (29%)
Al Edabi	60 (27%)
Abu Arish	25 (11%)
Alddair	10 (5%)
Ahad Almasarihah	8 (4%)
Alaridah	8 (4%)
Alharth	8 (4%)
Sabya	8 (4%)
At Tuwal	6 (3%)
Samtah	5 (2%)
Alddarb	4 (2%)
Harooob	4 (2%)
Baish	3 (1%)
Damad	3 (1%)
Farasan	2 (1%)
Fifa	2 (1%)
Work nature	
Non-HCWs	117 (53%)
HCWs	104 (47%)

classified into four categories depending on the results: post-traumatic stress disorder (PTSD) is a clinical concern, no PTSD, likely PTSD, and immune suppression. As seen in **Figure 1**, which explains IES-R scores for non-HCWs, the vast majority (69.2%) had no PTSD, and the remaining 30.8% ranged from PTSD is clinical concern, probable PTSD and can cause immune suppression (PTSD with clinical concern (16.2%) Probable PTSD (3.4%) and can cause immune suppression (11.1%). In addition, the average of non-HCWs IES-R score was 17.6. On the other hand, **Figure 2** explains the score of IES-R for HCWs, 49% had no PTSD, however, 51% had PTSD in various levels (In 12.5% the PTSD is a clinical concern, 6.7% had probable PTSD, and in 31.7% the PTSD may suppress the immunity), and the average of HCWs IES-R score was 26.1. It is expected for HCWs to experience a higher incidence of COVID-19-related psychological problems, including PTSD, in future. Therefore, hospital leadership should pay special attention to the mental well-being of their employees, especially

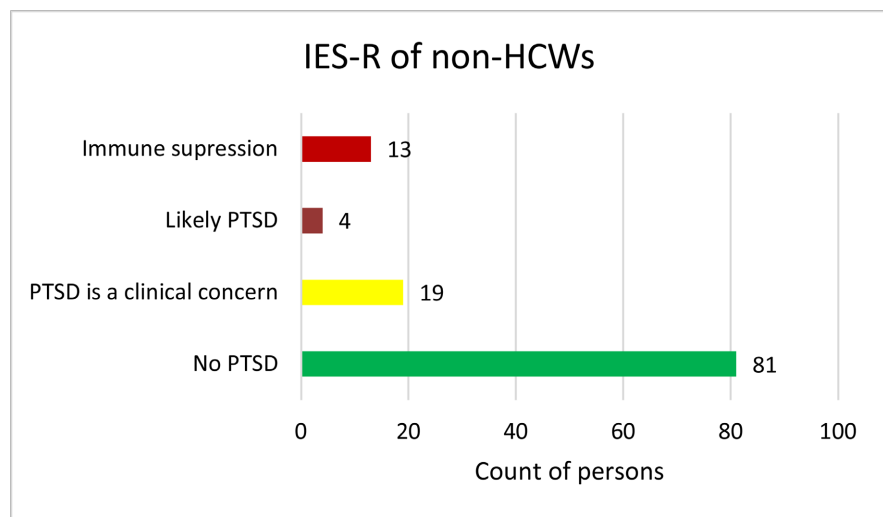


Figure 1. IES-R for non-HCWs.

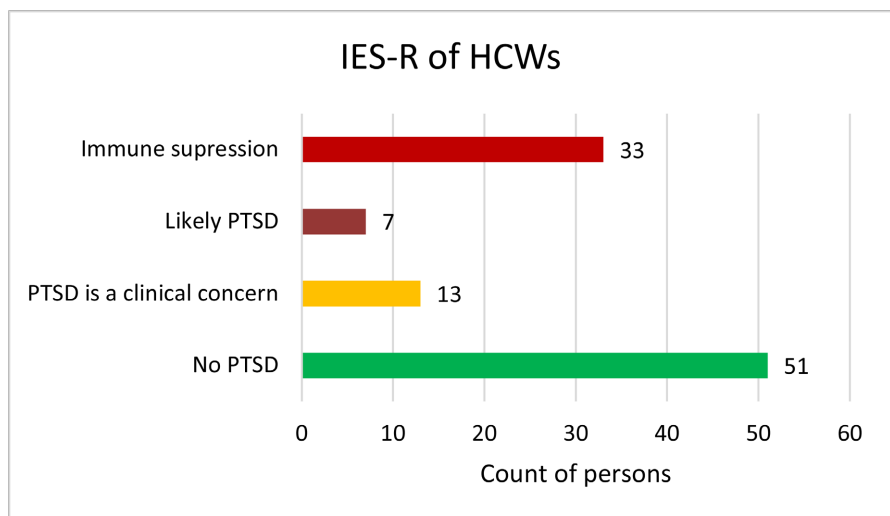


Figure 2. IES-R for HCWs.

HCWs, as the mismanagement of their mental health can lead to dire public health consequences. Identifying HCWs at risk factors or the development of psychological disorders, especially PTSD, and providing practical coping strategies are essential to ensuring the quality of the health care workforce.

4. Discussion

This cross-sectional study was conducted among people of the Jazan region in Saudi Arabia with 47% Healthcare workers and 53% non-Healthcare workers as participants. Participants were chosen from different governorates because of their workplace with the highest number of participants from Jazan city, second highest from Al Edabi, and third highest from Abu Arish as shown in **Table 2**. Furthermore, the study was done based on existing studies that reported an expanded danger of psychopathologies and stress-related disorders, in addition to reported high prevalence of PTSD symptoms [15]. According to the findings of a study done in China, 52% of the respondents were experiencing worry and fear as a consequence of the pandemic's outbreak [16]. According to the findings of our study, healthcare workers had a higher average IES-R score than non-healthcare workers, indicating that they are more vulnerable to mental stress. PTSD is a clinical concern in 12.5% of healthcare workers, 6.7% had probable PTSD, and 31.7% received a score greater than 37, indicating that they had encountered events that suppress their immunity. In comparison, the great majority of non-health care workers (69.2%) did not have PTSD, 16.2% had PTSD as a clinical concern, 3.4% had probable PTSD, and 11.1% had PTSD that may suppress their immunity.

5. Conclusion

The results of this cross-sectional review show that the overall prevalence of PTSD among HCWs during the COVID-19 pandemic was relatively high. This gravity of the situation highly recommends the provision of mental health resources to HCWs during this pandemic. Given the essential role of HCWs, especially during a pandemic, interventions to prevent and address mental illness in this population are of utmost importance. Practical interventions may include holding personal or group counseling sessions, providing education regarding mental illness and prevention strategies, offering mental health counseling, or providing social media outreach resources. Due to the prolongation of this pandemic, health policy makers may consider additional support measures such as efforts to reduce workloads, recruit new staff, provide adequate PPE, offer financial and psychological support, and shorten working hours.

6. Limitations of the Study

The study has a few limits. Firstly, the survey was performed online, which may be less efficient than face-to-face interviews. Secondly, numerous psychological testing and evaluation methods were not utilized.

Further studies must take these points into account, and use a bigger sample size as well.

7. Recommendations

This cross-sectional study highlights the necessity of providing mental health care to health care practitioners in the Jazan region and ensuring their mental safety on a regular basis to avoid long-term psychological disorders.

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Declaration

Online consent was obtained from all participants in writing method prior to the start of the survey.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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Abbreviations

PTSD: Post-Traumatic Stress Disorder

IES-R: Impact of Event Scale-Revised

HCW: Healthcare Worker

Appendix

The IES-R Questionnaire:

<https://www.aerztenetz-grafschaft.de/download/IES-R-englisch-5-stufig.pdf>