

## RESEARCH ARTICLE

**The psychological impact of COVID-19 pandemic on Iraqi health workers**

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**Abstract****Objective:** To explore the psychological impact of coronavirus disease-2019 on frontline healthcare workers in Iraq.**Method:** The cross-sectional study was conducted from November 2020 to September 2021 after approval from the ethics review committee of the College of Medicine, Mustansiriyah University, Baghdad, Iraq, and comprised doctors and nurses from 4 teaching hospitals and 8 primary healthcare centres in Baghdad. Psychological sequels, like anxiety, depression, fear and insomnia, were assessed along with exposure to coronavirus disease-2019. The study questionnaire was based on the Patient Health Questionnaire Anxiety and Depression Scale. Data was analysed using SPSS 26.**Results:** Of the 400 participants, 288(72%) were doctors and 112(28%) were nurses. Overall, 215(53.7%) subjects had a coronavirus disease-2019 infection, 192(48%) reported having anxiety, 148(37%) fear, 100(25%) depressive symptoms, and 51(12.8%) complained of insomnia. Doctors were more likely to have anxiety than nurses ( $p < 0.05$ ), but the difference in terms of depression was not significant ( $p > 0.05$ ).**Conclusions:** The mental health of the frontline healthcare workers was found to have been affected by the coronavirus disease-2019 pandemic, with anxiety and fear being the main symptoms.**Key Words:** Depression, Mental Health, Pandemics, Sleep Initiation, Disorders, Anxiety, Fear, Coronavirus (JPMA 74: S6 (Supple-8); 2024) DOI <https://doi.org/10.47391/JPMA-BAGH-16-02>**Introduction**

Coronavirus disease-2019 (COVID-19), a respiratory illness triggered by coronavirus that was firstly identified in Wuhan, China, in December 2019<sup>1</sup>, has a higher risk for frontline healthcare workers (HCWs) directly facing the pandemic and having higher exposure to health risks, such as infection, psychological distress, occupational exhaustion and workplace violence. They may have been exposed to job-related threats that put them at risk of disease, injury and even death in the fight against coronavirus. Of particular concern were psychological distress, chronic fatigue, stigma and discrimination as well as physical and psychological violence.<sup>2</sup> HCWs fought with huge physical and psychological stress owing to a surge in clinical workload that was made worse by shortage of staff, bed recession, impending lack of personal protective equipment (PPE) and medications in addition to the risk of exposure to the virus; getting the disease themselves or passing it on to their families.<sup>3</sup>

Globally, many HCWs were infected and died from COVID-19.<sup>4</sup> During the outbreak, the number of HCWs became infected accounted for 4-11% of confirmed cases.<sup>5</sup> The World Health Organisation (WHO) estimated that up to 14% of COVID-19 cases were among HCWs. In South Africa, more than 27,000 HCWs were diagnosed with  
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COVID-19 by August 2020, with 240 deaths.<sup>6</sup> In May 2021, WHO declared that at least 115,000 HCWs globally had lost their lives due to COVID-19.<sup>7</sup> More than 3,600 HCWs in the United States died in the first year of the pandemic, which was more than half of all occupational deaths in the US in 2017.<sup>8</sup> In May 2020, the International Council of Nurses reported that over 90,000 HCWs had been infected with COVID-19 around the world. In Italy, one of the worst affected countries, 11.9% of all confirmed cases during the first five months of the pandemic were HCWs. By August 15, 2020, data collected from 37 countries revealed that nearly 300,000 HCWs had been infected, and there had been over 2,500 deaths.<sup>9</sup> Despite the fact that mortality was higher among older people, many young infected people still developed a serious infection requiring hospitalisation.<sup>10</sup>

Violence against HCWs is often exacerbated in times of emergencies.<sup>11</sup> More than 600 incidents of violence, harassment, intimidation or stigmatisation took place against HCWs in relation to the pandemic.<sup>12</sup> A National Nurses United survey in late 2020 showed that about 20% of the participants, comprising about 15,000 US nurses, faced increased on-the-job violence, which they attributed to COVID-19.<sup>13</sup> A recent survey in Iraq revealed that of the 505 doctors, 444 (88.3%) reported verbal or physical violence during COVID-19.<sup>14</sup>

Within 6 weeks of the first detected case in Iraq, 53 of the 629 confirmed cases were HCWs; and, among them,

33(62%) were nurses. By June 7, 2020, a total of 906 HCWs had been infected with COVID-19, representing 7.3% of the total confirmed cases in Iraq. Nurses formed the majority of cases (50.5%), followed by doctors (31.6%) and laboratory specialists (5.7%).<sup>15,16</sup>

The current study was planned to assess the psychological impact of COVID-19 on frontline HCWs.

## Subjects and Methods

The cross-sectional study was conducted from November 2020 to September 2021 after approval from the ethics review committee of the College of Medicine, Mustansiriyah University, Baghdad, Iraq, and comprised doctors and nurses from teaching hospitals and primary healthcare centres (PHCs) in Baghdad.

Four teaching hospitals and eight PHCs were selected through simple random sampling technique from across Baghdad. Using consecutive nonprobability sampling technique, HCWs from the chosen health facilities were enrolled. All HCWs who were available at the time of the visits and willing to participate were included. Those not willing to participate were excluded. Approvals and permissions were obtained from the relevant Health Directorates and the participating health facilities.

Data was collected using a semi-structured questionnaire designed to enquire about the psychological burden on HCWs, such as fear of transmitting the infection to their families, workload stress, insufficient quantity or poor quality of PPE, increased number of coronavirus infections, and accountability for patients' death.

The psychological sequels, like depression, anxiety, fear and insomnia, that were mostly associated with the pandemic and lockdowns, were assessed for all members whether or not they had been personally infected.

The questionnaire was based on the Patient Health Questionnaire Anxiety and Depression Scale (PHQ-ADS).<sup>17</sup> Anxiety was assessed using the self-reported 7-item generalised anxiety disorder scale (GAD-7), by focussing on how often the participants had been troubled during the preceding two weeks. It was scored 0 = not at all, 1 = several days, 2 = more than half the days, and 3 = nearly every day. It was interpreted as 0-4 = normal, 5-9 = mild, 10-14 = moderate, and 15-21 = severe. A cut-off score of 8 was used as a mark of the presence of anxiety on a

symptomatic basis.

The Brief 9-item Patient Health Questionnaire (PHQ-9) depression scale was used to evaluate the depressive symptoms during the preceding two weeks. It was scored on a 4-point Likert scale, ranging from 0 = not at all to 3 = nearly every day. The total score ranged 0-27. It was interpreted as 1-4 = minimal, 5-9 = mild, 10-14 = moderate, 15-21 = moderately severe, and 20-27 = severe. A cut-off score of 10 was used as a mark of the presence of depression on a symptomatic basis.

Data was collected during duty breaks of the HCWs through a direct interview with in outpatient department (OPD) clinics, emergency units and inpatient wards. Each interview took about 20-30 minutes.

Data was analysed using SPSS 26. Data was presented as frequencies and percentages. Pearson's chi-square test and Fischer exact test were used as appropriate.  $P < 0.05$  was considered statistically significant.

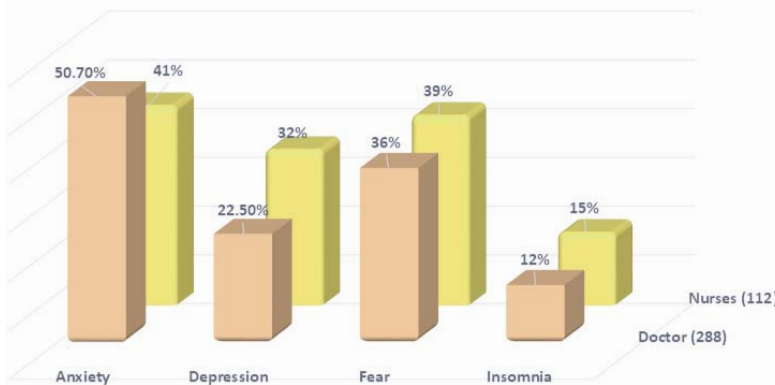
## Results

Of the 417 individuals approached, 400(96%) agreed to participate; 288(72%) doctors and 112(28%) nurses, and 242(60.5%) females and 158(39.5%) males. There were 285(71.2%) subjects aged 20-39 years, and 215(53.7%) subjects had had a COVID-19 infection. Overall, 192(48%) reported having anxiety, 148(37%) fear, 100(25%) depressive symptoms, and 51(12.8%) complained of insomnia (Figure 1). All symptoms, except anxiety, were more common among nurses than doctors (Figure 2). Moderate anxiety was found in 112(58.3%) subjects, and moderate depression in 58(58%).

Doctors were more likely to have anxiety than nurses ( $p < 0.05$ ), but the difference in terms of depression was



**Figure-1:** Mental symptoms among healthcare workers (HCWs).



**Figure-2:** Mental symptoms according to job orientation.

not significant ( $p > 0.05$ ) (Table). The main reason for developing mental complaints was the worry about getting the disease or transmitting it to their families (357, 95.2%) or to their relatives (334, 89.1%).

**Table-1:** Association between nature of healthcare job and severity of anxiety and depression.

	Anxiety (n=192)		P-value
	Mild	Moderate/Severe	
Doctors	66 (34.4%)	80 (41.7%)	0.002
Nurses	14 (7.3%)	32 (16.7%)	
	Depression (n=101)		0.357
Doctors	26 (25.7)	39 (38.6)	
Nurses	17 (16.8)	19 (18.8)	

### Discussion

About half of the respondents in the current study developed anxiety, more than one-third had fear, one-quarter had depressive symptoms, and 12.8% reported having insomnia. This is lower than a study in China, in which nearly one in four HCWs had insomnia.<sup>18</sup> Most of the sampled HCWs affirmed that they had not experienced such symptoms before the pandemic. One possible reason is that the workload and time usually increase during severe outbreaks, resulting in a less time for rest, which affects patient satisfaction and quality of care, leaving the HCWs prone to stress, psychological distress and poor sleep.<sup>19</sup>

The current findings were in agreement with previous research showing that HCWs were more susceptible to face enormous pressure, comprising a high risk of infection, isolation, helplessness, burnout, frustration,

social support absence, and imperfect access to mental health care.<sup>20</sup> Occupational factors lead to higher distress levels, and UCWs in vastly traumatic situations are at risk of developing psychological disorders, which suggests that they need more and better access to mental healthcare.<sup>20</sup> Subgroups of positive-testing HCWs with sleep disturbances in some studies found a significantly increased risk for anxiety, which indicated their need to receive supplementary mental health support interventions, while some retrospective findings have shown that records dated from before and during the pandemic did not indicate a significant burden of anxiety and depression among HCWs in general.<sup>18</sup>

Evidence showed that nurses presented the highest levels of occupational stress and resulting distress in similar outbreaks when compared to other groups.<sup>21</sup> However, in the current study, two-third of those who reported mental symptoms were doctors compared to one-third among the nurses. This result is in line with a study in Jordan which showed that doctors were psychologically more affected during the pandemic than other HCWs,<sup>22</sup> but is lower than what was concluded by studies from Ethiopia and Qatar.<sup>23</sup> A significant association between job orientation and degree of anxiety was noticed in the current study, while a study in Jordan showed that both anxiety and depression were significantly associated with the job.<sup>22</sup>

The current participants reported that fear and anxiety for self-health and the health of their families was the leading factor behind stress. The finding agrees with a study in Wuhan, China.<sup>24</sup>

HCWs, who were in the frontline of battle against the pandemic were exposed to many factors that affected their mental statuses, especially those who dealt with confirmed or suspected COVID-19 patients. Dangerous environment and traumatic experiences can all have a certain impact on an individual's emotional status and induce emotional stress responses, as well as severe anxiety, depression and post-traumatic stress disorders (PTSD).<sup>25</sup>

**Limitation:** The current study has limitations as the sample size was not calculated which could have influenced the power of the study and the generalisability of the findings.

## Conclusion

The mental health of frontline HCWs had been affected by the COVID-19 pandemic, with anxiety and fear being the main symptoms, followed by depression and insomnia. Continuous psychosocial support for HCWs should be a high priority to dilute the mental consequences of the pandemic.

**Disclaimer:** The text is based on an academic thesis.

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