Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Correspondence

Does context have a dramatic effect on results of mental health outcomes of ICU and non-ICU healthcare workers during the Coronavirus disease 2019 (COVID-19) outbreak?

Dear Editor,

The rapid prevalence and high mortality rate of the Coronavirus disease 2019 (COVID-19) outbreak has caused widespread psychological disorders such as depression, anxiety and stress in the community, especially on healthcare workers (HCWs) (Vahedian-Azimi et al., 2020; Wozniak et al., 2021). We conducted a cross-sectional study to compare the psychological impact of the COVID-19 outbreak on intensive care unit (ICU) and non-ICU HCWs in Iran. The responses of 187 ICU HCWs and 237 non-ICU HCWs collected from March to April 2020, right in middle of the first wave of COVID-19 disease, in Iran, on a voluntary basis and completely anonymous. Participants were asked to indicate demographic (age, sex and marital status), work-related information, and to complete three self-report questionnaires includes depression, anxiety and stress (DASS-21), COVID-19 Peritraumatic Distress Index (CPDI), and the World Health Organization-Five Well-Being Index (WHO-5) (methodology is available in the supplementary file).

According to the results (Table 1), the majority of non-ICU HCWs had severe and extremely severe stress (91.2% vs. 44.9%, $P < 0.001$), anxiety (100% vs. 75.4%, $P < 0.001$), and depression (97.4% vs. 72.7%, $P < 0.001$) that was significantly higher than these in the ICU HCWs. However, the severe peritraumatic distress due to COVID-19 was significantly higher in the ICU HCW than the non-ICU HCWs (49.7% vs.

Table 1
Comparison of stress, anxiety, depression (based on DASS-21), distress due to COVID-19 (based on CPDI index), and well-being (based on WHO-5 index) between ICU HCWs and non-ICU HCWs.

Variables	ICU HCWs (n = 187)	Non-ICU HCWs (n = 237)	P-value
Age			**<0.001***
Mean ± SD	40.06 ± 6.68	28.53 ± 5.22	
Sex **(%)**			**0.005***
Male	98 (52.4%)	156 (65.8%)	
Female	89 (47.6%)	81 (34.2%)	
Marital status (%)			**0.006***
Married	136 (72.7%)	142 (59.9%)	
Unmarried	51 (27.3%)	95 (40.1%)	
Position of participants			0.204
Physicians	21 (11.2%)	39 (16.5%)	
Nurses	144 (77%)	165 (69.6%)	
Care assistants	22 (11.8%)	33 (13.9%)	
Stress (based on DASS-21, %)			**<0.001***
Mild (11–18 scores)	17 (9.1%)	3 (1.3%)	
Moderate (19–26 scores)	86 (46%)	18 (7.6%)	
Severe (27–34 scores)	74 (39.6%)	136 (57.4%)	
Extremely severe (35–42)	10 (5.3%)	80 (33.8%)	
Anxiety (based on DASS-21, %)			**<0.001***
Moderate (10–14 scores)	46 (24.6%)	0	
Severe (15–19 scores)	141 (75.4%)	2 (0.8%)	
Extremely severe (20–42 scores)	0	235 (99.2%)	
Depression (based on DASS-21, %)			**<0.001***
Moderate (13–20 scores)	51 (27.3%)	6 (2.5%)	
Severe (21–27 scores)	86 (46%)	75 (31.6%)	
Extremely severe (28–42 scores)	50 (26.7%)	156 (65.8%)	
Distress (based on CPDI index, %)			**<0.001***
Normal (≤27 scores)	4 (2.1%)	32 (13.5%)	
Mild to moderate (28–51 scores)	90 (48.2%)	142 (59.9%)	
Severe (≥52 scores)	93 (49.7%)	63 (26.6%)	
Well-being (based on WHO-5 index, %)			0.922
Good quality of well-being (≥65 scores)	81 (43.3%)	101 (42.6%)	
Moderate well-being (44–65 scores)	71 (38%)	93 (39.2%)	
Worse well-being (≤34 scores)	35 (18.7%)	43 (18.1%)	

* $P < 0.05$ was considered statistically significant.

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26.6%, $P < 0.001$). In terms of well-being based on the WHO-5 index, no significant difference was observed between ICU and non-ICU HCWs.

The low level of anxiety, depression and stress in ICU HCW can be attributed to the high work experience of these people in the stressful environment of intensive care. In addition, in the first wave of the COVID-19, the main focus was on training ICU staff, which made them more aware of this catastrophic situation and more prepared for working under pressure in this situation. On the other hand, the less experience of non-ICU staff in dealing with acute and critical situations, unpredictability and lethality of COVID-19 and faced with a large number of critically patients can be the reasons why these staff are more prone to stress, anxiety and depression (Di Tella et al., 2021). However, distress was higher in ICU compared to non-ICU HCWs, which can be related to many factors such as self-perception of COVID-19 risk (Vahedian-Azimi et al., 2020), faced to numerous and unpredictable deaths and irregular working hours Heesakkers et al., 2021; Crowe et al., 2021).

It seems the potential psychological distress among HCWs could be different due to their experience, educational system and their perception or attitude regarding the COVID-19 outbreak. Nevertheless, contextual factors such as the sincere and voluntary work of expert intensive care physicians as well as intensive care nurses in those difficult conditions and the use of advanced and intensive ICU technologies for patients with COVID-19 are also influential and play an important role in reducing anxiety and stress of ICU staff.

Ethics approval

The present study was approved by the Ethics Committee of Baqiyatallah University of Medical Sciences, Tehran, Iran, with code IR.BMSU.REC.1398.442. The study participants were all informed about the objectives of the study and written informed consent was received from each participant.

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Authors' contributions

A.V-A developed the study concept. All authors contributed to the study design. Testing and data collection were performed by A.V-A and M-A.P data analysis and interpretation were performed by A.V-A and F.R-B under the supervision of M-A.P. A.V-A drafted the letter, and M-A.P and F.R-B provided critical revisions. All authors approved the final version of the manuscript for submission.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.iccn.2022.103208.

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