Unmasking stress: assessing anxiety and depression upon healthcare providers in Iraq through the COVID-19 era

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Unmasking stress: assessing anxiety and depression upon healthcare providers in Iraq through the COVID-19 era

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Abstract

Background. Based on statistical data provided by the WHO (World Health Organization), Iraq has documented a cumulative count of 2,465,545 confirmed cases of the coronavirus, resulting in 25,375 deaths.

Purposes. To evaluate prevalence of anxiety and depression and the factors related to their severity upon healthcare workers during COVID-19 pandemic.

Methods. A cross-sectional work that enrolled 300 participants, that conducted at health institutes of Al-Karkh Health Directorate/ Baghdad/ Iraq during the period from 1/7/2023 to 15/10/2023. GAD-7 and PHQ-9 questionnaires used to assess anxiety and depression respectively.

Results. Older age (≥40 years), female sex, and history of previous diagnosis with COVID-19 were significantly related to moderate-severe depression and anxiety. Moreover, dentists were more likely to have severe anxiety.

Conclusion. The present study has found that HCWs (healthcare workers) in Iraq experienced great levels of depression and anxiety during COVID-19. This was more pronounced among female and old HCWs.

Keywords: Anxiety, Healthcare provider, COVID-19, Depression

Introduction

Coronavirus infections are a group of respiratory viruses that have been identified as causative agents for a spectrum of disorders, including mild common cold symptoms to more serious conditions such as severe acute respiratory syndrome (SARS) [1]. Like of a January 30th, 2020, the "World Health Organization" (WHO) featured the on-going COVID-19 outbreaks as a "Public Health Emergency of International Concern" (PHEIC) and later, on 11th of March 2020, the WHO proclaimed the COVID-19 as a worldwide pandemic in response to its rapid and

widespread transmission, the severity of the sickness, and the escalating number of cases and fatalities seen in several afflicted nations [2].

Based on statistical data provided by the WHO, Iraq has documented a cumulative count of 2.465.545 confirmed cases of the coronavirus, resulting in 25,375 deaths [3]. However, the pandemic has resulted in not only a significant death rate due to viral infections but also profound psychological and emotional impacts on a global scale [4]. Most cases are exposing to an un-precedented stressful situations for an unknown periods, which may raise stresses, anxieties and depressions levels, as well as disrupt sleeping [5]. This holds especially true for HCWs, because of great demand of carrying for cases, change work condition, assignment of new tasks, fearing personal safety as well as worry about health of family members [6]. In fact, even pandemics outside, HCWs are dis-proportionately exposed to stresses and anxieties connected to work-loading, patients deaths and other environmental stressors. It is reasonable to assume that this burdening on the mental health of HCWs intensify via COVID-19 [7].

At the pandemic of COVID-19, HCWs are frequently exposed to patients who are infected, rendering them one of the professional groups most significantly impacted [8]. This has resulted in a rise in hospitalization and mortality rates among HCWs, as well as being separated from their families. Additionally, HCWs face an elevated risk of contracting the virus themselves, due to their close proximity to infected individuals. Furthermore, there have been shortages in the availability of protective equipment and resource, further exacerbating the challenges faced by HCWs during this time. A meta-analysis of 97 studies examining the incidence of infection among HCWs revealed that 5% of COVID-19 cases among HCWs were associated with serious complications, while the mortality rate was 0.5% [9].

HCWs are the backbone of the healthcare systems and a skilled and healthy workforces are vital through a health crisis, like COVID-19 pandemic. Providing excellent patients care has been showed to be closely related to the psychological health of healthcare professionals, as evidenced by a substantial body of research [10].

Methods

A cross-sectional study, included 300 participants and was conducted at health institutes of Al-Karkh Health Directorate/ Baghdad/ Iraq during the period 1/7/2023 to 15/10/2023. A questionnaire based interview was employed as the data collection method. Questionnaire consisted of:

1. Basic socio-demographic characters (age, sex, marriage, residence, and jobs), and history of COVID-19 exposure.
2. Generalized Anxiety Disorder 7-item questionnaire (GAD-7) used to evaluate anxiety. It is a tool that has seven questions aimed at assessing an individual's emotional state throughout a certain period. The responses are categorized on a 4-point scale. Each response is assigned a numerical value, and subsequently, a cumulative score computed by summing all the individual scores.
3. The Patient Health Questionnaire (PHQ-9) used to evaluate depression. The responses are measured on a four-point Likert scale, which spans from "not at all" to "almost every day." Each response is assigned a numerical value, and the cumulative score is then computed. A range of 1-4 is indicative of a minimal level of depression. A score ranging from 5 to 9 on the assessment scale is indicative of mild depression.
   A score within the range of 10-14 is indicative of a moderate level of depression. A score ranging from 15 to 19 on the depression assessment scale indicates moderately severe depression. A score ranging from 20 to 27 is indicative of severe level of depression.

Statistical analysis

After calculation of GAD-7 and PHQ-9 scores, anxiety and depression levels were categorized into minimal-mild and moderate-severe. Multivariate logistic regression analysis

employed to detect variables related to moderate-severe depression and anxiety. P-value <0.05 was considered statistically significant.

Socio-demographic characteristics of the studied sample

Age distribution ranged from 24-63 years (mean of 29.3 ± 9.3). Female was predominance, as the M:F ratio was 1: 2.44; as shown in table (1).

Table 1. Socio-demographic characteristics (n=300)

Variable	No.	%
Age (years)		
<40	148	49.3
≥40	152	50.7
Gender		
Male	87	29.0
Female	213	71.0
Marital status		
Married	228	76.0
Unmarried	72	24.0
Residence		
Baghdad	278	92.7
Others	22	7.3
Occupation		
Doctor	109	36.3
Dentist	53	17.7
Pharmacist	28	9.3
Others	110	36.7

History of COVID-19 exposure

Table 2. History of COVID-19 exposure.

Variable	No.	%
Have you been diagnosed with covid-19 previously		
Yes	228	76.0
No	72	24.0
Have you treated a covid-19 patient?		
Yes	232	77.3
No	68	22.7
Has your family been diagnosed with covid-19?		
Yes	272	90.7
No	28	9.3

GAD-7 anxiety rating of the studied sample

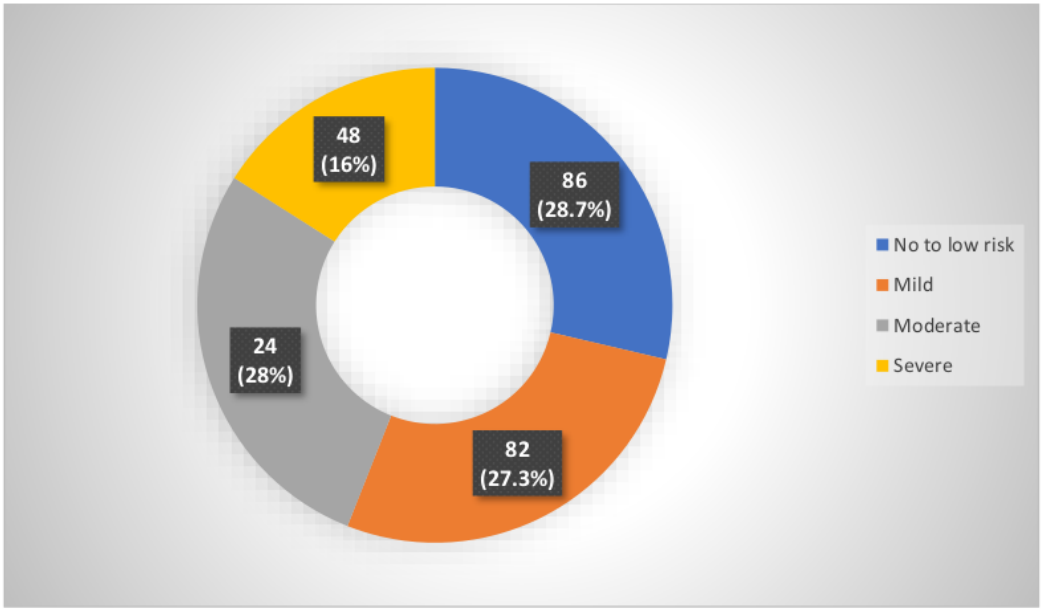

Figure (1): GAD-7 anxiety rating of the studied sample.

PHQ-9 depression rating of the studied sample

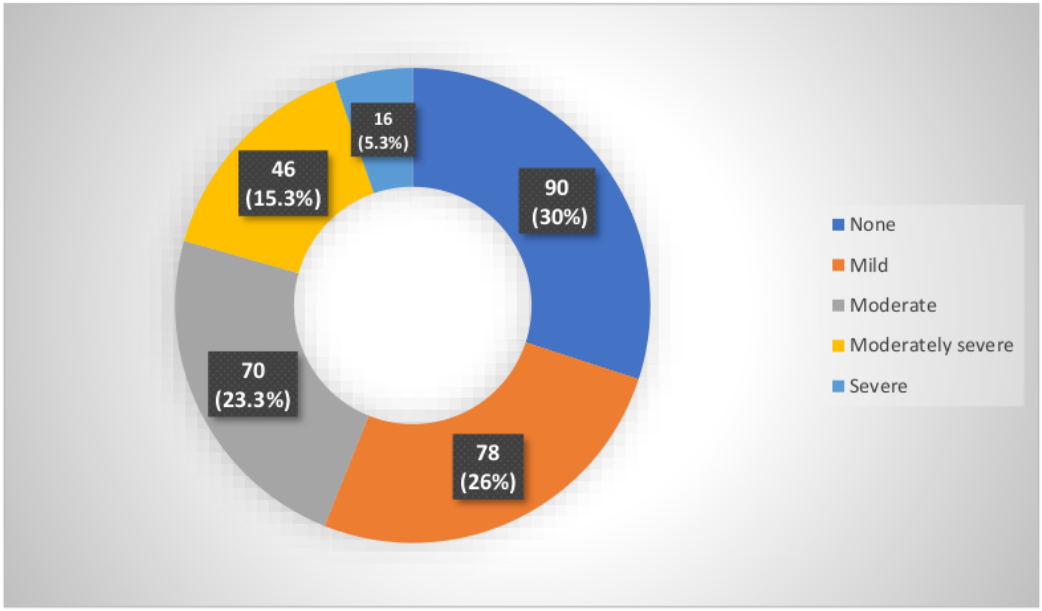

Figure (2): PHQ-9 depression rating of the studied sample.

Depression

Table 3. illustrated multivariate logistic regression analysis for factors of moderate-severe depression. In this model, older age (≥40 years), female sex, and a history of previous diagnosis with COVID-19 were significantly correlated with moderate-severe depression.

Table 3. Multivariate logistic regression analysis of factors of moderate-severe depression.

Variables	Odds ratio	95%CI		P-value
		Lower	Upper	
Age				
<40	Ref.	Ref.	Ref.	Ref.
≥40	2.413	1.210	4.812	0.012
Sex				
Male	Ref.	Ref.	Ref.	Ref.
Female	5.678	2.088	15.441	0.001

Marital status				
Married	-	-	-	-
Single	0.560	0.235	1.336	0.191
Residence				
Baghdad	Ref.	Ref.	Ref.	Ref.
Others	.487	.097	2.439	0.381
Occupation				
Doctor	Ref.	Ref.	Ref.	Ref.
Dentist	1.744	.722	4.212	.217
Pharmacist	1.063	.436	2.593	.893
Others	1.316	.416	4.162	.640
Have you been diagnosed with COVID-19 previously				
No	-	-	-	-
Yes	6.880	2.124	22.291	0.001
Have you treated a covid-19 patient?				
No	-	-	-	-
Yes	0.516	0.240	1.111	0.091
Has your family been diagnosed with covid-19?				
No	-	-	-	-
Yes	0.647	0.168	2.491	.526

Table (4) illustrates multivariate logistic regression analysis for factors associated with moderate-severe anxiety. In this model, older age (≥40 years), female sex, being a dentist. and having a history of previous diagnosis with COVID-19 were significantly associated with moderate-severe anxiety.

Table 4. Multivariate logistic regression analysis of factors of moderate-severe anxiety.

Variables	Odds ratio	95%CI		P-value
		Lower	Upper	

Age				
<40	-	-	-	-
≥40	1.7	1.364	1.858	**0.037**
Sex				
Males	-	-	-	-
Females	2.588	1.388	4.827	**0.003**
Marital status				
Married	-	-	-	-
Unmarried	1.896	.984	3.653	0.056
Residence				
Baghdad	-	-	-	-
Others	7.502	2.213	25.433	**0.001**
Occupation				
Doctor	-	-	-	-
Dentist	2.138	1.076	4.246	**.030**
Pharmacist	1.153	0.551	2.410	.706
Others	0.854	0.335	2.178	.740
Have you been diagnosed with COVID-19 previously				
No	-	-	-	-
Yes	1.176	.625	2.216	0.615
Have you treated a covid-19 patient?				
No	-	-	-	-
Yes	0.728	0.387	1.372	.326
Has your family been diagnosed with COVID-19?				
No	-	-	-	-
Yes	3.094	1.066	8.983	**0.038**

Discussion

The current investigation revealed that the rates of anxiety and depression were 71.3% and 70%, respectively. The prevalence of anxiety and depression in the present study is greater

than the rates reported by Ayad et al. in Iraq and Lebanon (42.9% for anxiety and 60% for depression) [11], but lower than the rates recorded by Aly et al. in Egypt (90.5% for anxiety and 94% for depression) [12].

The rate of moderate-severe anxiety and depression were 44% and 43.9%; respectively. In Egypt, Kurdistan, and Ethiopia; moderate-severe depression was reported at rates of 51%, 41.9%, and 25.7%; respectively. While moderate-severe anxiety was reported at rates of 50.7%, 22.2%, and 25.1%; respectively [12-14].

The findings of the current investigation indicate that being female was a significant predictor of experiencing moderate-severe depression. Specifically, female healthcare workers (HCWs) were shown to have around 5.6 and 2.6 times higher odds of developing moderate-severe depression and anxiety, respectively, compared to their male counterparts. This is in concordance with the study by Motahedi et al. in Iran [15]. However, It was found in Ethiopia that the odds of having depression were 1.9 times among men health care providers as compared with women [14]. While other studies in Iraq, Lebanon, and Egypt reported that gender was not significantly associated with neither anxiety nor depression [12,16].

Another finding from the present study is that anxiety and depression are significantly related to the age group ≥40 years. This is in concordance with studies in Saudi Arabia and India [17,18]. This could be because older healthcare workers are disproportionately impacted by the COVID-19 pandemic in terms of illness severities, mortality, transmission risks and complications. They may also be more likely to live with younger pediatrics or have elderly relatives, which may render them anxious about infecting their loved ones. In addition, those with pre-existing comorbidities are more likely to be anxious.

Moreover, HCWs in Baghdad were less likely to experience moderate-severe anxiety than their counterparts in other governorates. This may be associated with the shortage of personal protective equipment and other necessary equipment in other governorates compared to the capital of the country.

An HCW having history of previous diagnosis with COVID-19 had significantly greater levels of anxiety and depression. This may be attributed to the social isolation associated with quarantine. In addition, HCWs are tasked with the responsibility of closely monitoring patients' experiences of pain and mortality [19].

Regarding occupation, dentists were more likely to have moderate-severe anxiety in comparison to other HCWs. This could be attributed to the inherent nature of their work, wherein they operate in close proximity to the nasopharynx of patients for prolonged durations, potentially rendering them more susceptible to infections.

Conclusion

The present study has found that HCWs in Iraq experienced great levels of depression and anxiety during the pandemic. This was more pronounced among female and old HCWs. Given that HCWs are the backbone of the healthcare systems and a skilled healthy workforces are vital through a health crisis, it is recommended to institute specialized psychiatric healthcare units for HCWs during pandemics and other health emergencies.

Disclosure

None

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None

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