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## Psychological status of healthcare workers during the civil war and COVID-19 pandemic: A cross-sectional study

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## ABSTRACT

**Objective:** Healthcare workers, particularly those working in departments that provide care for patients with coronavirus disease 2019 (COVID-19), are at a higher risk of this contagious disease than those who work in other departments. The aim of this study was to assess the psychological status of healthcare workers during the COVID-19 outbreak, which has compounded Libya's existing civil war-related problems.

**Methods:** A multi-center cross-sectional survey on depressive symptoms, anxiety symptoms, and abuse was conducted. The Hospital Anxiety and Depression Scale (HADS) was used to measure the prevalence of anxiety and depressive symptoms among healthcare workers.

**Results:** The data of 745 eligible healthcare workers from 15 hospitals were analyzed. Depressive and anxiety symptoms were compared to the basic characteristics of the participants to determine the association. A total of 420 (56.3%) participants had depressive symptoms, while 348 (46.7%) had anxiety symptoms. Age, residency status, department, stigmatization, and living in a conflict zone were significantly associated with depressive symptoms. Age, department, years of experience, working hours per week, internal displacement, stigmatization, living in a conflict zone, and verbal abuse were significantly associated with anxiety symptoms.

**Conclusion:** Our study presents important findings regarding depressive, anxiety symptoms, and abuse among physicians providing care during the COVID-19 outbreak and civil war in Libya. It also demonstrates several factors that can be associated with depressive and anxiety symptoms in this population.

### 1. Introduction

Severe acute respiratory syndrome coronavirus 2 was identified in late 2019 as the cause of coronavirus disease 2019 (COVID-19) in Wuhan, a city in the Hubei Province of China. Since then, the infectious disease has spread rapidly, resulting in a worldwide pandemic as declared by the World Health Organization in February 2020 [1,2]. By June 30, 2020, the World Health Organization had recorded more than ten million cases of COVID-19 and 504,000 deaths [3].

Healthcare workers, particularly those working in departments providing care for patients with COVID-19, are at a high risk of this

contagious disease as they are at the frontline of the outbreak [4], especially in countries with limited resources. Further, they experience stress because of the fear of transmitting the illness to their families and coworkers [5,6]. In addition, the rapidly increasing number of cases is placing healthcare workers worldwide under enormous pressure [7,8].

Research has shown that doctors experience higher levels of depression compared to the general population, with a prevalence ranging from 20.9% to 43.2% [9–12]. Burnout is also higher in this population, with an aggregate prevalence of 51.0% [13]. High levels of depression and anxiety along with personal distress in a stressful environment are associated with mental fatigue, which is related to a low quality of

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patient care and an elevated level of medical errors [14–16].

A few researchers have addressed the mental health of healthcare workers. However, there are still controversies surrounding the results regarding depression and anxiety in this population based on specialty, country, and other factors during the COVID-19 outbreak [17–22].

Since 2011, Libya has been in the midst of a civil war with conflicts in large cities, which have resulted in massive casualties and increased psychological stress among general population [23,24]. As a result, the Libyan healthcare system has been severely affected, a problem that is only being compounded by the COVID-19 outbreak and financial crisis [25]. While the number of mental healthcare institutions and rehabilitation programs in Libyan cities is insufficient, public mental health services are nonexistent. In addition, there is limited availability of trained psychiatrists in Libya [26]. In the civil war situation, there is also an increased risk of violence toward healthcare workers, such as verbal and physical abuse by militias [27].

Until now, there have been no specific efforts toward the formulation of a realistic research plan for psychological intervention during the COVID-19 pandemic [28]. Additionally, there is no central guidance or government plan to intervene and organize operations to provide timely diagnosis and appropriate treatment for healthcare workers at risk of deterioration of psychological status [29,30]. Therefore, a reliable estimate of the prevalence of depressive and anxiety symptoms among healthcare workers during the COVID-19 outbreak against the backdrop of the civil war is essential to guide attempts to prevent, diagnose, and recognize triggers of depression and anxiety.

Accordingly, the aim of this study was to determine the prevalence of depressive and anxiety symptoms among healthcare workers during the COVID-19 pandemic and civil war in Libya. Furthermore, we examined several factors, such as violence and abuse among doctors, and their associations with depressive and anxiety symptoms.

## 2. Method

This was a multi-center, cross-sectional study.

### 2.1. Participants

From April 18 to 28, 2020, we recruited healthcare workers, including doctors and nurses working in Libyan hospitals, to participate in this survey. The study was conducted in 15 hospitals from nine major cities included Tripoli Central Hospital, Tripoli University Hospital, Elkhadra Hospital, National Heart Institute, Aljalla Maternity Hospital, Zliten Teaching Hospital, Al-Zawia Teaching Hospital, Abuseta Hospital, Alkhums Hospital, Misurata Medical Center, Sabratha National Cancer Institute, Gheryan Hospital, Benghazi Medical Center, Aljalla Benghazi Hospital, and Sabha Medical Center.

A specifically designed questionnaire was distributed to the participants in paper form and electronically through text messages and emails.

The questionnaire had seven parts: demographic and socioeconomic data, mental health assessment, risks posed by the civil war, risks associated with COVID-19, assessment of violence, and assessment of depressive and anxiety symptoms.

The questionnaire items included the following: demographic data, marital status, years of experience, work shift, drug and smoking history, employment status, educational level, general questions about COVID-19, living status, the stigma associated with caring for patients with COVID-19, effects of the civil war, internal displacement, exposure to COVID-19, history of injury due to violence, and transport-related issues. Additionally, the participants were asked if their fear of acquiring COVID-19 infection has affected their performance by using a Likert scale (Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree). Participants who submitted incomplete questionnaires or had a history of mental illness were excluded from the analysis. In addition, those who did not work during the outbreak period (March

and April 2020) were excluded from the study.

### 2.2. Assessment of violence

Violence in terms of verbal abuse, physical abuse, and/or threatening behavior was assessed by a questionnaire on violence toward doctors [31]. Several relevant questions were chosen to address the prevalence of violent acts against healthcare workers and whether they were associated with an increased risk of depressive and anxiety symptoms.

### 2.3. Assessment of depressive and anxiety symptoms

The Hospital Anxiety and Depression Scale (HADS) was used to measure the prevalence of anxiety and depressive symptoms among healthcare workers [32]. The HADS, which has been used in more than 700 studies, has been validated to possess a mean Cronbach's alpha of 0.83 in several languages and settings, with a sensitivity and specificity of 0.8 for the instrument to determine the presence of a disorder [33]. The self-reported HADS is a 14-item questionnaire with seven questions for anxiety and depressive symptoms each. According to Zigmond and Snaith, the cutoff score is 8–10 for borderline or doubtful cases of depressive or anxiety symptoms,  $\geq 11$  for depressive or anxiety symptoms, and  $< 7$  for normal cases [34].

### 2.4. Statistical analysis

Statistical analysis was performed using SPSS version 25.0 (IBM Corp., Armonk, NY, USA). Descriptive statistics in terms of frequency, mean, and standard deviation (SD) were used to describe the data. An independent-samples *t*-test was run to determine if there were differences in working hours per week and number of shifts per month between depressive or anxiety symptoms group (HADS 11–21) and no depressive or anxiety group (HADS  $< 11$ ). Categorical variables such as having or not depressive or anxiety symptoms (HADS 11–21) were compared with those without depressive or anxiety symptoms (HADS  $< 11$ ) using the chi-square test.

### 2.5. Ethical considerations

The study was approved by the Bioethics Committee of the Biotechnology Research Center in Libya. All participants provided consent before participating in the study.

## 3. Results

We obtained responses from 800 participants. Of these, 55 were excluded for missing data. Finally, 745 questionnaires were included in the analysis. The participants had a mean  $\pm$  SD age of  $33.3 \pm 7.4$  years. Of the 745 participants, 387 (51.9%) were female and 358 (48.1%) were male. Table 1 describes the characteristics of the study population.

On being asked if their fear of contracting COVID-19 affected their performance, 188 (25.2%) strongly agreed that fear of acquiring COVID-19 had affected their performance, while 287 (38.5%) agreed, 47 (6.3%) disagreed, 23 (3.1%) strongly disagreed, and 200 (26.8%) were neutral.

In addition, 237 (31.8%) participants reported that they had left their homes and, together with their families, experienced internal displacement because of the civil war. In addition, 81 (10.9%) reported having been separated from their families because of the civil war, and 252 (33.8%) reported transportation-related difficulties in reaching the hospital because of civil war-related conflicts.

The prevalence of depressive and anxiety symptoms among the participants is described in Table 2 according to their grades. A total of 420 (56.3%) participants scored  $\geq 11$  on the depression scale, which

**Table 1**  
Participants' baseline characteristics (N = 745).

Variables	Count or mean	Percentage
Gender		
Male	358	48.1
Female	387	51.9
Age, years mean ± SD	33.3 ± 7.4	
Marital status n (%)		
Single	405	54.4
Married	316	42.4
Others (widowed, divorced, etc.)	24	3.2
Living arrangement		
With family	478	64.2
Alone	267	35.8
Employment type		
Governmental sector	353	47.4
Private sector	80	10.7
Both	312	41.9
Department		
Medical (including specialties)	265	35.6
Surgical	150	20.1
Emergency medicine	136	18.3
Obstetrics and gynecology	49	6.6
Pediatric	76	10.2
Intensive care units	69	9.3
Years of experience		
< 3	331	44.4
3–5	149	20
5–15	197	26.4
> 15	68	9.1
Working hours per week, mean ± SD	52.9 ± 10.5	
Number of shifts per month, mean ± SD	3.7 ± 0.7	
Smoking		
Yes	111	14.9
No	634	85.1
Illicit drug use	21	2.8
Feeling stigmatized due to COVID-19	231	31

**Table 2**  
Anxiety and depressive symptom levels grades among participants based on the Hospital Anxiety and Depression Scale (N = 745).

Category	Level	Frequency	Percent
Depressive symptoms	Normal (HADS < 7)	89	11.9
	Borderline abnormal (HADS 8–10)	236	31.7
	Abnormal (HADS 11–21)	420	56.4
Anxiety symptoms	Normal (HADS < 7)	160	21.5
	Borderline abnormal (HADS 8–10)	237	31.8
	Abnormal (HADS 11–21)	348	46.7

indicates a high likelihood of depressive symptoms. The overall mean ± SD score for the depression scale was 10.9 ± 2.9. Regarding the anxiety scale, 348 (46.7%) participants scored ≥11, which indicates a high level of anxiety disorder. The mean ± SD anxiety score was 10.5 ± 3.5.

The characteristics associated with depressive and anxiety symptoms are summarized in Tables 3 and 4.

Only age, residency status, department, stigmatization, and living in a conflict zone were significantly associated with depressive symptoms ( $p < 0.05$ ), and young doctors were found to have more depressive symptoms than older physicians. Those who lived alone were more likely to have depressive symptoms. Further, those who had depressive symptoms were more likely to live alone. In addition, participants working in the medical, surgical, emergency, and intensive care departments had a higher prevalence of depressive symptoms compared to others. However, marital status, years of experience, working hours, smoking, and illicit drug use had no association with depressive symptoms ( $p > 0.05$ ). Feeling stigmatized because of contact with patients with COVID-19 was statistically associated with a higher prevalence of depressive and anxiety symptoms ( $p < 0.05$  for both).

**Table 3**  
Prevalence of depressive symptoms and association with other factors.

Variables	No depressive symptoms n = 325	Depressive symptoms n = 420	χ <sup>2</sup>	p-value
Gender			0.03	0.86
Male	155 (47.7)	217 (51.7)		
Female	170 (52.3)	203 (48.3)		
Age (years)			8.97	0.003*
< 35	217 (66.8)	322 (76.7)		
≥ 35	108 (33.2)	98 (23.3)		
Marital status n (%)			3.61	0.17
Single	164 (50.5)	241 (57.4)		
Married	149 (45.8)	167 (39.8)		
Others (widowed, divorced, etc.)	12 (3.7)	12 (2.9)		
Living arrangement			5.05.0	0.03*
With family	194 (59.7)	284 (67.6)		
Alone	131 (40.3)	136 (32.4)		
Employment type			3.74	0.15
Governmental	143 (44)	210 (50)		
Private sector	33 (10.2)	47 (11.2)		
Both	149 (45.8)	163 (38.8)		
Department			17.52	0.004*
Medical	141 (43.4)	124 (29.5)		
Surgical	56 (17.2)	94 (22.4)		
Emergency medicine	47 (14.5)	89 (21.2)		
Obstetrics and gynecology	22 (6.8)	27 (6.4)		
Pediatric	32 (9.8)	44 (10.5)		
Intensive care units	27 (8.3)	42 (10)		
Years of experience			6.34	0.1
< 3	130 (40)	201 (47.9)		
3–5	68 (20.9)	81 (19.3)		
5–15	90 (27.7)	107 (25.5)		
> 15	37 (11.4)	31 (7.4)		
Working hours per week, mean ± SD	53.2 ± 10.9	52.6 ± 10.7	0.51^	0.43
Number of shifts per month, mean ± SD	3.7 ± 0.7	3.6 ± 0.7	0.04^	0.16
Smoking			3.05	0.08
Yes	40 (12.3)	71 (16.9)		
No	285 (87.7)	349 (83.1)		
Illicit drug use			0.67	0.41
Yes	11 (3.4)	10 (2.4)		
No	314 (96.6)	410 (97.6)		
Internal displacement			2.71	0.1
Yes	93 (28.6)	144 (34.3)		
No	232 (71.4)	276 (65.7)		
Feeling stigmatized			14.41	< 0.001**
Yes	77 (23.7)	154 (36.7)		
No	248 (76.3)	266 (63.3)		
Living in a conflict zone			4.62	0.03*
Yes	97 (29.8)	157 (37.4)		
No	228 (70.2)	263 (62.6)		
Verbal abuse episode			0.37	0.54
Yes	166 (51.1)	224 (53.3)		
No	159 (48.9)	196 (46.7)		
Physical abuse episode			1.29	0.26
Yes	53 (16.3)	56 (13.3)		
No	272 (83.7)	364 (86.7)		

Depressive symptoms were considered for those with scores of 11–21 on the Hospital Anxiety and Depression Scale. χ<sup>2</sup> = Pearson's chi-square test, ^ mean difference. SD, standard deviation.

\* Significant at ( $p < 0.05$ ).

\*\* Significant at ( $p < 0.001$ ).

Age, department, years of experience, working hours per week, internal displacement, stigmatization, living in a conflict zone, and verbal abuse were statistically associated with anxiety ( $p < 0.05$ ), while the

**Table 4**  
Prevalence of anxiety symptoms and association with other factors.

Variables	No anxiety symptoms n = 397	Anxiety symptoms n = 348	$\chi^2$	p-value
Gender			0.83	0.36
Male	197 (49.6)	161 (46.3)		
Female	200 (50.4)	187 (53.7)		
Age (years)			13.31	< 0.001**
< 35	265 (66.8)	274 (78.7)		
≥ 35	132 (33.2)	74 (21.3)		
Marital status n (%)			5.54	0.06
Single	203 (51.1)	202 (58)		
Married	177 (44.6)	139 (39.9)		
Others (widowed, divorced, etc.)	17 (4.3)	7 (2)		
Living arrangement			1.39	0.24
With family	247 (62.2)	231 (66.4)		
Alone	150 (37.8)	117 (33.6)		
Employment type			1.75	0.42
Governmental sector	180 (45.3)	173 (49.7)		
Private sector	42 (10.6)	38 (10.9)		
Both	175 (44.1)	137 (39.4)		
Department			30.32	< 0.001**
Medicine	175 (44.1)	90 (25.9)		
Surgical	72 (18.1)	78 (22.4)		
Emergency medicine	55 (13.9)	81 (23.3)		
Obstetrics and gynecology	24 (6)	25 (7.2)		
Pediatric	40 (10.1)	36 (10.3)		
Intensive care units	31 (7.8)	38 (10.9)		
Years of experience			17.93	< 0.001**
< 3	155 (39)	176 (50.6)		
3–5	86 (21.7)	63 (18.1)		
5–15	106 (26.7)	91 (26.1)		
> 15	50 (12.6)	18 (5.2)		
Working hours per week, mean ± SD	52.7 ± 9.7	53.2 ± 11.3	0.49 <sup>^</sup>	0.007*
Number of shifts per month, mean ± SD	3.7 ± 0.7	3.7 ± 0.7	0.01 <sup>^</sup>	0.13
Smoking			0.001	0.98
Yes	59 (14.9)	52 (14.9)		
No	338 (85.1)	296 (85.1)		
Illicit drug use			0.12	0.41
Yes	12 (3)	9 (2.6)		
No	385 (97)	339 (97.4)		
Internal displacement			12.35	< 0.001**
Yes	104 (26.2)	133 (38.2)		
No	293 (73.8)	215 (61.8)		
Feeling stigmatized			19.89	< 0.001**
Yes	95 (23.9)	136 (39.1)		
No	302 (76.1)	212 (60.9)		
Living in a conflict zone			11.99	< 0.001**
Yes	113 (28.5)	141 (40.5)		
No	284 (71.5)	207 (59.5)		
Verbal abuse episode			6.12	0.013*
Yes	191 (48.1)	199 (57.2)		
No	206 (51.9)	149 (42.8)		
Physical abuse episode			0.18	0.67
Yes	56 (14.1)	53 (15.2)		
No	341 (85.9)	295 (84.8)		

Anxiety symptoms were considered for those with scores of 11–21 on the Hospital Anxiety and Depression Scale.  $\chi^2$  = Pearson's chi-square test, <sup>^</sup> mean difference. SD, standard deviation.

\* Significant at ( $p < 0.05$ ).

\*\* Significant at ( $p < 0.001$ ).

others were not statistically significantly associated. Regarding internal displacement, 237 (31.8%) doctors had been forced to leave their homes because of conflict and civil war. Internal displacement and internal refugee status were statistically significantly associated with both anxiety symptoms ( $p < 0.001$ ) and depressive symptoms ( $p < 0.05$ ). Living in a conflict zone was also statistically associated with depressive

symptoms ( $p < 0.05$ ) and anxiety symptoms ( $p < 0.001$ ).

A total of 667 (89.5%) participants stated that the civil war affected their mental status. However, there was no statistical association ( $p > 0.05$ ) of the civil war with anxiety or depressive symptoms. In addition, 231 (31%) physicians felt stigmatized as they were working during the COVID-19 outbreak. Feeling stigmatized was statistically associated with both depressive and anxiety symptoms ( $p < 0.001$ ).

A total of 390 (52.3%) participants reported some type of abuse from patients or their relatives. Of the 390 physicians, 71 (18.2%) reported the occurrence of one episode of abuse, 140 (35.9%) reported two, and 179 (45.8%) reported three or more episodes of abuse of some type.

Of the participants, 109 (out of 390) reported physical abuse: 35 (8.9%) had been subjected to physical blows, 29 (7.4%) had had objects thrown at them, and 45 (11.5%) had been attacked with weapons such as guns. Of the 390 who reported abuse, 95 (24.4%) felt a slight degree of endangerment to their life, while 51 (13.1%) felt a moderate degree and 27 (6.9%) felt severe endangerment to their lives. Among those who had been attacked, 70 (17.9%) participants reported that the reason had not been apparent while 61 (15.6%) reported that the reason was the long waiting time.

Of the 390 participants who reported having been abused, 102 (26.2%) did not sustain injuries while 185 (47.4%) experienced a negative emotional impact. In addition, 137 (35.1%) participants felt that the event negatively affected their work quality and family life. While no association was found between abuse and depressive symptoms, verbal abuse was significantly associated with a higher degree of anxiety ( $p < 0.05$ ). Physical violence was not statistically associated with either anxiety or depressive symptoms.

#### 4. Discussion

Several studies have suggested that the COVID-19 outbreak can have a negative psychological effect on healthcare workers, such as through psychological pressure associated with fear of infection, age, living condition, separation from family due to civil war, department of work, and years of experience. Accordingly, the main aim of the present study, conducted in Libya, was to evaluate the psychological conditions of healthcare workers during the complex situation arising from the combination of the civil war and COVID-19 outbreak [6,22,35,36].

Of the 745 participants, 420 (56.3%) physicians had depressive symptoms (HADS score  $\geq 11$ ) and 236 (31.7%) had borderline depressive symptoms (HADS scores of 8–10). A systemic review and meta-analysis reported that according to a pooled analysis of 54 observational studies, the prevalence of depression or depressive symptoms was approximately 28.8%, ranging from 20.9% to 43.2% in individual studies depending on the scale used [12]. As our study reports high levels of depressive and anxiety symptoms, urgent psychological intervention plans are needed to prevent burnout and suicide risk in physicians and decrease the risk of medical errors [37–39].

While 348 (46.7%) physicians had anxiety (HADS score  $\geq 11$ ), 237 (31.8%) had borderline anxiety (HADS score of 8–10). This was higher than the previously reported anxiety rate of 25.6% in a study conducted among physicians in China [40]. Another study using the Generalized Anxiety Disorder-7 scale revealed that generalized anxiety disorder was present in 35.6% of healthcare workers in China during the COVID-19 outbreak [19]. A study on healthcare workers using the Hamilton Anxiety Scale revealed that 22.6% had mild to moderate anxiety, while only 2.9% had severe anxiety during the COVID-19 outbreak [18]. Our study revealed a high level of anxiety compared to previous reports; however, there is no mental health support for physicians at the frontline of both COVID-19 and the civil war, risking their lives for patients. Therefore, these healthcare workers need an efficient mental health support system and intervention plans, such as online meetings or telephonic counseling, which will give them the opportunity to discuss their concerns and enable them to find solutions; additionally,

meditation or mental exercise is needed. Also, owing to the civil war and financial crisis, Libyan physicians, especially those who work for the government, need additional support, as indicated by the 47.4% government-employed participants in this study.

In addition, living and residency status was significantly associated with depressive and anxiety symptoms. Therefore, social support is critical, especially during this hardship, as indicated by a previous study [41].

Among the participants, 237 (31.8%) had been internally displaced because of the civil war. This led to many Libyan families exposing their homes and belongings to the risk of theft by militias and gangs and destruction by rockets and bombs, which induced great mental stress. This can explain the significant association between internal displacement and anxiety as well as depressive symptoms.

Another major concern was abuse, whether physical or verbal. Around 390 (52.3%) physicians reported that they had encountered at least one episode of abuse by patients or their relatives, while about 45.8% reported three or more episodes of abuse of some type. The huge prevalence of abuse is connected to the power of the militias, and currently, there is no law that can protect healthcare workers from them. Militias have been known to attack healthcare workers if their friends or family members are hospitalized and have a high risk of death, or if they could not be saved because they were not brought to the hospital in time. Often, physicians are the targets of their rage. In a previous study in India, 40.8% of healthcare workers had reported an episode of violence of any type [42]. The prevalence of abuse in the present study is also higher than that in a study of surgical trainees in the US, where approximately 30.3% reported either physical or verbal abuse [43]. Doctors in Libya will benefit from trauma-focused cognitive behavior therapy [44] and mindfulness-based therapy [45].

The study revealed that 31% of physicians felt stigmatized by their work with patients with COVID-19. This is an important finding, as there have previously been anecdotal reports about physicians' stigma resulting from their work and risk of contracting COVID-19 [46–48]. Some of these reports found that physicians were being abandoned by family or friends owing to their risk, which adds to their psychological pressure during this outbreak. In our study, there was a statistically significant association between feeling stigmatized and the risk of both depressive and anxiety symptoms.

The serious mental health issues in healthcare workers providing care for high-risk patients during the COVID-19 outbreak is a significant observation. It should be noted that most healthcare workers are employed in isolation units, and isolation combined with low resources and a lack of training may put them at risk of higher stress and psychological effects. In addition, the risks and pressures associated with the civil war in Libya play a pivotal role in increasing psychological pressure in those who work in these dangerous settings. Therefore, psychological intervention and efficient resource utilization are needed to relieve the psychological effects of this global pandemic. Further, it is essential to increase surveillance and improve the detection of early cases of depressive and anxiety symptoms to prevent catastrophic events.

Our study covered multiple centers and several hospitals from different departments, and therefore, the results can be generalized. This is the first study to provide insight into the prevalence of abuse among physicians in Libya after the civil war. In addition, it revealed the highest prevalence of depressive and anxiety symptoms compared to recent studies. Our study will provide a reference for governmental interventions to relieve these stressors.

#### 4.1. Limitations

This study has some limitations. One of these is the cross-sectional design, which does not allow causal inferences, necessitating longitudinal studies with larger sample sizes to determine other possible risk factors. Additionally, as part of the study was conducted using an online

survey, we were not able to calculate the accurate participation rate. Another limitation is the feeling of stigma among the Libyan population about mental illness, which prevents them from disclosing it. In addition, the questions related to COVID-19 were not previously validated as they were designed specifically for our study. Finally, the higher prevalence of abuse and the Libyan civil war may have aggravated the effect of COVID-19 on physicians, thus resulting in higher anxiety and depressive symptoms than those previously reported.

In conclusion, our study presents important findings regarding depressive symptoms, anxiety symptoms, and abuse among physicians working during the COVID-19 outbreak and civil war in Libya. It also demonstrates several factors that can be associated with depressive and anxiety symptoms. Therefore, it is clear that immediate actions and efforts are needed to alleviate these mental health challenges in Libya.

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#### Author contributions

Each author took part in the design of the study, contributed to data collections, participated in writing the manuscript, and all agree to accept equal responsibility for the accuracy of this paper. All authors approved the final article.

#### Declaration of Competing Interest

The authors declare that they have no competing interests and have no relationship with the industry or organizations.

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None.

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