Original Article

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Prevalence of Depression among Doctors in General Hospitals of Basrah City Center During the COVID-19 Pandemic

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ABSTRACT

Background: Depression is the most common mental disorder in community settings and a major cause of disability worldwide. In 1999, it was the fourth most common cause of disability globally, and by 2020, it is projected to become the second most common cause. Doctors, as the primary workforce in hospitals, endure significant emotional and physical stress, which may have been exacerbated by the COVID-19 pandemic. **Aim**: This study aimed to estimate the prevalence of depression among doctors during the COVID-19 pandemic and its risk factors. **Methods**: This descriptive cross-sectional study was conducted from February 1 to June 1, 2021. The study population comprised 327 doctors working in seven general hospitals in Basra city center. An online questionnaire was utilized, and the responses were analyzed using SPSS program version 26. **Results**: The study included 48.9% males and 51.1% females, with participants aged between 24 and 67 years. Most participants were married (70.6%), and nearly half had children, with years of service being less than five. A total of 73% of doctors exhibited depressive symptoms, with mild depressive episode was the most common (36.4%), occurring more frequently in females (75.4%) than in males (70.6%). The most significant risk factors identified were exposure to violence and the presence of comorbid physical conditions. **Conclusions**: The high prevalence of depression was particularly noted among doctors who work in AL-Basra Teaching Hospital for Maternity and Children, with pediatricians being the most affected specialty.

Keywords: Depression, COVID-19, Iraqi doctors

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INTRODUCTION

Depression encompasses a wide range of mental health issues characterized by a lack of positive affect, low mood, and various associated emotional, cognitive, physical, and behavioral symptoms.[1] Its diagnosis is based on a collection of signs and symptoms according to DSM-5 criteria.[2] Behavioral and physical symptoms typically include tearfulness, irritability, social withdrawal, exacerbation of pre-existing pains, pains secondary to increased muscle tension, loss of libido, fatigue, and diminished activity. Although agitation and

anxiety are common, there is often reduced sleep and appetite, sometimes leading to significant weight loss. For some individuals, sleep and appetite may increase.[3] Additionally, lowered self-esteem and suicidal ideation are prevalent.[4] Various risk factors have been identified over the past 40 years, including chronic physical illness,[5,6] stressful environment, drugs, and certain sociodemographic characteristics.[7] such as Female gender,[8] age,[9] parental depression,[10] and specific personality traits.[11] The COVID-19 pandemic has had a profound impact on mental health, In addition to the physical impacts.[12] Because of the lack of physical contact with other family members, friends, or colleagues in addition to the Fear, worry, and stress which are normal responses to perceived or real threats.[13] Healthcare workers have been recognized as high-risk populations for psychological distress and suicide.[14] with female physicians particularly vulnerable.[15] Doctors are not immune to psychological illnesses and face unique challenges, such as long duty hours, continuous exposure to traumatic events, potential violence, high infection risk, and critical decision-making, all of which heighten their risk of depression.[4] Furthermore, depressive symptoms among doctors can lead to medical errors and high suicide rates.[16] Iraq has been labeled among the most dangerous countries globally, placing Iraqi doctors in a special entity, they endure significant stress and live in constant fear of violence, kidnapping, threats, and forced displacement.[17] This study aims to assess the prevalence of the problem and identify its risk factors among Iraqi doctors.

MATERIALS AND METHODS

This cross-sectional epidemiological study was conducted in the hospitals of Basra city center, including AL-Sader Teaching Hospital, AL-Basra Teaching Hospital, AL-Mauane'e Teaching Hospital, AL-Basra Teaching Hospital for Maternity and Children, AL-Fayha'a Teaching Hospital, AL-Shifa'a General Hospital, and AL-Basra Child Specialty Teaching Hospital. Due to the total number of doctors in the general hospitals of Basra City Center being 1,329, we employed a convenience sampling method, as the calculated sample size was small.[18] The purpose of the study was explained to participants, followed by sharing the questionnaire link. A total of 327 participants completed the questionnaire from February to June 2021. The questionnaire covered various aspects:

1. Sociodemographic characteristics, including sex, age, marital status, social status, years of service, and parental status.
2. Questions regarding risk factors for depression, which include: infection by COVID-19, any family member infection or died by COVID-19, family history of psychological disorders, presence of comorbid Physical Conditions, substance use history, exposure to violence, and extra working hours during The Pandemic.
3. Measurement of depressive symptom severity by Patient Health Questionnaire-9 (PHQ-9), a self-report questionnaire consisting of nine items based on DSM-5 criteria for assessing depression symptoms. The PHQ-9 has excellent internal reliability and test-retest reliability (with a sensitivity of 88% and specificity of 88% for major depression at a score ≥10).[19] Each item is scored from zero to three, with a total score ranging from zero to twenty-seven. Prior to data collection, approvals from the Basra Health Directorate and the Scientific Council of Family Medicine of the Arab Board of Health Specialization were obtained. Informed consent has been taken from participants before participation.

RESULTS

Sociodemographic characteristics: The study revealed that the most frequent age group among respondents was 24-34 years (69.1%). The gender distribution was nearly equal, with 51.1% females and 48.9% males. Most participants were male married (70.6%), owned their homes (84.4%), and had children (51.4%). The majority of respondents had less than five years of.

Figure 1: Probable Depression Among Doctors in the Hospitals of Basra City Center, Among the 327 doctors, 27% were classified as normal, while 73% were identified as probably depressed. Among the latter group, 36.4% exhibited mild depressive episodes, making this the most common classification in our study, while severe depressive episodes were rare, accounting for only 2.4%. Relationship Between Probable Depression and Sociodemographic Characteristics of the Participants: The age group with the highest prevalence of depressive symptoms was 35-45 years, representing 79.1%, which demonstrated a significant statistical relationship. Depression was more prevalent among females (75.4%). Regarding parental

status, doctors without children exhibited the highest prevalence of probable depression, with a significant statistical relationship (P < 0.001). Our study also revealed that doctors with less than five years of service were more likely to develop depression than those with more experience, showing a significant statistical relationship (p-value = 0.022). There was No statistical relationship with the remaining sociodemographic factors; the details are shown in (Table 2) (Fig. 2): Depression Among Doctors and Their Workplace: The prevalence of depressive symptoms was highest among doctors working at AL-Basra Teaching Hospital for Maternity and Children (84.2%) and AL-Sader Teaching Hospital (81.2%). In contrast, the lowest prevalence was observed at AL-Shifa'a General Hospital (50%). A significant statistical relationship was found between depression and the type of hospitals p-value=0.026

Depression Risk Factors: Regarding risk factors, a statistically significant relationship was found between the prevalence of depressive symptoms and the presence of comorbid physical conditions, as well as exposure to violence (Table 3). Regarding specialty, our study found no significant statistical relationship between medical specialties and depression (p-value = 0.053). However, pediatricians exhibited the highest rates of depression (85.7%).

Table 1: Sociodemographic characteristics of the enrolled participants

Characteristics		Frequency	Percent %
Age	24-34 years	226	69.1
	35-45 years	62	19
	46-56 years	33	10
	57-67 years	6	1.8
Sex	male	160	48.9
	female	167	51.1
Marital Status	married	231	70.6
	Single or Divorced	96	29.4
House Ownership	Rented House	51	15.5
	Owned House	276	84.4
Having Children	Yes	168	51.4
	No	159	48.6
Years of service	<5y	156	47.7
	6-10y	75	22.9
	11y or more	96	29.4
Pregnant or in postpartum period	Yes	36	21.5
	No	131	78.4

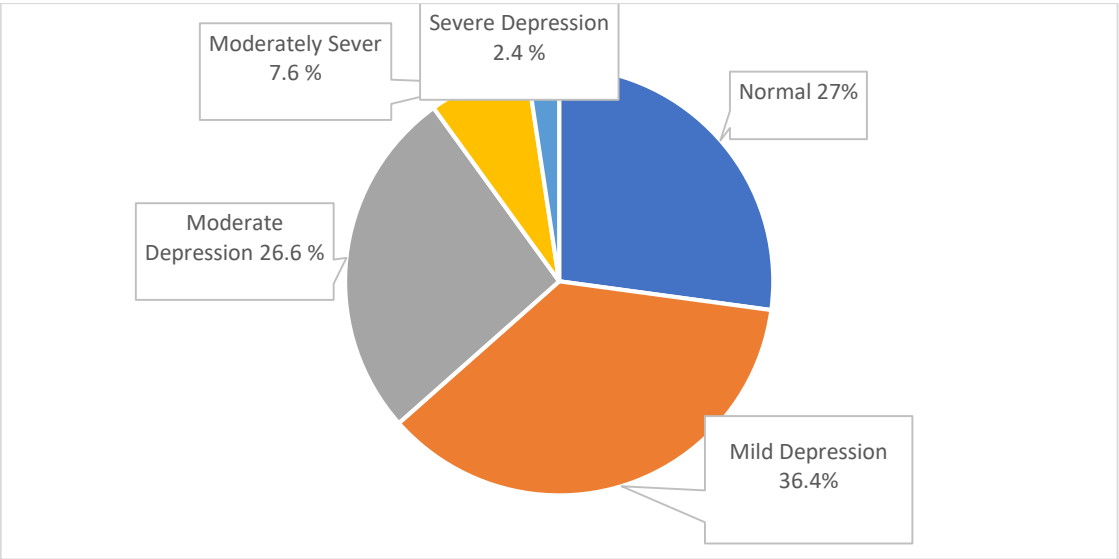

Figure 1: Distribution of Severity of Depressive Disorders Among Studied Doctors.

Table 2: The Relationship Between Depression and Sociodemographic Characteristics of the Participants:

Demographic Characteristic		Normal N(%)	Probable Depression N(%)	Total	P-value
Age	24-34 years	56 (24.7%)	170(75.3%)	226	0.007
	35-45 years	13 (20.9%)	49(79.1%)	62	
	46-56 years	15 (45.4%)	18(54.6%)	33	
	57-67 years	4 (66.6%)	2(33.4%)	6	
Sex	Male	47(29.4%0	113(70.6%)	160	0.325
	Female	41 (24.6%)	126(75.4%)	167	
Marital Status	Married	68 (29.4%	163()70.6%)	231	0.250
	Single & Divorced	20 (21.0%)	76(79.0%)	96	
Parental Status (having children)	Yes	59(35.1%)	109(64.8%)	168	0.001
	No	29(18.2%)	130(81.7%)	159	
House Ownership	Rented House	10(19.6%)	41(80.4%)	51	0.226
	Owned House	78(28.3%)	198(71.7%)	276	
Years of Service	Less than 5 years	31(19.8%)	125(80.2%)	156	0.022
	6-10 years	26(34.6%)	49(65.4%)	75	
	11 years or more	31(32.3%)	65(67.7%)	96	
Pregnant or in postpartum period	Yes	11(30.5%)	25(69.5%)	36	0.578
	No	76(58.1%0	55(41.9%)	131	

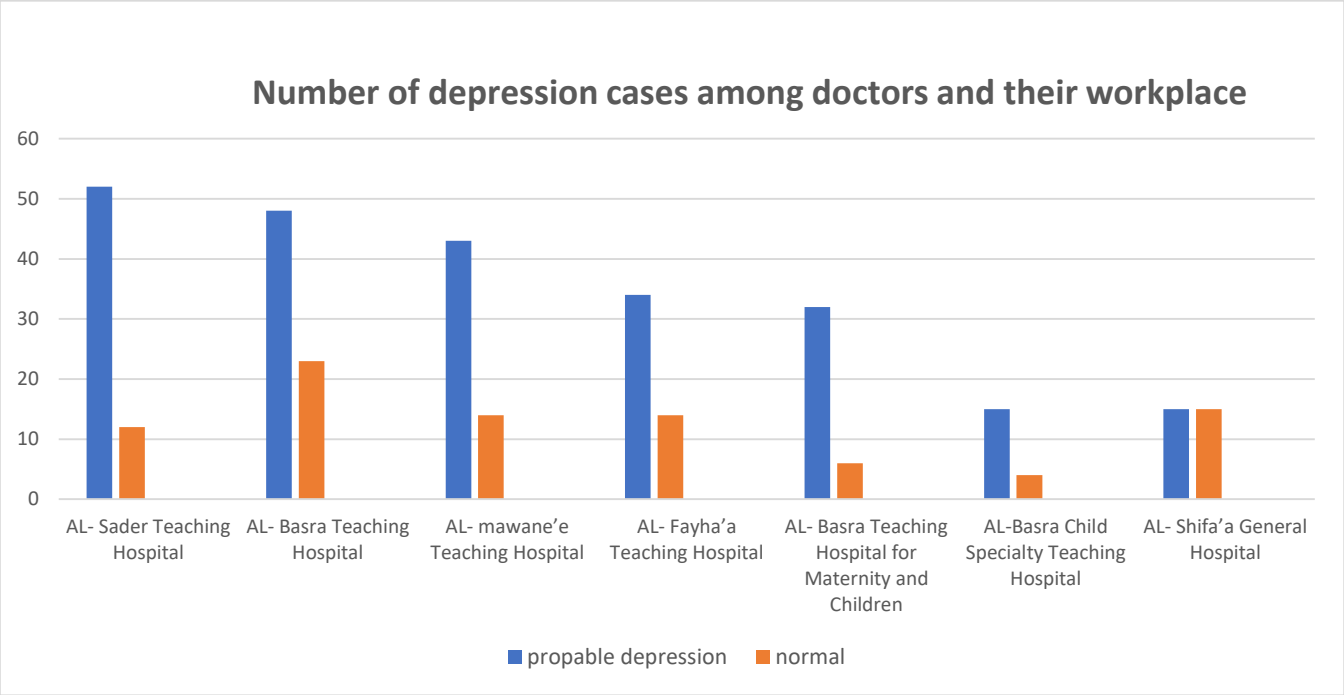

Figure 2: The Risk of Depression by work place

Table 3: Prevalence of Depressive Symptoms According to Risk Factors

Risk Factors		Normal N(%)	Depression N(%)	Total	P-value
Working Overtime During the pandemic	Yes	60 (25.5%)	176 (74.5%)	236	0.15
	No	28 (30.8%)	63 (69.2%)	91	
Infected by COVID-19	Yes	40 (25.7%)	116 (74.3%)	156	0.621
	No	48 (28.1%)	123 (71.9%)	171	
Any Family Member Infected by COVID-19?	Yes	60 (27.6%)	158 (72.4%)	218	0.724
	No	28 (25.7%)	81 (74.3%)	109	
Any Family Member or Close Person Died by COVID-19?	Yes	18 (20.2%)	71 (79.8%)	89	0.095
	No	70 (29.4%)	168 (70.6%)	238	
Chronic Use of drugs	Yes	18 (22.8%)	61 (77.2%)	79	0.342
	No	70 (28.2%)	178 (71.8%)	248	
Presence of Comorbid physical conditions	Yes	7 (12.5%)	49 (87.5%)	56	
	no	81 (29.8%)	190 (70.2%)	271	
Family History of Psychological Disease	Yes	4 (16.6%)	20 (83.4%)	24	0.240
	no	84 (27.8%)	219 (72.2%)	303	
Exposure to Violence	Yes	11 (10.4%)	95 (89.6%)	106	0.001
	no	77 (34.8%)	144 (65.2%)	221	

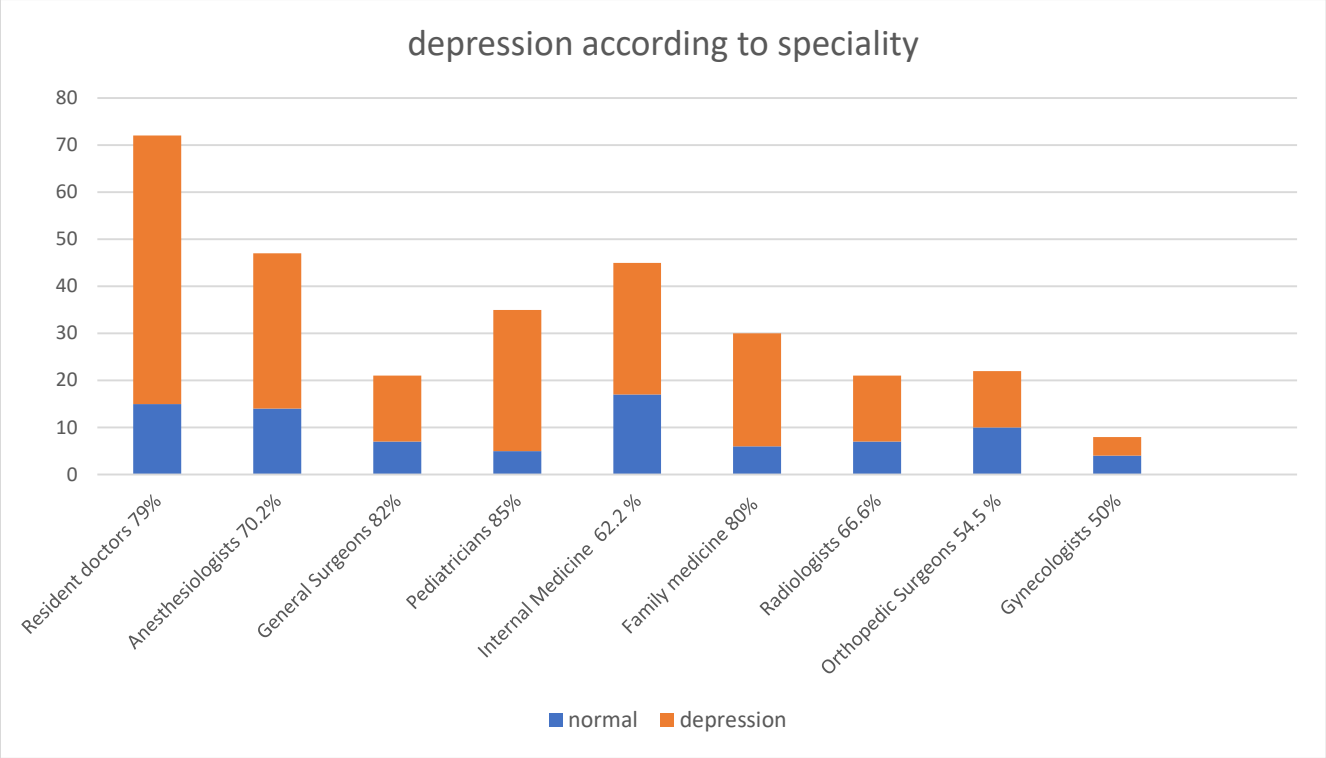

Figure 3: Relationship Between Depressive Symptoms Among Doctors and Their Specialty

DISCUSSION

In the present study, 73% of doctors working in the hospitals of Basra city center exhibited depressive symptoms during the COVID-19 pandemic, a prevalence higher than that reported in a previous study of Iraqi doctors across twenty teaching hospitals in Baghdad in 2016, which found a prevalence of 45.5%.[17] This increase may be attributed to the heightened stressors faced by doctors during the pandemic, including the risk of infection, long hours of intense work, and isolation from family.[20] Similar results were reported in multiple countries during the pandemic, with studies indicating high prevalence rates of depressive symptoms among doctors, including a pooled prevalence of 60.7% in Iraq and Lebanon in 2021, and varying rates in Saudi Arabia, Turkey, China, and Sudan.[18,21-24] These results suggest that the psychological effects of the COVID-19 pandemic have significantly impacted healthcare workers. Our study found that mild depression episodes were identified as the most common (36.4%), while severe depressive episodes were rare (2.4%). These findings align with other studies conducted during the coronavirus disease outbreak 2021 in Saudi Arabia which found that mild depression formed (27.5%) while the lowest ratio was for severe depression (7.2%).[21] Another comparable meta-analysis study in South Asia 2021 mild depression was (25.11%), and the lowest ratio for severe depression (11.97%).[25] Perhaps due to the doctors in different countries being exposed to similar stressful factors. our study showing that the younger doctors (35-45 years) reported a higher prevalence of depressive symptoms (79.1%) with a significant association, and female doctors exhibited higher rates than their male counterparts (75.4% vs. 70.6%). Similar trends were observed in an online survey conducted in Lebanon and Iraq, which reported higher rates of depression among women and 58.2%) respectively and a high prevalence rate for age groups between (35-44years) was (62%).[18] Perhaps because young doctors, most of them in training, spend more hours at work and therefore are more prone to develop depression. Additionally, a similar study in Saudi Arabia during the pandemic in 2021 found that younger doctors (<40years) were more likely to develop depression (69.3%) than the other age group (45.2%) while females constituted the highest probability of developing depression (79.7%) than men (57.9%).[21] Our findings indicated that doctors with fewer years of service had a higher prevalence of depression (80.2%), consistent with studies conducted in Saudi Arabia in 2020 that there was a significantly higher prevalence rate of depression among new staff with less experience than those with high experience during the pandemic

(78.2%, 38.1%) respectively.[21] Regarding the risk factors for depression included chronic health problems (87.5%) and exposure to violence (89.6%), both of which were significantly associated with depressive symptoms. Our study also found that there was significant association between the violence and depressive symptoms.[19] Incomparable study was done on HCW in Libyan hospitals during 2020, revealed that there was no significant association between the prevalence of depression and exposure to a violence.[26] The present study registered that the doctors infected by COVID-19 had a higher prevalence of depressive symptoms, although this association was not statistically significant. Pediatricians and surgeons exhibited the highest prevalence of depressive symptoms (85.7% and 82.9%, respectively), while anesthesiologists had the lowest prevalence (20.2%). This discrepancy may reflect the shared stressors experienced across all medical specialties during the pandemic. In conclusion, a significant proportion of doctors in Basra city center exhibited depressive symptoms during the COVID-19 pandemic, with the majority suffering from mild depression. Chronic physical illness and exposure to violence were the most common risk factors.

CONCLUSIONS

The POC test is a safe and easy method for detecting glucose excursions; however, it requires regulation and identification of a valid device that can be generalized to health institutions. This study confirms that a high percentage of patients did not receive optimal blood glucose control, presenting an opportunity to improve blood glucose levels in ICU patients.

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