Assessment of Hospital Anxiety and Depression Scale in Emergency Department in Iraq

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Abstract- Depression is (a serious medical condition that affects a person's feelings, thought, and how to behaves. It causes sadness, hopelessness, and helplessness, interfering with daily activities) (1). Anxiety is a normal emotion that anyone experiences from time to time that range from mild to severe of worry or fear. The study's objective was to assess anxiety and depression in a sample of worker in an emergency Department worker in middle and south of Iraq. The workers in an emergency department in hospitals of middle and south of Iraq who deal with a lot of stress and under pressure most of day are sample of this study which designs to assess anxiety and depression in these workers, surely who accepted to participate in this study between Jan to May 2023 by using Hospital anxiety and depression scale (HADs) in Arabic was employed. The workers in an emergency department were more than half of them associated with significant anxiety and depression due to their works under pressure in hospitals. In conclusion, this study showed elevated risk of depression and anxiety among the emergency Department staff, and this elevated directly proportional to nature of work, Economic status, age and Level of education for worker.

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Keywords: Depression; Anxiety; Emergency department; Psychological stress; Healthcare workers

Introduction

Depression is a common mental disorder that affects millions of people worldwide. Depression is a mental disorder characterized by persistent feelings of sadness, hopelessness, and loss of interest in life. It is a serious medical condition that can interfere with a person's ability to function in their daily life (1-4), According to the National Institute of Mental Health (NIMH), in the United States, approximately 19.1 million adults had at least one major depressive episode in 2020. Depression is more common in women than in men, and the highest rates are seen in young adults aged 18-25 years (5-7).

Depression is a common mental health condition that affects individuals across various professions, including medical staff working in hospitals. The demanding and high-pressure nature of their work can contribute to increased levels of stress, leading to a higher risk of developing depression, A study conducted by previous research that it has been surveyed nearly 4,000 physicians and found that approximately 29% experienced symptoms of depression (8-11). Similarly, a study revealed that 24% of pediatric intensive care unit (ICU) nurses met the criteria for significant depressive symptoms (12-15).

Depressed medical professionals may experience reduced job satisfaction, decreased productivity, and impaired decision-making abilities, potentially compromising patient care. Furthermore, depression can lead to increased absenteeism, burnout, and even suicidal ideation among medical staff. The well-being of medical staff is crucial not only for their own mental health but also for ensuring high-quality patient care and the overall functioning of the healthcare system (16).

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Anxiety is (a normal human emotion that everyone experiences from time to time. It is the feeling of unease, worry, or fear that can range from mild to severe) (17). However, when anxiety becomes excessive and starts to interfere with a person's daily life, it may be an anxiety disorder. Anxiety disorders are the most common mental health disorders, affecting over 40 million adults in the United States alone (18-21). Anxiety disorders are the most common mental health disorders, affecting approximately 18% of the adult population in the United States. They are also more common in women than in men (6). Anxiety is a prevalent mental health condition that affects individuals in various professions, including medical staff working in hospitals (20,22,23).

The demanding and high stress nature of their work can contribute to increased levels of anxiety, posing significant challenges to their well-being and overall performance[1], a systematic review examined anxiety levels in healthcare professionals and reported a wide range of anxiety prevalence rates, with estimates ranging from 20% to 43%. These findings underscore the substantial burden of anxiety within the medical staff population (24,25). Hospital anxiety among medical staff can have significant consequences for both individuals and the healthcare system. Anxiety can impair concentration, decision-making abilities, and overall job performance, potentially compromising patient care. Moreover, anxious medical professionals may experience reduced job satisfaction, increased absenteeism, and higher rates of burnout. Long-term anxiety can also impact personal well-being, leading to physical health problems, disrupted sleep patterns, and diminished overall quality of life (26,27). The current study's objective was to assess anxiety and depression in a sample of worker in an emergency Department worker in middle and south of Iraq.

Materials and Methods

Patients

The current cross-sectional study was carried out on primary care that include pharmacists, Doctors and Nurses during January 2023 to May 2023. The number of populations participated was (105). The number of male participants was 55 (52.4%), while the number of female participants was 50 (47.6%).

Inclusion criteria

The following were the inclusion criteria for this study

1- 105 people were used to health care providers of either sex.

2- The primary care providers include doctors, nurses, practitioners and physician assistants

3- Primary care providers that work in emergency department especially who are in direct contact with patients. They often maintain long-term relationship with patients, advise the patients and treat patients on a range of health-related issues.

Exclusion criteria

The following were the study's exclusion criteria:

1- Individuals who are outside the medical specialties.

2- primary care providers who don't work in emergency department.

3. individuals whose hearing, speech, or cognitive impairments would make it difficult for them to grasp the inquiries.

4.Individuals who provided inaccurate information when filling out the questionnaire will also be disqualified from the trial.

5- concurrent medical conditions (such as chronic renal failure, chronic lung disease, hypertension, heart disease, DM, stroke).

6- Antidepressant users or those receiving therapy for any neurological or psychiatric conditions.

7-Pregnant women.

Method

The questionnaires

The Arabic version of the Hospital Anxiety and Depression scale (HADs) was utilized in the current study to assess anxiety and depression in health-care providers. The HADS was chosen because it is easy to understand, fast to apply, and includes few items. It addresses the variables of interest (anxiety and depression) and has demon- started good psychometric characteristics among people with different types of diseases. Although it was initially proposed for outpatients in the detection of depression and anxiety states, it can be applied in different contexts, and has been used recently to diagnose anxiety and depression in psychiatric or non-psychiatric patients.

The Arabic version of the Hospital Anxiety and Depression Scale (HADS) has been validated as a reliable tool for assessing anxiety and depression in hospitalized patients. Studies showed strong internal consistency, with Cronbach's alpha values of 0.83 for anxiety and 0.77 for depression, indicating good reliability. Construct and concurrent validity were confirmed through significant correlations with established measures like the GAD-7 and MDI. Patient feedback indicated that the questionnaire items were clear and relevant to their

experiences. Overall, the Arabic HADS effectively captures mood states in clinical settings, particularly among surgical patients (28).

The scale contains 14 multiple-choice questions, with two sub-scales: anxiety (HADS-A) and depression (HADS-D), with seven items in each domain. Scores for each item range from zero to three, and the global score for each subscale range from zero to 21. To interpret the scores of the two subscales, it is considered that, the higher the score, the greater the chance that the person will develop an anxiety and/or depression disorder. This instrument's Arabic version has undergone psychometric validation.

Administration of questionnaires

The researcher, established a collected data through questionnaires, personally handed over to participants between Jan and May 2023. Participants were asked whether they were approved to participate in the study when they arrived at the hospital and questionnaires were returned within ten days in closed envelopes, permitting the respondents' anonymity.

Statistical analysis

The statistical package for social sciences (SPSS) version 23 and Microsoft Office Excel 2010 were used to gather, summarize, and analyze data. Categorical variables were shown as percentages and numbers. Initial analyses of quantitative variables focused on the Kolmogorov-Smirnov test for normalcy distribution. Using an independent sample t-test, mean values between any two groups were compared. Using the Chi square test, associations between any two category variables were determined. To evaluate the variables, the Spearman correlation test was utilized. When the *P* was 0.05 or less, it was deemed significant, and when it was 0.01 or less, it was deemed very significant.

Results

Table 1 displays the demographic details of participants. Table 2 display the rates of responses of participants to questions concerning depression. Table 2 and figure 1 showed the frequency distribution of patients according to depression the number of participants were their normal are about 21(20.0%) and the number of participants were their abnormal are about 33(31.4%) and the number of participants were their borderline abnormal are about 51(48.6%).

Table 1. Demographic characteristics of participants in an emergency department

Characteristic	n	%
Age		
≤25 years	64	61
>25 years	41	39
Gender		
Male	55	52.4
Female	50	47.6
Marital status		
Married	24	22.9
Single	67	63.8
Divorced	9	8.6
Widowed	5	4.8
Economic status		
Excellent	9	8.6
Very good	18	17.1
Good	40	38.1
Moderate	32	30.5
Poor	6	5.7
Other job		
Yes	40	38.1
No	65	61.9
Hours of work		
8 hours	51	48.6
> 8 hours	54	51.4
Level of education		
Secondary	3	2.9
Diploma	36	34.3
Bachelor	55	52.4
M.Sc.	6	5.7
Ph.D.	5	4.8

Table 2. The rates of responses of participants to questions concerning depression

Questions	Index	Never	Sometimes	Often	Always
Q1(I still enjoy the things I used to enjoy)	*n*	4	44	37	20
	%	3.8	41.9	35.2	19
Q3(I can laugh and see the funny side of things)	*n*	6	42	32	25
	%	5.7	40	30.5	23.8
Q5(I feel cheerful	*n*	11	36	43	15
	%	10.5	34.3	41	14.3
Q7(I feel as if I am slowed down)	*n*	15	33	42	15
	%	14.3	31.4	40	14.3
Q9(I have lost interest in my appearance)	*n*	28	41	25	11
	%	26.7	39	23.8	10.5
Q11(I look forward with enjoyment to things)	*n*	9	36	31	29
	%	8.6	34.3	29.5	27.6
Q13(I can enjoy a good book or radio or TV program)	*n*	11	46	31	17
	%	10.5	43.8	29.5	16.2

Data was express as either n: number, %: percentage

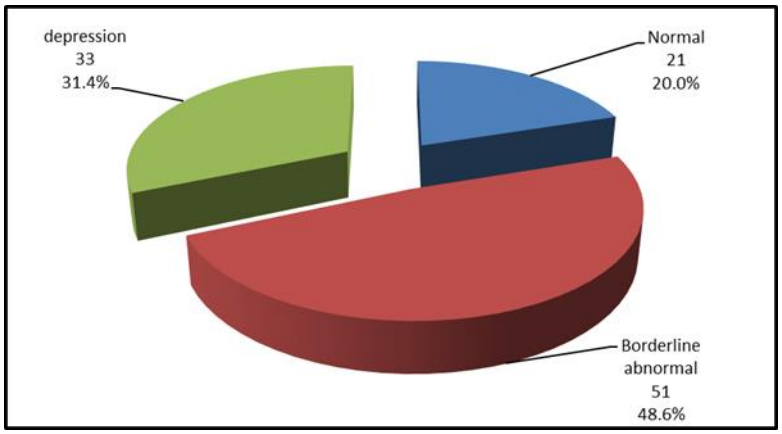

Figure 1. Pie chart showing the frequency distribution of patients according to depression score

The table presents demographic characteristics of a sample population, revealing key insights into their age, gender, marital status, economic status, employment, work hours, and education level. A majority of participants are aged 25 years or younger (61%), with a slightly higher representation of males (52.4%) compared to females (47.6%). Most respondents are single (63.8%), and economic status is predominantly rated as good (38.1%) or moderate (30.5%). In terms of employment, the majority work more than eight hours a day (51.4%) and do not hold additional jobs (61.9%). Educationally, the sample is well-represented by individuals holding a Bachelor's degree (52.4%), indicating a relatively high level of education among the participants (Table 1).

The table summarizes responses to a series of questions, indicating the frequency of certain behaviors or feelings among participants. For Question 1, the majority responded "Sometimes" (41.9%), while 19% reported "Always." In Question 3, 40% of respondents selected "Sometimes," with a notable 23.8% indicating "Always."

Question 5 showed a similar trend, with 41% responding "Often." Question 9 had the highest percentage of "Never" responses at 26.7%, suggesting a significant portion of participants do not engage in the behavior described. Overall, the data reflects varying levels of engagement across the questions, with "Sometimes" being the most common response (Table 2). The table presents the frequency of responses to various questions, highlighting participants' engagement levels. For Question 2, a significant portion of respondents indicated "Sometimes" (37.1%) and "Always" (31.4%), suggesting a positive inclination towards the behavior. Question 4 revealed that 19% of participants responded "Never," indicating a notable reluctance among some individuals. In Question 6, responses were more evenly distributed, with 41% selecting "Sometimes." Question 8 had the highest "Never" response rate at 28.6%, while Question 12 showed a balanced distribution, with 27.6% indicating "Always." Overall, the data reflects diverse engagement levels across the questions, with varying degrees of consistency in responses (Table 3).

Table 3. The rates of responses of participants to questions concerning anxiety

Questions	Index	Never	Sometimes	Often	Always
Q2(I feel tense or 'wound up)	*n*	2	39	31	33
	%	1.9	37.1	29.5	31.4
Q4(I get a sort of frightened feeling as if something awful is about to happen)	*n*	20	37	22	26
	%	19	35.2	21	24.8
Q6(Worrying thoughts go through my mind)	*n*	21	43	21	20
	%	20	41	20	19
Q8(I can sit at ease and feel relaxed)	*n*	30	34	28	13
	%	28.6	32.4	26.7	12.4
Q10(I get a sort of frightened feeling like 'butterflies' in the stomach)	*n*	16	39	38	12
	%	15.2	37.1	36.2	11.4
Q12(I feel restless as I have to be on the move)	*n*	14	30	32	29
	%	13.3	28.6	30.5	27.6

Data was express as either n: number, %: percentage

Table 3 and figure 2 showed the frequency distribution of patients according to anxiety the number of participants were their normal are about 24(22.9%) and the number of participants were their abnormal are about 30(28.6%) and the number of participants were their borderline abnormal are about 51(48.6%).

Table 4 showed that depression has no correlation with sociodemographic characteristics but has significant negative correlation with economic status. While anxiety has significant positive correlation with age in which anxiety increases with increase age and has no correlation with other sociodemographic characteristics.

The table summarizes the correlation between various characteristics and depression and anxiety scores among participants. Notably, age shows no significant correlation with either depression or anxiety scores, as indicated by high *P*. However, economic status reveals a significant negative correlation with depression scores (r= -0.240, *P*=0.014), suggesting that lower economic status is associated with higher depression levels. For anxiety, age demonstrates a positive correlation (r=0.210, *P*=0.032*), indicating that older individuals may experience higher anxiety levels. Other characteristics, including gender, marital status, hours of work, and level of education, do not show significant correlations with either score, highlighting the complexity of factors influencing mental health outcomes.

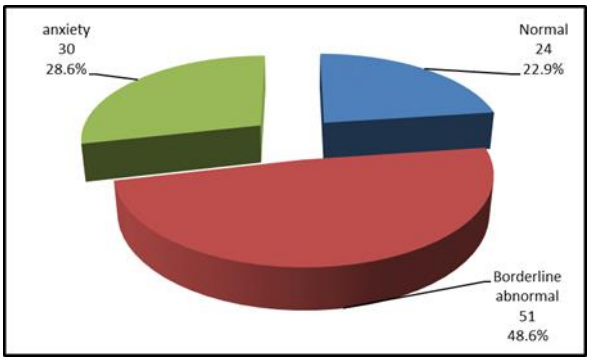

Figure 2. Pie chart showing the frequency distribution of patients according to anxiety score

Table 4. Correlation between sociodemographic characteristics and depression and anxiety scores

Characteristic	Depression score		Anxiety score	
	r	***P***	***r***	***P***
Age	-0.008	0.932	0.210	0.032*
Gender	0.144	0.144	-0.135	0.169
Marital status	-0.011	0.914	0.026	0.790
Economic status	-0.240	0.014*	0.172	0.079
Other job	-0.101	0.304	-0.048	0.624
Hours of work	-0.008	0.934	-0.080	0.419
Level of education	0.163	0.096	-0.160	0.103

Data expressed as r: correlation coefficient, *P*: probability value, *: significant at $P \leq 0.05$

Discussion

Depression is a medical condition that interfere with a person's ability to function in daily life and a leading cause of disability. Depression affects people of all ages, genders, and backgrounds.

According to table (3-1), the number of participants were (at age< 25) about (39%) and the number of participants were (at age≥ 25) about (61%) this may be due to most of workers in emergency department appointed after bachelor's degree. The number of female was (47.6%) and the number of male was (52.4%) this agree to the nature of work in emergency wards that's is very difficult and requires more muscle strength, so the numbers of women are slightly less than men, in addition to social factors that support this idea and in Iraq this age is childbearing age so many women take postpartum vacation (29-32).

The number of participants were married are about (22.9%) and the number of singles are about (63.8%) and the number of divorced are about (8.6%) and the number of widowed are about (4.8%) the large percentage of unmarried people, support the fact that the percentage of poor financial income contributed to the fact that there was a large percentage of unmarried people. Regarding to participants income, the number of participants have good to moderate income are about (68.6%) more than that with high income, and this is due to high cost of marriage and high cost of living in Iraq (33-36).

According to this study more than half of participants have bachelor education level (52.4%) this compatible with the financial system in Iraq where the salary is increased depending on the years of services, certificate obtained and profession. Also, the number of participants were work in other job are about (38.1%) and the number of participants were work just in hospital are about (61.9%), this may be due most of participants have bachelor degree which cannot have special clinic. The number of participants were working 8 hours are about (48.6%) and the number of participants working above 8 hours are about, The number of working hours varies according to several factors, including specialization, job location, and daily work schedule (37-40).

As figure 1 the frequency distribution of patients according depression the number of participants were normal are about (20.0%) and the number of participants were abnormal are about (31.4%) and the number of participants were borderline abnormal are about (48.6%) and this agree with study has consistently shown that medical staff working in hospitals are susceptible to depression (41,42). A study conducted (16) nearly 4,000 physicians and found that approximately 29%

experienced symptoms of depression.

Similarly, a study revealed (43) that 24%of pediatric intensive care unit (ICU) nurses met the criteria for significant depressive symptoms. These findings suggest a high prevalence of depression among medical staff, indicating a pressing concern that needs to be addressed. As figure 2 the frequency distribution of patients according to anxiety the number of participants were normal are about (22.9%) and the number of participants were abnormal are about (28.6%) and the number of participants were their 23 borderline abnormal are about (48.6%). Numerous studies have highlighted the high prevalence of anxiety among medical staff working in hospitals (44-46).

Agree with our study, it has been conducted (47), 1,100 physicians and found that approximately 40% experienced symptoms of anxiety. Additionally, a systematic review examined (48,49) anxiety levels in healthcare professionals and reported a wide range of anxiety prevalence rates, with estimates ranging from 20% to 43%. These findings underscore the substantial burden of anxiety within the medical staff population.

As table 3-2 the study showed that there is a significant positive correlation between age and anxiety, this may be due the emergency department unit requires twice as much effort and physical strength as the rest of the department in the hospital. While there is no correlation between educational state and depression and anxiety, this disagree with study conducted in Norway showed that higher rates of depression are observed among individuals with lower levels of education, relative to people with higher levels of education (50), also disagree with study in which the high risk of depression was associated with low education(51). There is significant negative correlation between economic status and depression which means when economic status increased, depression decreased, and this result agree with study in which lower socioeconomic position is related to higher levels of depressive and anxiety symptoms (52).

In conclusion, the study highlights a concerning prevalence of anxiety and depression among emergency department workers in middle and south Iraq. The high levels of psychological distress are closely linked to the demanding nature of their work, as well as factors such as economic status, age, and education level. These findings underscore the urgent need for targeted mental health support and interventions for healthcare professionals facing chronic stress. Addressing these issues is essential to improve the well-being of workers and enhance the quality of care provided to patients. Ultimately, fostering a healthier work environment can lead to better outcomes for both staff and the communities they serve.

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