



Research Article

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Prevalence of Depression among Resident Doctors in King Fahad Medical City, Riyadh, Saudi Arabia

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ABSTRACT

Background: Depression is a common mental disorder in adults, and the World Health Organization (WHO) has ranked it as the fourth leading cause of disability worldwide. Doctors are not immune to the disorder; in fact, they have a higher risk than the general population, which affects the physician's life and compromises the quality of the health services. In Saudi Arabia, resident doctors' mental health is under-recognized, and more studies need to be conducted to fill this gap. Objectives: This study is aimed at determining the prevalence of depression among resident doctors working at a tertiary care hospital in Riyadh, and analyzing the associated factors. Methodology: The study utilized a cross-sectional design. The resident doctors in KFMC hospital in Riyadh participated in this study by filling questionnaires, including a depression-screening instrument (CES-D), a sociodemographic datasheet, and questions about other associated factors. Results: One hundred and nineteen residents responded with an overall response rate of 70%. Based on categorical levels of the CES-D, 41% (49) did not have depression, 20% (24) had mild to moderate depression, and 39% (46) had probable major depression. There were significant differences in depression by gender with higher rates among women (55.1%) than men (27.1%). Further, participants with a history of depression were more likely to have depression (62%).

Key words: *Mental health, Riyadh, Doctors, Depression, Saudi Arabia.*

INTRODUCTION

Depression is a common mental disorder characterized by depressed mood, fatigue, social withdrawal, and an inability to perform everyday functions for at least two weeks. In extreme cases, when left untreated, it may be accompanied by thoughts of death and suicide. The World Health Organization has ranked depression as the fourth leading cause of disability worldwide. In the United States alone, major depressive disorder (MDD) affects 14.8 million adults every year, and is one of the largest causes of disability, especially among women [1, 2]. The lifetime prevalence of depression is high [3-5]. While the cause of the disorder remains unknown, various risk factors, such as poverty, abuse, work stress, genetic makeup, and chemical imbalance, have been recognized as probable contributors [6].

Healthcare workers' mental health has been an issue of concern for many years. Numerous studies have reported alarming rates of stress, depression, and burnout among healthcare workers, especially doctors and nurses. A 2015 study showed that 23% of health workers displayed depressive symptoms and 34% displayed high levels of distress [7, 8].

Depression among physicians is high as compared to other professionals, and it may even lead to suicide, which is a leading cause of death among medical students. The suicide rate among physicians is more than twice that of

the general population. Depression not only affects the mental health of the physician but also causes physical problems. Research has shown that male physicians are at risk of myocardial infarction and immune suppression, conditions that have been linked to infectious diseases and cancer [9].

Stress and burnout, long working hours, taking difficult medical decisions, dealing with death, and massive amounts of workload, all may contribute to depressive symptoms during the residency period. Resident doctors have numerous duties, including attending to patients and studying course-related material, putting great amounts of pressure on them that may eventually lead to depression. Depression in resident doctors affects not only them, but it may spill over to negatively affect their patients as well as affecting their learning and academic pursuits, which are a crucial part of a medical postgraduate student's life [10-14].

A 2015 meta-analysis of 54 studies involving 17560 physicians in training demonstrated that between 20.9% and 43.2% of trainees screened positive for depression or depressive symptoms during residency [15].

Studies on medical residents in different countries have shown high rates of depression during their training. For example, a study conducted in Turkey found that the prevalence rate of depression among resident doctors was 16.0% and that the rate of depression was significantly higher among women than men [16]. A more recent study conducted in Pakistan found that doctors showed high levels of anxiety and depression, and female doctors were more prone to anxiety than their male counterparts [17].

Research on the mental health of resident doctors is under-recognized, especially in Saudi Arabia, where only a few studies have been conducted on this subject. A recent study reported that resident doctors in Saudi Arabia are at a comparable or slightly higher risk of perceived stress than residents worldwide [18, 19]. The prevalence of depression among doctors in Saudi Arabia is unknown; however, some studies conducted among medical students have reported high rates of depression, as 17.8% of the 1171 participants had severe major depression and 17.8% had moderately severe depression [20].

The present study was conducted to screen for the prevalence of depression among resident doctors working at a tertiary care hospital in Riyadh, with a considerable focus on the associated sociodemographic factors. The study aims to fill the existing gap in knowledge regarding physicians' mental health in Saudi Arabia, to draw attention to their current status, and highlight the need to look for solutions to this issue.

MATERIALS AND METHODS

The study followed a cross-sectional design, targeting resident doctors from all different specialties in KFMC, Riyadh. To be included in the study, participants had to be licensed resident doctors working in King Fahad Medical City.

The KFMC hospital research center provided a mailing list of the target population. Questionnaires were sent to the doctors, who fulfilled the aforementioned inclusion criteria, via an institution e-mail ID. The recipients were requested to fill and return the questionnaires within a week. The data were analyzed using IBM SPSS V24.

The Center for Epidemiological Studies-Depression (CES-D) scale was used to assess depression in the participants. This 20-item measure has a response range from zero (rarely or none of the time) to three (most or all of the time). Based on the positive predictive value, sensitivity, and specificity for depression, the following cutoff scores have been proposed for the CES-D: A score of less than 15 indicates no depression, 15-21 indicates mild to moderate depression, and over 21 indicates major depression.

The sociodemographic factors included site, trainee level, and gender. Besides, the participants were asked to answer the following yes/no questions: whether they had a history of depression and, if so, whether they had received treatment; whether they were currently receiving treatment for mental health issues; and whether they had a family history of depression.

The research IRB was approved by the King Fahad research center. All questionnaires included a consent form. Participation in the study was voluntary and all participants were ensured data privacy, anonymity, and confidentiality.

RESULTS

Out of the 170 individuals to whom the emails were sent, 119 responded (70%) with completed questionnaires. Of these, 58.8% were males. A majority of the participants were under 30 of age (86.6%). In total, 59.7% of the respondents were single, 37% were married, and 3.4% were divorced. Twenty percent of the respondents had a history of depression, of whom thirty-six had received treatment.

Figure 1 shows the prevalence of depression (using the CES-D scale) among the KFMC resident doctors, of whom 41% (49) did not have depression, 20% (24) had mild to moderate depression, and 39% (46) had probable major depression.

Table 2 shows that the prevalence of depression was slightly higher in participants over the age of 30. Females had a significantly higher rate of probable major depression (55.1%) than males (27.1%), whereas, males had a higher rate of mild to moderate depression (28.6%) than females (18.7%). Single participants had lower depression rates (54.9%) than divorced and married participants (75% and 63.6%, respectively). The married participants who had children had significantly higher rates of probable major depression than those who did not have children (75% and 32.2%, respectively).

There were no statistically significant differences by specialty and year of residency. However, the residents in the fourth-year or above were more likely to report experiencing depression. Moreover, the respondents with a history of depression were more likely to have probable major depression compared to those who did not have a history of depression (62% and 32.6%, respectively).

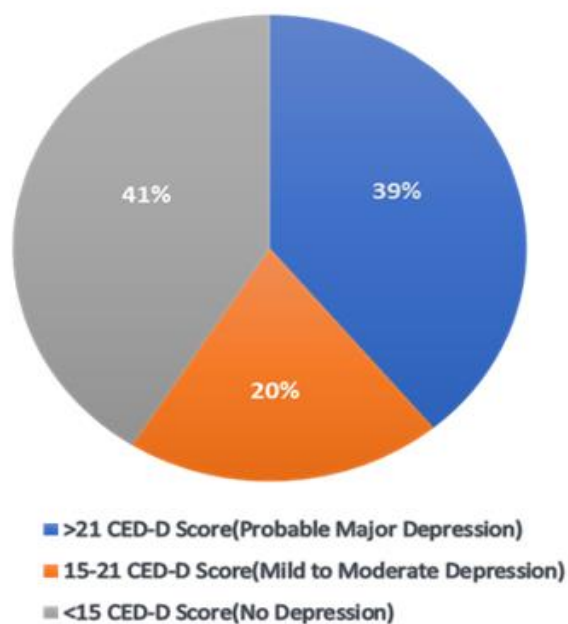


Figure 1: Prevalence of depression among resident doctors at KFMC (N=119)

Table 1. Sociodemographic and Work-life Characteristics of the Participants (n = 119).

Variable	Frequency	Percent
Age (years)		
Under 30	103	86.60%
30 and over	16	13.40%
Gender		
Male	70	58.80%
Female	49	41.20%
Marital status		
Married	44	37%
Single	71	59.70%
Divorced	4	3.40%
Presence of children		
Yes	32	26.90%
No	87	73.10%

Years of training		
PGY I	43	36.10%
PGY II	27	22.70%
PGY III	18	15.10%
PGY IV	22	18.50%
>PGY IV	9	25.20%
Specialty		
Neurology	10	8.40%
Pediatrics	23	19.30%
Gynecology	3	2.50%
Family medicine	22	18.50%
Neurosurgery	6	5%
Cardiac surgery	2	1.70%
Anesthesia	11	9.20%
Internal medicine	17	14.30%
Urology	6	5%
Radiology	19	16%
Number of 'on-calls' per month		
None	25	21%
1 – 5	75	63%
6 –10	19	16%

Table 2. Association between Sociodemographic Characteristics and Depression using CES-D Score among Resident Doctors at KFMC, Saudi Arabia.

Sociodemographic Characteristics	Probable major depression (CES-D > 21)	Mild to moderate depression (CES-D 15-21)	No depression (CES-D < 15)	P-Value
Age (years)				
Under 30	39 (37.9%)	21 (20.4%)	43 (41.7%)	0.903
30 and over	7 (43.7%)	3 (18.7%)	6 (37.5%)	
Gender				
Male	19 (27.1%)	20(28.6%)	31(44.3%)	0.002
Female	27 (55.1%)	4(8.2%)	18(36.7%)	
Marital status				
Married	19(43.2%)	9(20.4%)	16(36.4%)	
Single	25(35.2%)	14(19.7%)	32(45.1%)	0.839
Divorced	2(50%)	1(25%)	1(25%)	
Presence of children				
Yes	18(75%)	5(20.8%)	9(4.2%)	0.056
No	28(32.2%)	19(21.8%)	40(46%)	
Years of training				
PGY I	12(27.9%)	6(14%)	25(58.1%)	0.154
PGY II	8(29.6%)	8(29.6%)	11(40.7%)	
PGY III	9(50%)	4(22.2%)	5(27.8%)	
PGY IV	13(59.1%)	4(18.2%)	5(22.7%)	
>PGY IV	4(44.4%)	2(22.2%)	3(33.3%)	

Specialty				
Neurology	5(50%)	2(20%)	3(30%)	0.5
Pediatrics	13(56.5%)	4(17.4%)	6(26.1%)	
Gynecology	2(66%)	0(0%)	1(33%)	
Family medicine	6(27.3%)	2(9.1%)	14(63.6%)	
Neurosurgery	2(33.3%)	2(33.3%)	2(33.3%)	
Cardiac surgery	1(50%)	0(0%)	1(50%)	
Anesthesia	3(27.3%)	5(45.4%)	3(27.3%)	
Internal medicine	6(35.3%)	4(23.5%)	7(41.2%)	
Urology	3(50%)	1(16.7%)	2(33.3%)	
Radiology	5(26.3%)	4(21%)	10(52.6%)	
History of depression				
Yes	15(62%)	5(20.8%)	4(16.7%)	0.012
No	31(32.6%)	19(20%)	45(47.4%)	

DISCUSSION

Resident doctors are exposed to a variety of work-related stresses that affect their productivity and mental health. This study showed that 20% of the participant doctors had mild to moderate depression and 39% had probable major depression. These figures are higher than the prevalence reported by a similar study where 12% of participants had probable major depression and 9% had mild to moderate depression [21]. A study conducted in Turkey reported a probable depression rate of 16% using the Beck Depression Inventory (BDI) [16]. Another study in Pakistan reported a depression rate of 24.8% using the Hospital Anxiety and Depression Scale (HADS) [17]. The differences in the reported prevalence rates could be probed further and explained using a different measure of depression and larger sample size.

In the present study, we could not find a statistically significant association between the year of training and depression, which is consistent with previous research [16, 21]. Furthermore, both age and medical specialty had no significant association with the manifestation of depression. Women had a significantly higher rate of probable major depression compared to men, which is consistent with other studies [16, 21]. Additionally, the respondents who had a history of depression displayed a higher rate of depression than those who did not have a history of depression, which is comparable to a previous study [21]. Interestingly, the respondents who reported having children had a significantly higher rate of depression than those who did not have children.

A recent study conducted in Jeddah, Saudi Arabia revealed a high prevalence of depression among medical residents compared to previously conducted studies (mild depression was identified in 35.6%, and moderate to severe depression in 40.2% of the participants) [22].

Despite extensive global data, there have been minimal reports addressing depression among physicians in Saudi Arabia.

This study is limited by its cross-sectional nature, which limits the conclusions that can be drawn for causality. Further, we cannot rule out the possibility of a reporting bias arising from the self-reported nature of the data.

CONCLUSION

The main finding of this study is that more than half of the residents (59%) working at KFMC hospital reported having some degree of depression. Further, the data suggest that female residents should be evaluated as a high-risk group for depression, which indicates a need for preventive and control policies in work life. Whereas the doctors' mental health should be a vital part of every health system, the rates of depression among resident doctors are concerning. There is a crucial need to address the disorder through effective interventions at both the individual and institutional levels. Professional counseling services to manage work-related stress, educational programs, and health promotion strategies are essential to improve the overall wellbeing of physicians. This study was limited to a major hospital in the urban city of Riyadh, which could have compromised the external validity of its results. Further multi-center studies are encouraged to get a more complete picture of the overall issue, determine the causes, and improve the work-related quality of life among medical residents.

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