



Research Article

Prevalence of Anxiety and Depression among Family Medicine Residents in KFMC, Riyadh. KSA: A Comparison between Physicians' Characteristics

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Abstract

This study examined the relationship between the prevalence of anxiety and depression and their relationship with family medicine residents' gender and seniority levels among KFMC physicians in Riyadh, Saudi Arabia. In general, the study found that family medicine residents in KFMC have normal levels of anxiety and depression. Furthermore, Chi Square was used and indicated that there is a significant relationship between gender and the prevalence of anxiety in which females showed more tendencies to develop anxiety compared to their male counterparts. On the other hand, when testing the prevalence of depression and gender, we found that there is no significant difference when it comes to the residents' gender and the likelihood of them developing depressive symptoms. Finally, when we tested the relationship between family medicine physicians' seniority level and the prevalence of anxiety and depression, the results indicated that there is no significant relationship between seniority level and the prevalence of both anxiety and depression.

Keywords: Family medicine; Residents; Anxiety; Depression; Seniority level; Gender

Introduction

Globally, 5% of all adults are estimated to suffer from mental disorders. Depression is a common mental disorder that is characterized by persistent sadness or low mood and a lack of interest or pleasure in previously rewarding or enjoyable activities [1], while anxiety is characterized by extreme and constant worry, that is difficult to control, which causes major distress [2].

The residency period of the physician's life is considered as a risk period for the developing of mental health problems, such as anxiety and depression, which influence the physician's work outcome [2]. One study regarding the prevalence of depressive symptoms was conducted in Riyadh and Qassim regions on 400 postgraduate resident doctors. Among 181 residents in King Abdulaziz Medical City in Riyadh, 93% of them had depressive symptoms. In comparison to 146 residents from King Fahad Specialist Hospital and Maternity and Children's Hospital in Qassim, 94.5%, and 84.4% respectively had symptoms of depression [3]. Another study done on resident physicians in 2020 at King Fahad Medi-

cal City (KFMC), Riyadh, showed the prevalence of depression among family medicine doctors was 18.5% [4]. Additionally, in a study that was done in Jeddah governmental hospitals, 13% were found to have anxiety [5].

Moreover, many studies have used Hospital Anxiety and Depression Scale (HADS), which is a self-assessment scale that can be used as an instrument to detect cases of depression and anxiety in the hospital sittings, or outpatient clinics. In addition, the Patient Health Questionnaire (PHQ-9), Generalized Anxiety Disorder (GAD-7) questionnaire and HADS depression and anxiety subscales were effectively linked and proven to be valid screening tools for depression and anxiety among adults [6]. Furthermore, HADS has been previously tested for reliability and validity and demonstrated very good reliability overall ($\alpha=0.89$) and for the individual subscales ($\alpha=0.84$) while several studies have confirmed the HADS's diagnostic validity [7].

Nevertheless, since there are very few local studies on the prevalence of both depression and anxiety among family medicine residents, our study aim is to explore the prevalence of both depression and anxiety among family medicine resident physicians according to their characteristic's i.e., gender, and seniority level in KFMC, Riyadh using HADS questionnaire since it is combining both anxiety and depression scales in one survey. Accordingly, the results can be used as evidence that can help to develop a proper mental health management and coping mechanisms systems and strategies to improve and create a healthier work environment for KFMC resident physicians if needed in the future.

Methodology

This study is a cross-sectional study that used a quantitative method, and was conducted among family medicine residents, namely from R1 to R3, in King Fahad Medical City (KFMC) in Riyadh, Saudi Arabia between June and July, 2023. A purposive non-probability sampling technique was used in this study due to its small, targeted population size, in which family medicine residents from R1 to R3 in KFMC, were included in the study i.e. (N=118). The response rate achieved was 98% (i.e., 116 responded out of the 118 R1 to R3 KFMC family medicine residents). The inclusion criteria of choosing the participants were any family medicine residents from all levels of male and female resident doctors at KFMC in Riyadh. Any family medicine consultant or other resident or consultant from specialties other than family medicine at KFMC, Riyadh were excluded from this study. An English version of the self-administrated survey known as Hospital Anxiety and Depression Scale (HADS) soft copy was sent to all family medicine residents from R1 to R3 in which consent was obtained through the cover page at the beginning of the survey which explained the purpose of the study and detailed the rights of the participants in terms of anonymity, confidentiality, their right to withdraw at any

time...etc. Data was anonymously collected using the HADS soft copy questionnaire that has been already tested for validity and reliability and no identifiers such as names were requested. Several reminders were sent every week to the participants, which resulted in 98% response rate. The data were analyzed using IBM SPSS v29. The relationships between the study variables and their significance were examined using the chi-square test in addition to a frequency table at the beginning.

Results

This study was conducted to determine the prevalence of anxiety and depression among family medicine residents at King Fahad Medical City, Riyadh, in addition to examine their relationship with gender and seniority level of the participants. There were 118 residents who were asked several questions based on the Hospital Anxiety and Depression Scale (HADS). The answers were used to measure the level of anxiety and depression, followed by testing the association between gender and prevalence of anxiety and depression and the association between family medicine resident seniority level and prevalence of anxiety and depression.

Furthermore, participants with anxiety and depression scores of 0-7 were categorized as normal, patients with anxiety and depression scores of 8-10 indicated that they were classified as borderline normal, while patients with HADS scores of 11-21 were categorized as abnormal. The participants were classified as having depression and/or anxiety if his/her score was within the abnormal category i.e., HADS scores of 11-21.

Moreover, the first step before testing the relationship between gender and seniority level on the prevalence of anxiety and depression was to describe the prevalence of anxiety and depression levels among family medicine residents at King Fahad Medical City as presented in Table 1.

Category	Prevalence of Anxiety	Prevalence of Depression
Normal	62 (53%)	89 (77%)
Borderline	29 (25%)	15 (13%)
Abnormal	25 (22%)	12 (10%)

Table 1: Prevalence of Anxiety and Depression.

In Table 1, it can be seen that family medicine residents with normal levels of anxiety and depression are the most numerous compared to other anxiety categories with a prevalence of normal anxiety levels of 53% and a prevalence of normal depression levels of 77%. These numbers indicate that the majority of residents have low levels of depression and anxiety and tend to be at a reasonable level and are not in a high-risk condition. The prevalence of anxiety in borderline (25%) and abnormal (22%) conditions is

higher than the prevalence of depression in borderline (13%) and abnormal (10%) conditions. The prevalence of borderline and abnormal levels suggested that family medicine residents at King Fahad Medical City are more at risk for anxiety than depression, which means that almost out of every 4 residents, there is one having anxiety while out of every ten residents, there is one having depression.

After describing the prevalence of anxiety and depression, the relationship between gender and seniority level to the prevalence of anxiety and depression was tested. The test was conducted using the chi-square test. The test results can be seen in Table 2.

Variable	Group	Anxiety			P	Depression			P
		Normal	Borderline	Abnormal		Normal	Borderline	Abnormal	
Gender	Female	22 (41.51%)	14 (26.42%)	17 (32.08%)	0.021	41 (77.36%)	7 (13.21%)	5 (9.43%)	0.956
	Male	40 (63.49%)	15 (23.81%)	8 (12.70%)		48 (76.19%)	8 (12.70%)	7 (11.11%)	
Seniority Level	R1	20 (54.05%)	9 (24.32%)	8 (21.62%)	0.981	30 (81.08%)	5 (13.51%)	2 (5.41%)	0.444
	R2	18 (54.55%)	9 (27.27%)	6 (18.18%)		27 (81.82%)	2 (6.06%)	4 (12.12%)	
	R3	24 (52.17%)	11 (23.91%)	11 (23.91%)		32 (69.57%)	8 (17.39%)	6 (13.04%)	

Table 2: Hasil Uji Chi-Square.

The results of the analysis using the chi-square test showed that there was a significant relationship between gender and the prevalence of anxiety ($p=0.021 < 0.05$). This proves that there is a difference in the prevalence of anxiety between male and female residents. The number of female family medicine residents who experience abnormal anxiety (32.08%) is greater than that of men (12.70%), so it can be stated that female residents are more at risk of experiencing anxiety than male residents. Meanwhile, testing on gender and prevalence of depression showed the opposite result where there was no relationship between gender and prevalence of depression ($p=0.956 > 0.05$). Similarly, testing the relationship between seniority level and the prevalence of anxiety and depression showed the same results, namely there was no relationship between seniority level and the prevalence of anxiety ($p=0.981 > 0.05$) and depression ($p=0.444 > 0.05$).

Discussion

According to Hameed, et al. [3] study that indicated that depressive symptoms were more likely seen in the residents of King Abdulaziz Medical City in Riyadh and King Fahad Specialist Hospital along with maternity and children's hospital Buraidah with a prevalence rate of about 95%, which is contradicting with our results that revealed low prevalence of depression among the study population. It should be noted that Hameed et al. study was conducted on two hospital settings, i.e., in Riyadh and Qassim, and on different surgical and medical specialties' residents.

Furthermore, when comparing our results with other comparable studies, we found that there is a significant difference between participants' gender and the probability of developing depression

symptoms in the study of Alothman, et al. [4] unlike the results of our study that showed no significant relationship between these two variables, in which Alothman, et al. [4] study showed that females had significant higher probable major depression rates than their males' colleagues yet, the males had higher rates of mild to moderate depression. However, it should be noted that the aforementioned study was conducted on all the specialties' residents in KFMC while our study was mainly concerned with family medicine residents and used different scale to measure the study results i.e., Alothman et al. [4] study used the Center for Epidemiological Studies-Depression (CES-D) scale.

On a national French sample of young physicians, a 2012 study was conducted to identify the prevalence of anxiety and depression as well as their associated factors using the HADS survey. Similar to our study, it founds that being a woman significantly increase your chances of having anxiety disorder while the study reported similar percentage of those having depression i.e., 8.7%.

Also, a 2021 study that examined the prevalence of anxiety among chine residents found a considerable portion of the study sample, i.e., almost one third, have major anxiety symptoms that was associated with poor quality of sleep ad higher burnout levels. It should be noted that 68% of this study sample were females, which indirectly point to the same direction as our results.

In addition, a 2017 published Tunisian study that used HADS questionnaire as well revealed that almost 44% of the participating residents reached the cut-off definition point of definite anxiety state (namely HADS anxiety score is 11) while 31% of them were within the defining definite depression. Moreover, the

study showed that female gender as well as increased seniority level (i.e., 5th level of residency course) were along with other study variables significantly associated with having anxiety.

Conclusion

The aim of this study was to determine the prevalence of anxiety and depression among family medicine residents at King Fahad Medical City, Riyadh, as well as to examine their relationship with gender and seniority level of the participants using the Hospital Anxiety and Depression Scale (HADS).

The study revealed that family medicine residents in KFMC mostly have normal levels of anxiety and depression. Using the chi-square test, the results of the analysis showed that there was a significant relationship between gender and the prevalence of anxiety, which indicates that there is a difference in the prevalence of anxiety between male and female residents. Moreover, testing on gender and prevalence of depression showed the opposite result where there was no relationship between gender and prevalence of depression. Likewise, testing the relationship between seniority level and the prevalence of anxiety and depression showed that there was no relationship between seniority level and the prevalence of anxiety and depression.

Limitations

The limitation of this study includes researcher bias as a result of choosing non probability purposive sampling technique which was used due to the small population size and therefore, was the most appropriate sampling method to use considering the fact that there was a limited number of possible participants who can contribute to our study. In addition, this study is constrained by a single setting and certain levels of practitioners i.e., KFMC family medicine R1-R3 residents and accordingly, the research findings can't be generalized on the larger population.

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References

1. World Health Organization (WHO) (2018) Depression.
2. Baldwin D (2022) Generalized anxiety disorder in adults: Epidemiology, pathogenesis, clinical manifestations, course, assessment, and diagnosis. UpToDate.
3. Hameed TK, Al Dubayee MS, Masuadi EM, Al-Anzi FG, Al Asmary NA (2021) Prevalence of depressive symptoms and excessive daytime sleepiness in a cohort of Saudi doctors under training: A cross sectional study. *J Taibah Univ Med Sci* 16: 695-699.
4. Alothman OM, Alotaibi YM, Alayed SI, Aldakhil SK, Alshehri MA (2020) Prevalence of Depression among Resident Doctors in King Fahad Medical City, Riyadh, Saudi Arabia. *Int J Pharm Res Allied Sci* 9: 81-86.
5. Alzahrani AS, Alghamdi EAS, Alyamani MNA, Alowdhah MAM, Aseeri OMS, et al. (2016) Prevalence and Associated Factors of Generalized Anxiety Disorder Among Physicians, Jeddah, Saudi Arabia. *Int J Med Res Prof* 2: 140-146.
6. Huang XJ, Ma HY, Wang XM, Zhong J, Sheng DF, et al. (2022) Equating the PHQ-9 and GAD-7 to the HADS depression and anxiety subscales in patients with major depressive disorder. *J Affect Disord* 311: 327-335.
7. Zigmond AS, Snaith RP (1983) The hospital anxiety and depression scale. *Acta Psychiatrica Scand* 67: 361-370.