

Prevalence of Anxiety and Depression among postgraduate trainees in Qassim, Saudi Arabia

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Abstract

Background: Trainee doctors in postgraduate programs go through many challenges and stressor events in their life which may affect their mental health.

Objective: This study aimed to measure the prevalence and risk factor of depression, anxiety and stress among trainees of Saudi Board programs in Qassim region.

Materials & Methods: A cross-sectional study was conducted among 119 postgraduate trainees enrolled in Saudi Board Program in Qassim region. Depression Anxiety and Stress Scale (DASS-21) was used to measure the outcome variables. Logistic regression was used to assess the risk factors of depression, anxiety and stress.

Results: A quarter (25%) of the respondents were female, and half (51%) were married. The prevalence of depression, anxiety and stress were 49.6%, 57% and 39.5% respectively. We found that failing the promotion exam adjusted odds ratio (AOR) 4.43(95% CI: 1.45-13.50), being in Internal medicine AOR 3.94 (95% CI: 1.22 - 12.66) and other specialties AOR 3.56 (95% CI: 1.22-10.39) were significant risk factors of depression. Risk factors for anxiety included; failing promotion exam AOR 4.46 (1.18-16.86) and being in internal medicine AOR 8.95(95% CI: 2.39-30.84) and other specialties AOR 5.78 (95% CI: 1.88-18.72). On the other hand, being unmarried was protective of anxiety AOR 0.23(95%

CI: 0.08-0.60). The only significant factor associated with stress was not passing part one exam AOR 5.06 (95% CI: 1.70 - 15.1).

Conclusions: We found a high prevalence of mental disorders among postgraduate trainees in Qassim region of Saudi Arabia. This calls for implementing screening and support programs for trainees to improve their mental health and thus their learning and quality of care being provided by them.

Key words: Anxiety, Depression, Stress, Trainees, Postgraduate, Saudi Arabia

Introduction

Anxiety and depression are common mental disorders(1) and they mostly occur together(2). Depressive disorders are mental disorder manifested as depressed mood, and loss of interest as the main criteria. Anxiety disorders are mental disorders characterized by feelings of anxiety and fear(1). Depression is one of the three common causes of disability and is anticipated to be the top most worldwide by 2030(3). Depression affects 4.4% of people around the world, in other words, 300 million people suffer from it(1). Anxiety affects 3.6% of the global population(4). Prevalence of depression in Saudi Arabia is 4.5% and anxiety is 4.3 % in the general population according to WHO(4).

There are many risk factors for developing mental disorder; one of them is stressors in life(1,4). It is well known that trainee doctors in postgraduate programs have to go through many challenges and stressful events in their life. The aim of training is to produce physicians who can treat patients and help to improve the health of community. Unfortunately, research suggests the current training may have negative effects on trainee's mental health and may lead to anxiety and depression(5). Research done in 2014 in the USA, on physicians shows that 48% of doctors had burnout symptoms which is double that of the general working population(6).

A number of studies have been conducted among postgraduate trainees to measure the burden of AD. A study done in Ontario family medicine program showed 12% of residents had anxiety, 20% had depression(7). In Tunisia, among medical residents 43% and 30% had anxiety and depression respectively(8).

There are few studies which have been conducted in KSA to measure the burden of anxiety and depression burden among family medicine residents. A study done on physicians in Jeddah KSA, showed 46 % had general anxiety disorder(9). A study from Riyadh reported that 34% of Family Medicine residents had social anxiety(10). Another study done in western KSA among medical residents showed that 75% of residents have depression(11).

It is evident from literature that residents have a high prevalence of anxiety and depression. It is well known that physicians who have health problems will be less effective in their life and work(12). Measuring the burden of depression and anxiety during training is important for informing efforts to prevent, treat, and identify causes among residents. No study to the best of our knowledge has been published which assessed anxiety and depression and associated risk factors among postgraduate residents in Qassim region of KSA. This study is therefore aimed at measuring prevalence and risk factors of anxiety and depression among trainees in Saudi Board programs in Qassim region.

Methodology

A cross sectional study was conducted among post graduate trainees currently enrolled in any of the Saudi Board program in Qassim region during October 2021. Qassim region is located in the central part of Saudi Arabia. There are 8 postgraduate programs accredited by Saudi Commission for Health Specialties in the region providing training for Saudi Board fellowship.

There are about 221 postgraduate trainees in the Qassim region. We used universal sampling and invited all the postgraduate trainees in Qassim region. Those currently working as post graduate trainees in any of the Saudi Board program were eligible to participate. Those who were in the region for electives were excluded from the study.

The data was collected online using structured questionnaire in English. The questionnaire had two sections. The first section was about socio-demographics and professional information. The second part was validated depression and anxiety stress scale (DASS21) (13). Each answer in the scale was given a score from 0-3 where 0 indicated not having the symptoms at all and 3 representing that the participant has the symptoms most of the time. A pilot study was done on 10 interns to assess the understanding of questionnaire by the respondents.

Data was analyzed using "Statistical Package for Social Sciences" (SPSS) V21 (Chicago). Descriptive and inferential analysis of the data was done and presented in tables and figures. Chi-square and t-test were used for comparison of categorical and continuous variables respectively. Logistic regression analysis was used to find the factors associated with anxiety and depression among residents. Adjusted odds ratio (AOR) along with their associated 95% confidence intervals (CI) were calculated. P-value <0.05 was considered significant.

This study was reviewed and approved by Qassim Regional Bioethics Committee. Informed consent was obtained from all the participants. Personal identifiers such as name and ID numbers were not collected.

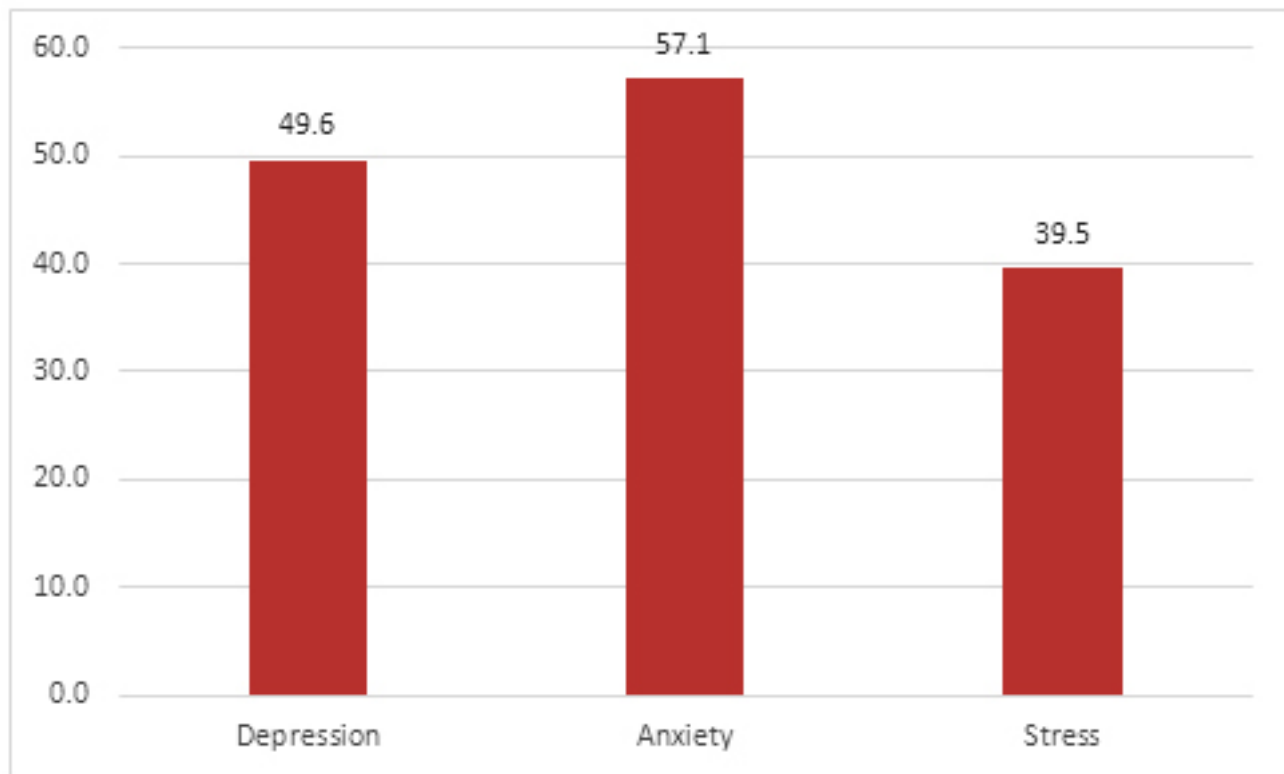
Results

Of the 221 trainees invited, 119 respondents completed the questionnaire (response rate 53.8%) and were included in the analysis. Three quarters (75) were male and more than half of the respondents were married (51%). The majority (91%) were from training centers based in Buraidah. Thirty four percent were Family medicine residents followed by internal medicine (35%) and Pediatrics (20%). (Table 1),

Characteristic	N	%
Gender		
Male	90	75.6
Female	29	24.3
Marital		
Married	61	51.2
Unmarried	57	48.8
Place of training		
Buraidah	106	90.6
Uniazh	11	9.4
Specialty (n=117)		
Family medicine	40	34
Pediatrics	23	19.7
Surgery	9	7.7
Internal medicine	29	24.8
Obstetrics/Gynecology	15	12.8
Orthopedics	1	0.9

Table 2 presents the results of multivariate logistic regression analysis. Anxiety was the most prevalent disorder (57%), followed by depression (49.6%). The prevalence of stress was found to be 39.5%. (Figure 1).

Characteristic	Depression Adjusted OR (95% CI)	Anxiety Adjusted OR (95% CI)	Stress Adjusted OR (95% CI)
Gender			
Male	--	--	1
Female			0.32 (0.10 – 1.02)
Marital			
Married	1	1	1
Unmarried	0.49 (0.20 - 1.16)	0.23(0.08-0.60)	0.46 (0.19 – 1.12)
Part exam			
Passed	1	1	1
Not passed	0.38(0.11-1.32)	0.35 (0.09 - 1.35)	5.06 (1.70 -15.1)
Passed promotion exam in first attempt			
Yes	1	1	--
No	4.43(1.45-13.50)	4.46 (1.18-16.86)	--
Place of residence			
Buraidah	1	1	--
Other cities	1.89 (0.68-5.26)	0.66 (0.25 - 1.94)	
Specialty			
Family Medicine	1	1	1
Internal Medicine	3.94 (1.22 -12.66)	8.95(2.39-30.84)	1.95 (0.59 – 6.45)
Others	3.56 (1.22-10.39)	5.78(1.88-18.72)	2.36 (0.80 – 7.0)
Level			
Junior	1	1	1
Senior	0.55 (0.19-1.61)	0.621(0.197-1.960)	2.07 (0.78 – 5.47)

Figure 1: Prevalence of Depression, Anxiety and Stress among postgraduate trainees in Qassim, KSA

In the multivariate analysis, we found that, not passing the promotion exam in the first attempt was associated with more than four times higher risk of depression, AOR 4.43(95% CI: 1.45-13.50). Compared to Family Medicine, Internal medicine and other specialties were at higher risk of depression AOR 3.94 (95% CI: 1.22 - 12.66) and AOR 3.56 (95% CI: 1.22-10.39) respectively. Similar to depression, the risk factors for anxiety were; not passing promotion exam in first attempt AOR 4.46 (1.18-16.86) and being in internal medicine AOR 8.95(95% CI: 2.39-30.84) and other specialties AOR 5.78 (95% CI: 1.88-18.72). On the other hand, being unmarried was found to be associated with lower risk of anxiety AOR 0.23(95% CI: 0.08-0.60). The only significant factor associated with stress was not passing part one exam AOR 5.06 (95% CI: 1.70 - 15.1). Other factors such as; gender, place of residence and level of training were not found to be significantly associated with any of the outcomes.

Discussion

Depression, anxiety and stress have bad outcomes for the physicians and patients in terms of health of the physician, and safety and effectiveness of patient diagnosis and treatment. Higher prevalence of anxiety has been reported among different communities; however, very limited evidence is available on the mental health issues among physicians in Saudi Arabia. This study therefore adds to the scarce literature on this topic. Our study revealed 56 % of the residents had anxiety and 48 % of them had depression.

There is evidence that physicians have higher prevalence of anxiety and depression than the general population(11). The mental health of Saudi physicians participating in our study showed a higher percentage of depression (48%) than other countries such as USA, Canada and Japan (11%, 14%, 8.8%) respectively(12,14,15). Similarly, there was higher prevalence of anxiety (56%) in our sample as compared to previous studies from different countries. In Pakistan, using AKUADS, 39% of family practitioners had anxiety disorders(16). In China, using Zung Self-Rating Anxiety Scale (SAS), an estimated 25% of physicians

were found to have anxiety symptoms(17). On other hand we found a high prevalence of stress (40%), which is higher than stress rates in medical college students in Saudi Arabia (38%)(18). Our estimate is comparable to the estimates from a developing country which showed 48% of the physicians in a tertiary care hospital had stress(19).

These differences across the studies may be attributed to different factors such as different study setting, design and the tools used to assess the outcomes. Nonetheless, these findings of our study are alarming and need attention of program management and health authorities to address this high rate of mental issues among postgraduate trainees.

In addition to the common risk factors prevalent in the communities, the physicians have some other work-related factors such as workload, stressor, shift duties, and work hours. We found higher prevalence of depression in internal medicine (72%) compared to other specialties which show a similar result to study done in western regions(9). We also found that 75 % of internal medicine trainees have anxiety which shows a higher percentage to a previous

study in Tunisia (74.1%), which showed the higher the work hours per week the higher the percentage(8). The difference in percentage according to specialty could be related to different workloads and number of on calls. The higher the work load and on calls the higher the prevalence(11). Workload on health care providers in Saudi Arabia is increasing due to growing and ageing population along with expansion of health care services for universal health coverage. This however, is not parallel to increase in numbers of health care providers, causing additional burden on them. This may result in poor quality of services and mental and physical health issues among the providers. This calls for appropriate human resource management by the Ministries of Health.

We found that unmarried residents had less rate of anxiety, which agrees with research done on physicians in China in 2014 by social medicine and health organization(17). Mental health issues have negative effects on care provided to patients and performance of physician. We found that depression, anxiety and stress were associated with negative results of exams. Similar were the results in a study done in King Abdul-Aziz University in Jeddah on medical students(20).

There are certain limitations which should be considered while interpreting the results of our study. Firstly, there are chances of reporting bias as trainees may not report their actual mental status given the widespread stigma associated with such disorders. However, we assume this to minimally affect our results because we used an anonymised survey approach and data was collected through self-administered questionnaire. Secondly, response rate was low (53%), so was the sample size. Due to this, our sample may not have sufficient power for the association we explored. Furthermore, there is also possibility of health workers effect where trainees with severe mental illnesses are least likely to participate. Nonetheless our research provides an insight into the mental health of postgraduate trainees in Qassim region in Saudi Arabia.

Conclusion

Trainee physicians have a high prevalence of depression and anxiety. We recommend each department should have regular screening and counselling and support programs for their trainees to address mental health issues of trainees. Furthermore, departments should also review the trainees' schedules and discuss with them regarding proper scheduling. Regulatory bodies, such as Saudi Commission for Health Specialties and Ministry of Health should also monitor and provide support to the institutions for safety and health of their trainees.

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