PREVALENCE OF DEPRESSION AND ANXIETY AMONG MALE MEDICAL STUDENTS IN MAJMAAH UNIVERSITY, SAUDI ARABIA, 2016

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ABSTRACT

Background: Anxiety and depression are common problems which reflect the mental status of people and have a major effect on medical students. Many Studies reported anxiety and depression among medical students especially in their first academic year. **Objective:** To assess prevalence of depression and anxiety among male medical students in Al- Majmaah University, Saudi Arabia, 2016. **Methodology:** A cross-sectional study conducted at the medical college of Majmaah university. A self- administered questionnaire which was given to each male students in the Medical College of Majmaah University. **Result:** Out of 217 students, 177 have completed the questionnaire with a response rate of (81.5 %). The questionnaire was distributed in medical college of Al- Majmaah university among all five batches. Regarding depression level, we found that 139 (78.5%) were within the normal level, while 17 (9.6%), 9 (5.1%), 12 (6.8%) suffer from mild, moderate, and severe depressions respectively. Based on BDI questionnaire cut-off point, 38 (21.5%) (P=0.06) suffer from depression. In regards to anxiety, we were found that 4 (2.3%), 20 (11.3%), and 153 (86.4%) who suffered from severe anxiety, moderate and very low anxiety states respectively. Based on the BAI questionnaire cut-off point, 24 (13.6%) (P=0.091) students are suffering from anxiety. **Conclusion:** In conclusion, our study identified that there is a substantial proportion of medical students have symptoms of depression and anxiety. The prevalence of depressive symptoms and anxiety was found to be higher than the average reported in the general population.

KEYWORDS: *Anxiety, Depression, First year, medical, Undergraduate.*

INTRODUCTION

Anxiety and depression are common problems, which reflect the mental status of the population. Many studies reported anxiety and depression among medical students especially in their first academic year as they are going to suffer from academic stress such as experiencing some difficulties in their study, lack of vacation time and frequent evaluations (exams). Major depression is a commonly occurring disorder that has an impact on performance, quality of life, morbidity, and mortality.[1,2]

Medical students are a highly educated population under significant pressures. They experience multiple emotional disorders during the transformation from unconfident student to a young knowledgeable physician.[3]

Anxiety and depression have a major effect on medical students, on the patients they meet and on their future medical practice.[4-7] The results suggest that it is the rigors of the medical curriculum that may play an important role in the increased prevalence of depression and anxiety for students during their medical education.[8] Depression is more common among medical students, residents, and physicians than in the general population. About 14% of medical students have symptoms of moderate to severe depression. The effects of depression on attitudes and actions are still being realized.[9]

The prevalence of depression among medical students in public universities has been estimated to be 10.4% in Greece, 15.2% in USA, 21.7% in Malaysia, 24% in UK, 29.1% in India, and 43.8% in Pakistan. The prevalence of depression among private medical students, however, has been estimated to be 19% in USA, 49.1% in India, and 60% in Pakistan.[10-18]

The prevalence of anxiety among medical students attending public universities has been estimated to be 43.7% in Pakistan, 54.5% in Malaysia, 65.5% in Greece, and 69% in Beirut, while the prevalence of anxiety among students attending private medical colleges has been estimated to be 29.4% in Israel, 56% in India, and 60% in Pakistan. Even medical students who don't have depression and anxiety could be suffering from depersonalization, emotional exhaustion, and feelings of professional inadequacy. Often two thirds of people with depression are not aware that they have a treatable illness and therefore do not seek medical treatment. Medical students with more severe depression may be less likely to seek treatment.

In particular, compared with their healthier peers, students with depression are more likely to not express their feelings and may be viewed by their teachers to be unable to handle their responsibilities properly. Depressed students are more often considering that seeking help for depression would make them look less intelligent.[10,18-26]

During the transition to clinical settings, the student may feela loss of external control and may counter this with an increase in depression and/or anxiety symptoms. Studies suggest that mental health worsens after students begin medical school and remains poor to internship, Itmay continue later in postgraduate study, and in physicians practical life.

The better the psychosocial health, the better is the well-being and the capacity for adaptation and overcoming problems in the family, relationships, and work. The psychosocial problems may compromise physical, mental, and social health.[5,25]

METHODOLOGY

A cross-sectional study was conducted to determine the prevalence of depression, anxiety and smoking among male medical students in Majmaah University. A self- administered questionnaire was given to the students. The questionnaire consists of three sections :Major depression inventory (MDI) to assess the depression level, The beck anxiety inventory (BAI)to evaluate the anxiety level, and smoking questionnaire which includes the following questions: do you smoke, how often, which type, and whether smoking started before or after joining medical school.

This cross-sectional study was conducted at Medical College of Majmaah University. The total number of male students is 217students in all grades of medicine. The study included all male students of medical college of Majmaah university from grade 2 to grade 6 (5 batches). Data was entered and analyzed by using IBM SPSS version 18.

RESULT

The total number of male students in the Medical College of Majmaah University is 217 students distributed in five batches. The questionnaires were given to all of the male students in the Medical College of Majmaah University. They have been completed by 177 students with a response rate of (81.5 %). The first batch represents the students in fifth year while the fifth batch represents the students in first year. The Figure 1 shows the number of male students in each batch.
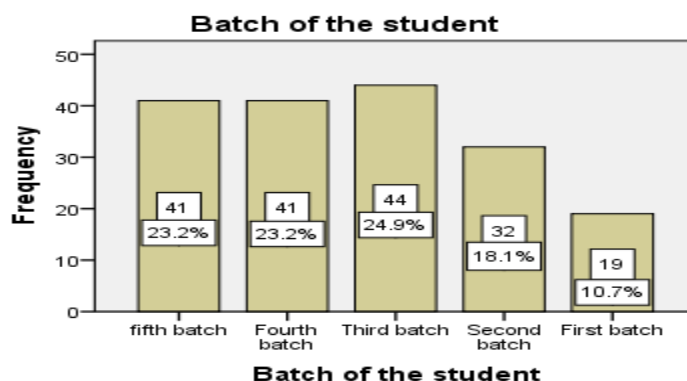
The Figure 1.

Regarding depression level, we found that 139 students (78.5%) were within the normal level, while 17 students (9.6%), 9 students (5.1%), 12 students (6.8%) suffer from mild, moderate, and severe depressions respectively. Based on BDI questionnaire cut-off point,[38] (21.5%) (P=0.06) suffer from depression. Table 1 illustrates depression score among the students.

Table 1.

Score	N = 177	Percent
No depression	139	78.5 %
Mild depression	17	9.6 %
Moderate depression	9	5.1 %
Severe depression	12	6.8 %

The depression prevalence in each batch was as follows: 4 students (10.7%) in the first batch, 6 students (18.1%) in the second batch was, 6 students(24.9%) in third batch, the result of fourth batch was 5 students (23.2%), and the high score was in the fifth batch (first year) as 17 students(23.2%). (P=0.06). Table 2 shows depression score in each batch, Figure 2 demonstrates depression score percentage.

Table 2.

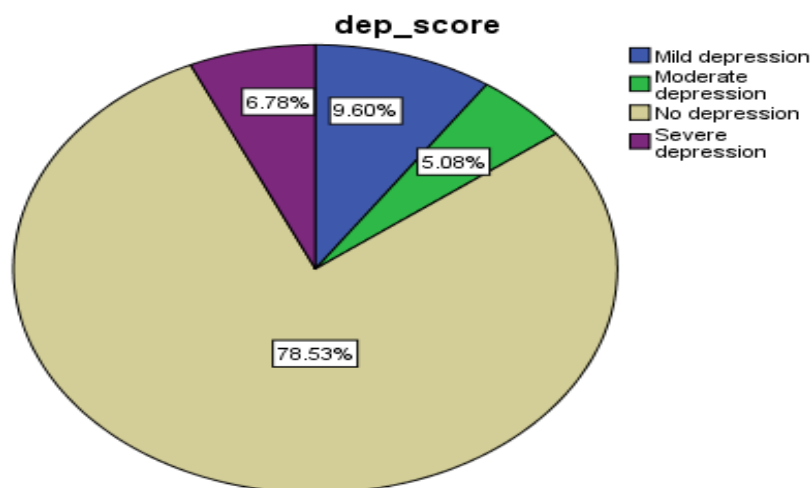| Batchof the student	Depression score				Total N (%)
	No depression N (%)	Mild depression N (%)	Moderate depression N (%)	Severe depression N (%)	
First batch	15 (10.8%)	3 (17.6%)	1 (11.1%)	0 (.0%)	19 (10.7%)
Second batch	26 (18.7%)	2 (11.8%)	1 (11.1%)	3 (25.0%)	32 (18.1%)
Third batch	38 (27.3%)	4 (23.5%)	0 (.0%)	2 (16.7%)	44 (24.9%)
Fourth batch	36 (25.9%)	2 (11.8%)	1 (11.1%)	2 (16.7%)	41 (23.2%)
Fifth batch	24 (17.3%)	6 (35.3%)	6 (66.7%)	5 (41.7%)	41 (23.2%)
Total	139 (100.0%)	17 (100.0%)	9 (100.0%)	12 (100.0%)	177 (100.0%)

Figure 2.

The anxiety prevalence amongbatcheswas as follows: 153 students (86.4%), 20 students (11.3%) and 4students(2.3%) who suffered from very low anxiety, moderate and severe anxiety states respectively. Based on the BAI questionnaire cut-off point, 24 (13.6%) (P=0.091) students are suffering from anxiety. Table 3 shows the anxiety score, Figure3 illustrates anxiety score percentage.

Table 3.

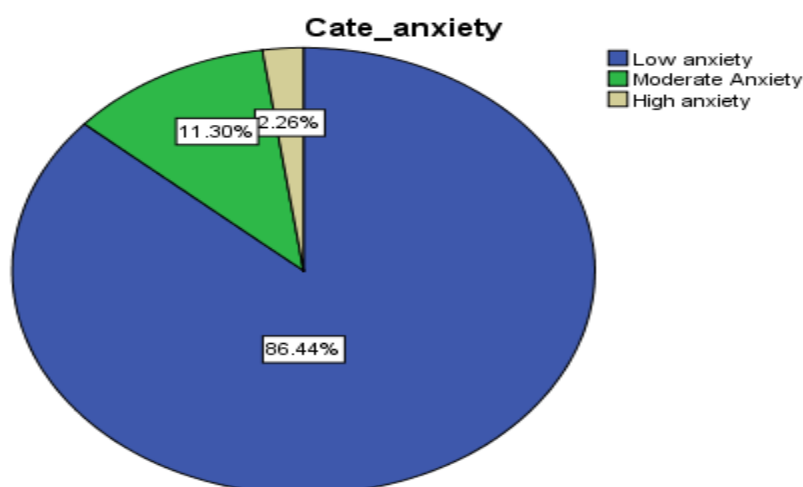| Score	N = 177	Percent
Low anxiety	153	86.4 %
Moderate Anxiety	20	11.3 %
High anxiety	4	2.3 %

Figure 3.

In more details about the level of anxiety among all batches the majoritywas in the low level of anxiety representing 94.7% (18 students) ofthefirst batch, 90.6% (29 students) of the

second batch, 42 students(95.5%) in third batch, the fourth batch level was 82.9% (34 students), finally the fifth batch as 73.2% (30 students).

The highest number of moderate and severe anxiety were recorded in fifth batch8 students (19.5%) 3 students(7.3%) respectively. Table 4 showsanxiety score in each batch.

Table 4.

Batch of the student	Anxiety score			Total N (%)
	Low anxiety N (%)	Moderate Anxiety N (%)	High anxiety N (%)	
First batch	18 (94.7%)	1 (5.3%)	0 (.0%)	19 (100.0%)
Second batch	29 (90.6%)	3 (9.4%)	0 (.0%)	32 (100.0%)
Third batch	42 (95.5%)	2 (4.5%)	0 (.0%)	44 (100.0%)
Fourth batch	34 (82.9%)	6 (14.6%)	1 (2.4%)	41 (100.0%)
Fifth batch	30 (73.2%)	8 (19.5%)	3 (7.3%)	41 (100.0%)
Total	153 (86.4%)	20 (11.3%)	4 (2.3%)	177 (100.0%)

The total number of smokers in this study was 52 students (29.4%) (P=0.68). The highest number was found in third batch 18 (59.1%). Table 5 shows number of smokers & nonsmokers students.

Table 5.

Score	N = 177	Percent
Smoking Yes	52	29.4 %
No	125	70.6 %

The types of tobacco used were cigarettes which used by 22 students(12.4%) and Shishawhich used by 14 students (7.9%). Fifteenstudents (8.5%) wereusingboth cigarettes and shisha.

The number of smokers who started smoking before joining the medical school was 22 students while those who started smoking during the medical school was 30 students. When they asked how often do they smoke, we found that 42 students (23.7%) smoke daily, 7 students (4%) smoke weekly, and 3 students (1.7%) smoke monthly.

The highest number of smokers was found among the third batch 18 students (40.9%) while the lowest number of smokers was foundin fourth batch 6 students (14.6%). Table 6 showsnumber of smokers in each batch.

Table 6.

Smoking	Batch of the student					Total
	First batch N (%)	Second batch N (%)	Third batch N(%)	Fourth batch N (%)	Fifth batch N (%)	
Yes	8 (42.1%)	9 (28.1%)	18 (40.9%)	6 (14.6%)	11 (26.8%)	25 (29.4%)
No	11 (57.9%)	23 (71.9%)	26 (59.1%)	35 (85.4%)	30 (73.2%)	125 (70.6%)

There was significant relationship between smoking and depression as we found that 26.9 %of smokers (14 students) have depression with the majority (42.9%) suffering from moderate depression, (P=0.04). Table 7 shows depression score among smokers & non-smokers.

Table 7.

Smoking	Depression score				Total
	No depression	Mild depression	Moderate depression	Severe depression	
Yes	38	3	6	5	52
No	101	14	3	7	125
Total	139	17	9	12	177

DISCUSSION

The aim of this study was to estimate the prevalence of anxiety and depression among the medical students by two questionnaires namely, Major Depression Inventory (MDI) to assess the depression level and the Beck Anxiety Inventory (BAI) to evaluate the anxiety level. Medical students are a highly educated population under significant pressure to excel. They experience multiple emotional disorders during the transformation from unsure student to a young knowledgeable physician.[27]

Anumber of studies done in the medical colleges all over the kingdom have noticed a high prevalence of depression, anxiety, or stress primarily among Saudi nationals.[28-32] This is shown in the table 8.

Comparison of mental health status among medical students in recent studies in KSA

Table 8: Comparison of mental health status among medical students in recent studies in KSA.

Study	Name of the university (City)	Questionnaire	N (Gender)	Depression %	Anxiety %	Stress %
Our study	Majmaah (Al-Majmaah)	MDI - BAI	177 (M)	21.5	13.6	Not tested
Kulsoom et al (2015) 28	Alfaisal (Riyadh)	DASS-12	873 (M & F)	30 - 43	47 - 63	30 - 41
Ibrahim et al (2013) 29	King abdulaziz (Jeddah)	HADS	450 (F)	14.7	34.9	Not tested
Al-Faris et al (2012) 30	King Saud (Riyadh)	BDI	794 (M & F)	48.2	Not tested	Not tested
Al-Dabal et al (2010) 31	Dammam (Dammam)	ISSH	616 (F)	Not tested	Not tested	48.6
El-Gilany et al (2008) 32	King Faisal (Al-Hassa)	CPSS	855 (M)	16.2	15.5	28.9

Abbreviations: BDI, Beck Depression Inventory (21 items); BAI, Beck Anxiety Inventory; CPSS, Cohen's Perceived Stress Scale; DASS-21, Depression, Anxiety and Stress Scale-21; F, female; HADS, Hospital Anxiety & Depression Scale; ISSH, Influence of Studying on Students' Health; M, male; Major, depression inventory.

The lowest prevalence of depression was shown in a study done by Ibrahim et al in King Abdulaziz University in 2013, which was 14.7% followed by El-Gilany et al 16.2% after that our study came as 21.5%. The highest depression prevalence was reported in Al-Faris et al study 48.2%.

The reason for our study showing a comparatively lower prevalence can be due to a much realistic expectations of the students. This could be due to better interaction with the senior students in the preparatory and 1st year.

Regarding the anxiety level among the students, Kulsoom et al showed higher prevalence (47%) followed by Ibrahim et al (34.9%), El-Gilany et al (15.5%) and then our study showed the lowest at 13.6%. Our findings correlate with the facility provided by the University to the students by giving them time off to prepare for the exams that is reflected in more confidence to appear for the exam and obtaining better results.

On comparing with first year medical college students of Al Qassim University we found that our male student's level of depression were lower (23.2%, significant at 95% CI (p=0.06)) than those among Al-Qassim University students (60% (p=0.006)).[33]

Studies of prevalence of depression as seen comparatively in US (49%), Brazil (32.8%), Turkey (27.1%), Sweden (12.9%), and Iran (44%) showed moderate variations. Medical students have to deal with stressors specific to medical schoolin addition to normal stressors of everyday life which explains this high prevalence of anxiety and depression.[34-38]

One of the reasons for lower prevalence of depression among our students as compared to those in US may be because of the more family support offered to our students.

The family environment is seen as an important protective factor against the development of depressive disorders. A study conducted on medical students in Colombia observed an increased risk of depression due to a decrease in the quality of family relationships. In fact, the quality of parental bonding has ability to reduce the deleterious effects of stressors among medical students, leading to a better functional adaptation.[39-43]

The cultural factors in Saudi Arabia like the religion and relationship between family members play an important role against anxiety and depression.

Anxiety and depression can lead to negative outcomes including medical school dropout and ability to work efficiently. It has been reported that medical students are reluctant to seek appropriate help for mental health problems as they may view this as a weakness. This issue needs to be addressed and students should be encouraged to seek help along with provision of adequate facilities.

Preventive programming efforts should begin early in medical education and address a wide variety of concerns from academic to interpersonal relationships and financial worries. Early signs of depressive symptoms among medical students should be addressed.

In the study was done in US 2001, Students who were started smoking earlier and smoked heavily were probably developed symptoms of depression in futurethanwho smoked few cigarettes or never smoked. Conversely, the students who suffered from any depressive symptoms were vulnerable to be smoker more than who not showed symptoms of depression.[44]

We observed that out of the 52 students who were smokers, 30 students started smoking during medical school 14 of them found to have depression symptoms.

LIMITATION

- Variations in sample size among different studies leading to limitations in comparison.
- We don't involvethe female side In this study becausewe have only two batches.

RECOMMENDATION

We recommend to improve the communication and interaction between the senior batches andjunior batches. To explain the difficulties that might come in their way and how they can deal with such stress. As the college provide a mentorship system we advise the students who face any difficulty or stress either in their study or life to contact with their supervisor.

CONCLUSION

In conclusion, our study identified that a substantial proportion of our medical students have symptoms of depression and anxiety. The prevalence of depressive symptoms and anxiety was higher than the average found in the general population. Actions should be taken to encourage medical students to seek help for psychological problems and to provide adequate psychological supportive facilities. Interventions addressing the mental health of medical students must be directed towards those revealing anxiety and depressive symptoms. Individual as well as organizational interventions should do their role to prevent excessive stress and burnout among medical students and to provide an early psychosocial help for those who may need it.

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