The prevalence of depression among female medical students in Al-Maarefa Colleges in Riyadh, Saudi Arabia

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Received: April 2021; Accepted: May 2021; Published: June 1, 2021.
Citation: Amani Abdullah Alharbi. The prevalence of depression among female medical students in Al-Maarefa Colleges in Riyadh, Saudi Arabia. World Family Medicine. 2021; 19(6): 14-23 DOI: 10.5742/MEWFM.2021.94061

Abstract

Background: Depression is a mood disorder characterized by persistent low mood in which there is a feeling of sadness and loss of interest. Saudi Arabia has a large number of medical colleges with the majority of the students in private medical colleges and studies of such nature will be useful in addressing problems of depressed medical students in these institutions.

This study aimed to study the prevalence of depression and to identify its related factors among female medical students in Al-Maarefa Colleges in Riyadh, Saudi Arabia during 2015-2016, and to determine the prevalence of depression among female medical students in different levels of educations.

Methods: Sample size was 150 students and the population was the female medical students of Al-Maarefa Colleges.

Results: It was found that 28.9% of the medical students were depressed.

44.7% of the study population was in level 7-8, and the majority of the participants were aged between 18-21 years. GPA was found to cause stress for 85.7% of the students and so the average 18-20hour/semester put 69.3% of the students under stress.

Conclusion: The prevalence of depression was relatively low among the female medical students of Al-Maarefa Colleges during 2015-2015. The findings of the study showed negative associations between depression and students' marital status, parents' and partner's support, college satisfaction, self-esteem, classmates' negativity and GPA stress. Accordingly, it cannot be generalized that all medical students have depression.

Key words:
Prevalence, depression, female medical students, Al-Maarefa Colleges, Riyadh, Saudi Arabia

Introduction

Depression: a mood disorder characterized by extreme and persistent feelings of despondency, worthlessness and hopelessness, causing impaired emotional, cognitive, behavioral and physical functioning [1]. According to WHO, depression is a common mental disorder, characterized by sadness, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, feelings of tiredness, and poor concentration [2]. WHO has also identified depressive disorder of adolescence as a "priority mental health disorder". Globally its prevalence rate is 15-20% and recurrence rate is 60-70% whereas depression represents 20% of mental illness. However, studies have reported that 50% of cases remain undiagnosed [3]. Depression has several types including: Major depression, bipolar disorder and seasonal affective disorder. Saudi Arabia is ranked 114 in the worldwide epidemiology of depression with 895.616 depressed per 100,000 inhabitants [4]. Some researchers suggest that although the rate of depression among students entering medical school is similar to that among people of similar ages, the prevalence increases disproportionally over the course of medical school [5]. Students' coping strategies and personal health deteriorate as they progress through medical school years. The sign of illness intensifies as the intern doctors prepare to enter hospitals for the first time [6]. According to a previous study in KSU – Riyadh, Saudi Arabia; it has been shown that medical students have a higher rate of depressive symptoms than the general population and age- and sex- matched peers [7]. If the result of this research states that medical students have higher risk for developing depression; then it would be possible to pursue an awareness plan. Early onset of depression among medical students interferes with psychological, social and academic functioning, placing him or her at greater risk for problems such as substance abuse and suicidal behavior [8]. Studies say that more than 50% of medical students admit that they have sought help for depression or other mental health problems [9]. An estimated 300 to 400 physicians die annually from suicide in Saudi Arabia, and many suffer from depression [10]. A previous descriptive-analytic, cross-sectional study was conducted in King Saud University's Medical school in Riyadh, Saudi Arabia – 2012 to study the prevalence of depressive symptoms among medical students following a traditional curriculum. The results showed high prevalence of depressive symptoms (48.2%); they were either mild (21%), moderate (17%) or severe (11%) [7].

A study was carried out at the Karolinska Institute Medical University, Sweden, in June, 2005 about stress and depression among medical students to assess the exposure to different stressors and the prevalence of depression among medical students at different levels of education, taking gender differences into account. It was carried out using a cross sectional design on 342 students enrolled in the 1st, 3rd, and 6th year. Results showed that female students are more prone than male students and the prevalence of depression among medical students was 12.9% which is higher than the general population and in which female students were 16.9% and male students 1.8% and a total of 2.7% committed suicide. The study's conclusion is the 1st year students experience more pressure and on a gender basis females are more prone than males [11]. A cross sectional study about anxiety and depression among medical students was done by Jadoon Na, in Nishtar Medical College, Multan in 2008; to determine the prevalence of anxiety and depression. The study revealed that the prevalence of anxiety and depression among medical students was 43.89%. Female students had more depression compared to their male peers. The study also showed a significant association between the prevalence of anxiety and depression and the relevant year of medical college. Prevalence of anxiety and depression among 1st, 2nd, 3rd, 4th and final year students was 45.86%, 52.58%, 47.14%, 28.75% and 45.10% respectively. The study's conclusion was medical students constitute a vulnerable group that has a high prevalence of psychiatric morbidity comprising anxiety and depression [12].

The current study aimed to assess the prevalence of depression and to identify its related factors among female medical students in Al-Maarefa Colleges in Riyadh, Saudi Arabia during 2015-2016, and to determine the prevalence of depression among female medical students in different levels of education.

Methodology

A cross sectional study that was conducted at Al-Maarefa Colleges of Science and Technology (MCST). Female medical students during 2015 – 2016 in Al-Maarefa Colleges were included by cluster sampling technique; the study included 6 levels (3-8) of which 50% of the students from each level were chosen. Beck Depression Inventory scale was used in the study, which was a self-administered questionnaire [13]. The questionnaire included four sections as demographic factors, social support, educational satisfaction and stressors. (see Appendix 1 for questionnaire). The College of Medicine was chosen from the 6 colleges of Al-Maarefa Colleges among which the female medical students of Levels 3-8 were chosen. A pretested, close-ended questionnaire, constructed especially for this study was used. The questionnaire was distributed among the 50% of students of each level selected, followed by data collection.

Data analysis

After data was collected it was cleared, coded and entered into SPSS. Suitable statistical test was used and the result was presented in tables as percentages and frequencies.

Results

Table 1 shows 44.7% of the population are in level 7-8; 71.3% were aged between 18-21 years. About 90% of the participants are single and half of the participants are on the MHE scholarship. 96% identified their family financial status as excellent or comfortable.

Table 2 shows 87.3% of the students' parents are married and 74% of the parents support the students all the time. About 83.3% of the married students have their partner's support all the time. Parental expectation was found to put 47.3% of the students under stress.

Table 3 showa the College's method satisfaction was said to be good enough by 69.3% of the participants and the faculty support was graded as good according to approximately 89% of the students. Studying in English was not a difficulty in 58% of the students. The average 18-20 hours per semester put 69.3% of the students slightly under stress. 50% of the students were found to be more confident after joining medical school.

Table 4 shows 44% of the participants are socially active and that the negativity of classmates affected 66% of the students. 85.7% of the students are under the stress of GPA and 16.7% revealed that there were no other unmentioned obstacles during their studies. The prevalence of depression among the female medical students was found to be low as 28.9% only were depressed.

Table 5 shows the highest percentage of depressed students (32%) were found in level 5-6. The most depressed age group (71%) is 26-29 years. Married and divorced students (64%) were found to be more depressed than the singles and there was a strong statistical association (P=0.00) between depression and marital status of the students as 30% of the students on MCST and scholarship were estimated. 58% of the students who identified their family's financial status as excellent/comfortable were depressed.

Table 6 shows 50% of the students with divorced parents were depressed. Students who were unsure of their family's support (36%) were depressed and there was a significant statistical association (P=0.00) between depression and family support. 50% of the married students who were not supported enough by their partners were depressed and there was a statistical association (P=0.005) between depression and partner's support. 38% of students with no parental expectation were depressed.

Of the students who were not satisfied with the college's educational methods and standards (43%) were depressed and there was a statistical association (P=0.02) between depression and college satisfaction. 37% who identified the faculty members' support as poor were depressed. 69% of the students who had difficulties in studying in English were depressed and there was a strong statistical association (P=0.01) between depression and studying in English. 47% of the students who were put under the stress of average credit hours were depressed. 51% of the students who were less confident after joining medical school were depressed and there was a significant statistical association (P=0.006) between depression and self-confidence.

41% of the students who identified themselves as socially inactive were depressed. 57% of the students who were affected by their classmates' negative vibes were depressed and there was a significant statistical association (P=0.00) between depression and classmates' negative vibes. 33% of the students who were under the stress of the GPA were depressed and there was a strong statistical association (P=0.00) between depression and stress of GPA.

Table 1: Relation between Demographic Factors and Depression (N=150)

	Frequency	Percentage
Level of education		
3-4	42	28.0%
5-6	37	24.7%
7-8	67	44.7%
Total	150	100%
Age		
18-21	107	71.3%
22-25	32	21.3%
26-29	7	4.7%
Total	150	100%
Student marital status		
Single	135	90.0%
Married	12	8.0%
Divorced	2	1.3%
Total	150	100%
Payment method		
MHE scholarship	75	50.0%
MCST scholarship	10	6.7%
Parental money	64	42.7%
Total	150	100%
Family financial status		
Excellent	50	33.3%
Comfortable	94	62.7 %
Poor	6	4.0%
Total	150	100%

Table 2 – Relation between Social Support and Depression (N=150)

Table 2: Relation between Social Support and Depression (N=150)

	Frequency	Percentage
Parental marital status		
Married	131	87.3%
Divorced	10	6.7%
Deceased	8	5.3%
Total	150	100%
Family's support		
All the time	111	74.0%
Not enough	26	17.3%
Not sure	11	7.3%
Total	150	100%
Partner's support		
All the time	10	83.3%
Not enough	2	16.6%
Total	12	100%
Stress of parental expectation		
Yes	71	47.3%
No	55	36.7%
No expectations	21	14.0%
Total	150	100%

Table 3 – Relation between College and Educational Satisfaction (N=150)

	Frequency	Percentage
College satisfaction		
Very satisfied	15	10%
Good enough	104	69.3%
Not satisfied	28	18.7%
Total	150	100%
Faculty members' support		
Excellent/Good	22	14.7%
Good	111	74.0%
Poor	16	10.7%
Total	150	100%
Difficulties in English		
Yes	16	10.7%
No	87	85.0%
Only in the 1st year	46	30.7%
Total	150	100%
Stress of Average credit hours		
Yes	36	24.0%
Slightly	68	45.3%
No	45	30.0%
Total	150	100%
Changes in self confidence		
More confident	75	50.0%
Less confident	37	24.7%
No changes	34	22.7%
Total	150	100%

Table 4: Relation between Stressors and Depression: (N=150)

	Frequency	Percentage
Socially active		
Yes	66	44.0%
Slightly	65	43.3%
No	17	11.3%
Total	150	100%
Classmates' negative vibes		
Yes	42	28.0%
Slightly	57	38.0%
No	50	33.3%
Total	150	100%
Stress of GPA		
Yes	88	58.7%
Slightly	42	28.0%
No	17	11.3%
Total	150	100%
Unmentioned Obstacles		
Time Management	10	6.7%
Others	19	12.7%
No	25	16.7%
Total	150	100%
Prevalence of Depression		
Depressed	43	28.7%
Not Depressed	106	70.7%
Total	150	100%

Table 5: Relation between Demographic Factors and Depression (N=150)

Level of education	Prevalence of Depression		Total
	Depressed	Not depressed	
3-4	11 (26%)	31	42
5-6	12 (32%)	25	37
7-8	18 (27%)	48	67
Total	43 (28%)	106	150
Age			
18-21	25 (23%)	82	107
22-25	11 (34%)	20	32
26-29	5 (71%)	2	7
Total	43 (28%)	106	150
Student marital status			
Single	34 (25%)	101	135
Married	8 (66%)	4	12
Divorced	1 (50%)	0	2
Total	43 (28%)	106	150
Payment method			
MHE scholarship	22 (29%)	52	75
MCST scholarship	3 (30%)	7	10
Parental money	18 (28%)	46	64
Total	43 (28%)	106	150
Family financial status			
Excellent	16 (32%)	33	50
Comfortable	25 (26%)	68	94
Poor	1 (16%)	5	6
Total	43 (28%)	106	150

Table 6: Relation between Social Support and Depression (N=150)

Parental marital status	Prevalence of Depression		Total
	Depressed	Not depressed	
Married	36 (38%)	94	131
Divorced	5 (50%)	5	10
Deceased	1 (12%)	7	8
Total	43 (28%)	106	150
Family's support			
All the time	30 (27%)	81	111
Not enough	9 (34%)	17	26
Not sure	4 (36%)	7	11
Total	43 (28%)	106	150
Partner's support			
All the time	9 (52%)	7	16
Not enough	1 (50%)	1	2
Not applicable	33 (25%)	98	131
Total	43 (28%)	106	150
Stress of parental expectations			
Yes	25 (35%)	46	71
No	9 (16%)	45	55
No expectations	8 (38%)	13	21
Total	43 (28%)	106	150

Discussion

The study showed the prevalence of depression among female medical students at Al-Maarefa Colleges to be relatively low. This is consistent with the results of a study done in Cambridge University, UK which indicated that depressed student's percentage ranged between 5.7% and 10.6% among Core Science students and between 2.7% and 8.2% among Clinical students [14]. The low frequency could be due to the good parental marital status (mostly married), excellent/comfortable economic status and the religious aspect.

Regarding family and partner's support it was shown that a high proportion of those with less supportive parents were depressed with a statistical association, and that most of the married students who were not supported enough by their partners' were more depressed. This is consistent with a study done in Gujarat, India that showed students who had poor relationship with their family members were significantly more depressed compared to students with good relationship with their family members (P=0.01) [15]. .The high frequency could be due to the lack of support, and the high expectation of family or friends which influenced the students' mood and performance negatively.

College's educational and standards dissatisfaction was found to put more students in depression. This finding is consistent with a study done in Bhubaneswar, India which indicated that students who were dissatisfied with their education had higher depression, anxiety and stress score [16]. The high proportion might be caused by the Non-Supportive faculty members and stressful credit hours. Moreover, basic educational method has a negative impact on students.

A high proportion of students who found studying in English language as a barrier were depressed. This is in agreement with the findings of a study done in Bareilly, India where students facing language problems in their MBBS course (56.3%) were more likely to report symptoms suggestive of depression [15]. The high percentage is probably due to the fact most of them come from an Arabic environment.
This study showed that students who became less confident after joining medical school to be more significantly depressed. The finding is consistent with a study done in Chennai, India which revealed that adolescents who had low self-esteem (77.9%) were found to have 3.7 times more risk of developing depression than the adolescents who had high self-esteem [14]. The significant association is possibly due to the dissatisfaction of the educational methods and standards; students are having lower self-esteem and doubts about their knowledge and skills.

Also, the study revealed significant relationship between classmates' negative vibes and depression. This is similar to the results of a study in Gujarat, India that showed that the prevalence of depression was higher in students having poor relationship with classmates or friends (19.35%) compared to students having good relationship with classmates/friends (2.63%) [15]. The high frequency might be caused by the competitive behavior.

GPA stress as found in this study was significantly associated with depression. This is in accordance with the findings of a study done in KSU, Riyadh as stated by the study subjects that the main source of stress was their studies (60.3%) [18]. The result could be due to higher education requisites, family expectations and scholarship maintenance.

Conclusion

The prevalence of depression was relatively low among the female medical students of Al-Maarefa Colleges. Accordingly, it cannot be generalized that all medical students have depression.

The findings of the study showed negative associations between depression and students' marital status, parents' and partner's support, college satisfaction, self-esteem, classmates' negativity and GPA stress.

An interesting finding of the study was that students who had difficulties studying in English were more susceptible to depression.

The socio-demographic factors such as level of education and age group of the students, economical status and family's marital status had no significant association.

Recommendations

- It is recommended that every medical school have a social counsellor to conduct yearly surveys to assess the depression among the students and follow up with those affected.
- Seminars should be held frequently by professionals to help raise awareness about academic stress.
- The college should provide activities to reduce stress and educate the faculty members to provide support to the students.
- Parents and partners support should be encouraged.

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