ISSN 2475-529X

Research Article

Journal of Nursing & Healthcare

Prevalence of Depression Among Medical Students in Sudan International University in May 2017 – August 2017

Eiman Abdelrahman Ahmed Mohamed*, Blgees Gadalla Mohamed Elamin Ahmed, Ebtehag Baballa Ahmed Abdelgadir and Dr. Mohamed Abdalhameed Osman A lnor

Sudan International University, Sudan

***Corresponding author**
Eiman Abdelrahman Ahmed Mohamed, Sudan International University, Sudan, E-Mail: eiman.305@hotmail.com

Submitted: 28 Oct 2018; **Accepted**: 08 Nov 2018; **Published**: 15 Nov 2018

Keywords: Depression, medical students, Patient Health Questionnaire 9 (PHQ-9)

Introduction

For ages, depression was described in literature and arts. Many definitions were developed through centuries; in the 19th century depression was seen as an inherited weakness of temperament. In the first half of the 20th century, Freud linked the development of depression to guilt and conflict. John Cheever, the author and a modern sufferer of depressive disorder, wrote of conflict and experiences with his parents as influencing his becoming clinically depressed.

Depression is a mental illness that spread within the human being to involve the body, mood and thoughts. It affects the pattern of sleeping, eating, feeling and thinking.

Depression is not sadness, nor a sign of weakness, it cannot disappear easily, and without treatment, it can last for weeks, months or even years [1].

Diagnostic criteria of depression

DSM-5

A. Five (or more) of the following symptoms have been present during the same 2-week period and represent a change from previous functioning; at least one of the symptoms is either:

(1) depressed mood or (2) loss of interest or pleasure.
Note: Do not include symptoms that are clearly attributable to another medical condition.

1. Depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad, empty, hopeless) or observation made by others (e.g., appears tearful). (Note: In children and adolescents, can be irritable mood.)
2. Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation.)
3. Significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day. (Note: In children, consider failure to make expected weight gain.)
4. Insomnia or hypersomnia nearly every day.
5. Psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down).
6. Fatigue or loss of energy nearly every day.
7. Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick).
8. Diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others).
9. Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.

B. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

C. The episode is not attributable to the physiological effects of a substance or to another medical condition.

Note: Criteria A-C represent a major depressive episode.
Note: Responses to a significant loss (e.g., bereavement, financial ruin, losses from a natural disaster, a serious medical illness or disability) may include the feelings of intense sadness, rumination about the loss, insomnia, poor appetite, and weight loss noted in Criterion A, which may resemble a depressive episode.

Although such symptoms may be understandable or considered appropriate to the loss, the presence of a major depressive episode in addition to the normal response to a significant loss should also be carefully considered. This decision inevitably requires the exercise of clinical judgment based on the individual's history and the cultural norms for the expression of distress in the contest of loss.

D. The occurrence of the major depressive episode is not better explained by schizoaffective disorder, schizophrenia, schizophreniform disorder, delusional disorder, or other specified and unspecified

schizophrenia spectrum and other psychotic disorders.

E. There has never been a manic episode or a hypomanic episode.

Note: This exclusion does not apply if all of the manic-like or hypomanic-like episodes are substance induced or are attributable to the physiological effects of another medical condition [2].

ICD – 10

Diagnostic criteria for depression ICD-10 uses an agreed list of ten depressive symptoms.

Key symptoms:

- Persistent sadness or low mood; and/or
- Loss of interests or pleasure
- Fatigue or low energy At least one of these, most days, most of the time for at least 2 weeks
  - If any of above present, ask about associated symptoms:
- Disturbed sleep
- Poor concentration or indecisiveness
- Low self-confidence
- Poor or increased appetite
- Suicidal thoughts or acts
- Agitation or slowing of movements
- Guilt or self-blame
- The 10 symptoms then define the degree of depression and management is based on the particular degree
  - Not depressed (fewer than four symptoms)
  - Mild depression (four symptoms)
  - Moderate depression (five to six symptoms)
  - Severe depression (seven or more symptoms, with or without psychotic symptoms)

Symptoms should be present for a month or more and every symptom should be present for most of every day [3].

The General objective of this study was to estimate the prevalence of depression in medical students.

While the specific objectives were : To determine the prevalence of risk factors of depression in medical students, to calculate the percentage of depression in males and females, to determine the effect of depression in lowering academic performance of students and to define the academic year mostly affected by depression.

In Egypt, a cross sectional study was done in Assiut university, it included 700 medical students, A self-administered, questionnaire for the socio-demographic characteristics, Depression Anxiety Stress Scale (DASS 21) and Pittsburgh Sleep Quality Index (PSQI) questionnaire were used for assessment. High frequencies of depression (65%), anxiety (73%) and stress (59.9%) were reported. In univariate analysis, females, those living in the University campus/students' residence facility, in the preclinical years and with lower academic achievement had higher scores of DASS and PSQI compared to their comparative partners [4].

Another related cross-sectional study was done in New Delhi using stratified random sampling, 237 students were selected according to year of study. Patient Health Questionnaire (PHQ-9), based on PRIME-MD Today, was used to make a provisional diagnosis of depression. The overall prevalence of provisionally diagnosed depressive and major depressive disorder using PHQ-9 was 21.5% and 7.6%, respectively. Year of study and academic performance of students had a statistically significant association with depression. Other factors, including gender, self-reported past history of depression, family history of psychiatric disorders, type of social support, family structure, number of siblings and education of parents were not found to have any significant association with prevalence of depression in the study. It was also observed that students were reluctant to seek help for depressive symptoms [5].

Methodology:

Study design:

Cross sectional facility based study

Study population:

Medical student in Sudan International University
Inclusion criteria: medical students
Exclusion criteria: students in other colleges

Study area:

Sudan International University, Alazhari

Sampling:

Sample size:

$n = N / 1+ N (d)^2$

N = population size

D = degree of precision

$N = 1497 / 1+ 1497 (0.04)^2 = 440$

Sampling technique: stratified random sampling

Data collection methods and tools:

Data collection method: using stratified random sampling, 440 students were selected.

Self-administered questionnaires and PHQ-9 based on PRIME MD (Primary care Evaluation of Mental Disorder) were used to provisionally diagnose depression.

Data analysis tool: SPSS (Statistical Package for the Social Sciences)

Ethical consideration:

Ethical approval will be taken from Sudan International University and individuals.

Results

Table 1 shows the distribution of the study participants according to their general characteristics (n= 440)

Characteristic	Categories	Frequency	Percent
Age – years	< 20	142	32.3
	20 - 30	279	63.4
	> 30	19	4.3
Gender	Male	217	49.3
	Female	223	50.7
Year	1st	91	20.7
	2nd	99	22.5
	3rd	102	23.2
	4th	85	19.3
	5th	63	14.3

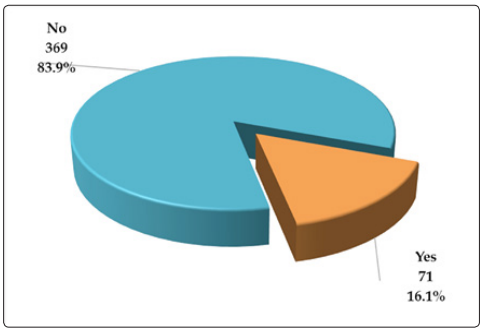

Figure 1: shows the distribution of the study participants according to their family history of mental illness (n= 440)

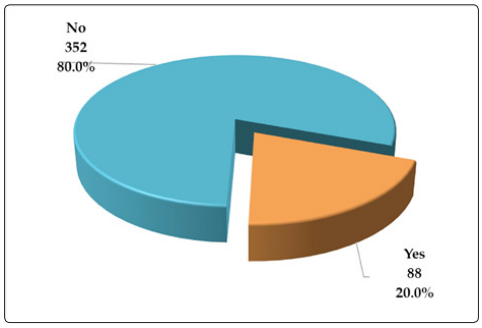

Figure 2: shows the distribution of the study participants if they had ever been abused in childhood (n= 440)

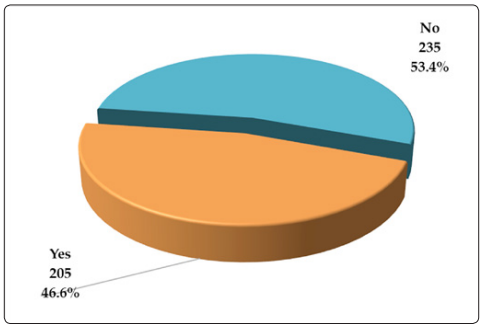

Figure 3: shows the distribution of the study participants according to presence of mood changes lowering their academic performance (n= 440)

Table 2: shows the distribution of the study participants according to level of depression (n= 440)

Level of depression	Frequency	Percent
Minimal	145	33.0
Mild	146	33.2
Moderate	80	18.2
Moderately severe	45	10.2
Severe	24	5.5
Total	440	100.0

Discussion

This is a descriptive cross sectional study done by using questionnaires to assess the presence of risk factors for depression, and PHQ-9 for diagnosis of depression.

Among the participants, 32.3% were less than 20 years, 63.4% were between 20 - 30 years and 4.3% were more than 30 years old. 49.3% were males and 50.7% were females.

The study included 91, 99, 102, 85, 63 medical students from the first, second, third, fourth and fifth year respectively.

16.1% of the participants have family history of mental illness while 83.9% have not.

20% of students had experienced abuse in childhood (physical, sexual, emotional) , 80% of them had not been abused.

14.1% were taking drugs, among those, 35.5% were taking drugs for medical conditions, while 33.9%, 14.5%, 8.1% and 8.1% were taking Tramadol, Alcohol, anti-depressant drugs and weed, respectively.

14.3% of the participants were having diseases; chronic medical condition were found in 71.4%, schizophrenia and personality disorders were found in 3.2% and 3.2%, while depression was found in 22.2%.

Mood changes were found to affect lowering the academic performance of 46.6% of the participated students, 53.4% have not experience mood changes affecting their academic performance.

In general, 33% of the participants were found to have minimal or no depression, 33.2% were having mild depression, while moderate depression, moderately severe depression and severe depression appeared in 18.2% , 10.2% and 5.5% respectively.

A question about the level of difficulty in dealing with different aspects of students' life while experiencing problems were asked, and the answers were as the following:

Not difficult at all (40%), somehow difficult (41.6%), very difficult (8.9%) and extremely difficult (9.5%).

In our study, we found that age has no significant association with prevalence of depression (p = 0.535), a study in Nigeria [6] has reached similar result.

Also, gender was not significant, as was found in studies done in Nigeria [6] and New Delhi [5]. Yet, in Cameroon [7], Egypt [4], Islamabad [8], Portugal [9], Brazil [10] and India [11] achievement of significant association was found.

Although a similar study in Khartoum university [12] had shown no significant association between academic year of studying and prevalence of depression, we found significant association between them ($p = 0.018$), a result that was achieved in Cameroon [7], Egypt [4], New Delhi [5].

We also found that family history of mental illness has highly significant association with prevalence of depression ($P < 0.001$), a study in Portugal [9] found the same, while another one in New Delhi [5] found the opposite.

Considering childhood abuse as a risk factor, we found that it has highly significant association with prevalence of depression ($P < 0.001$); nevertheless, none of our reviewed studies had considered it.

Taking drugs was also found to be highly associated ($P < 0.001$) with the prevalence of depression.

Positive history of chronic or mental illness is highly significantly associated with prevalence of depression ($P < 0.001$), in Khartoum [12], Portugal [9] and Cameroon [7], studies reached similar results while in New Delhi [5], results showed no significance.

78.5% of students who experienced mood changes which affect lowering their academic performance were actually depressed, proving that an association between academic performance and depression is found ($P<0.001$). Same result was found in a related study done in Bahrain [13], yet, a study in Cameroon [7] found no association.

In assessing level of difficulties in dealing with various aspects of life while having problems, 8.9% found it very difficult. Among those, 89.7% were having different levels of depression (22.8% mild, 40% moderate, 22.8% moderately severe, 14.3 severe).

9.5% found it extremely difficult. Among those, 88% were having different levels of depression (29.7% mild, 21.6% moderate, 24.3% moderately severe, 24.3% severe).

With a p value of < 0.001, this shows a significant association.

In certain studies [7,4,9,14,10,5], some elements were considered as having significant association with prevalence of depression such as the living conditions, major life events, social support, economical status and family structure. In order for us to determine the significance of those factors, further studies must be carried out in future.

Conclusion

- Prevalence of depression is 67 % (49.4% mild, 27.1% moderate, 15.2% moderately severe, 8.1% severe)
- Year of studying, family history of mental illness, history of child abuse, use of drugs and presence of chronic or mental illness are found to be associated with depression.
- Both males and females are affected with depression (67.2% and 66.8% respectively).
- The academic years mostly affected with depression are the second and third year (24.0% and 24.7% respectively), first, fourth and fifth years were less affected (20.6%, 19.3% and 11.1% respectively).
- 78.5% of students with low academic performance experienced different levels of depression.

References

1. Dryden-Edwards, R. (n.d.). Depression. Retrieved August 23, 2017, from http://www.medicinenet.com/depression/article.htm
2. Reynolds CR, Kamphaus RW (n.d.). Major Depressive Disorder 296 . xx (F32 . x and F33 . x), 32-34.
3. ICD-10 depression diagnostic criteria - General Practice Notebook. (n.d.). Retrieved August 23, 2017, from http://www.gpnotebook.co.uk/simplepage.cfm?ID=x20091123152205182440
4. Fawzy M, Hamed SA (2017) Prevalence of psychological stress, depression and anxiety among medical students in Egypt. Psychiatry Research, 255, 186-194. https://doi.org/10.1016/j.psychres.2017.05.027
5. Sidana S, Kishore J, Ghosh V, Gulati D, Jiloha R, et al. (2012) Prevalence of depression in students of a medical college in New Delhi: A cross-sectional study. Australasian Medical Journal 5: 247-250. https://doi.org/10.4066/AMJ.2012.750
6. Aniebue PN, Onyema GO (2008) Prevalence of depressive symptoms among Nigerian medical undergraduates. Tropical Doctor 38: 157-158. https://doi.org/10.1258/td.2007.070202
7. Ngasa SN, Sama C-B, Dzekem BS, Nforchu KN, Tindong M, et al. (2017) Prevalence and factors associated with depression among medical students in Cameroon: a cross-sectional study. BMC Psychiatry 17: 216. https://doi.org/10.1186/s12888-017-1382-3
8. Azad N, Shahid A, Abbas N, Shaheen A, Munir N (2017) Anxiety And Depression In Medical Students Of A Private Medical College. Journal of Ayub Medical College, Abbottabad : JAMC 29: 123-127. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/28712190
9. Coentre R, Faravelli C, Figueira M L (2016) Assessment of depression and suicidal behaviour among medical students in Portugal. International Journal of Medical Education 7: 354-363. https://doi.org/10.5116/ijme.57f8.c468
10. Brenneisen Mayer F, Souza Santos I, Silveira PS P, Itaqui Lopes MH, de Souza ARND, et al. (2016) Factors associated to depression and anxiety in medical students: a multicenter study. BMC Medical Education 16: 282. https://doi.org/10.1186/s12909-016-0791-1
11. Iqbal S, Gupta S, Venkatarao E (2015) Stress, anxiety and depression among medical undergraduate students and their socio-demographic correlates. The Indian Journal of Medical Research 141: 354-357. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/25963497
12. Dafaalla M, Farah A, Bashir S, Khalil A, Abdulhamid R, et al. (2016) Depression, Anxiety, and Stress in Sudanese Medical Students: A Cross Sectional Study on Role of Quality of Life and Social Support. American Journal of Educational Research 4: 937-94. https://doi.org/10.12691/EDUCATION-4-13-4
13. Mahroon ZA, Borgan SM, Kamel C, Maddison W, Royston M, et al. (2017) Factors Associated with Depression and Anxiety Symptoms Among Medical Students in Bahrain. Academic Psychiatry. https://doi.org/10.1007/s40596-017-0733-1
14. Kunwar D, Risal A, Koirala S (2016) Study of Depression, Anxiety and Stress among the Medical Students in two Medical

Colleges of Nepal. Kathmandu University Medical Journal (KUMJ) 14: 22-26. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/27892436.