



The prevalence of depression and related factors among medical students of Islamic Azad University of Tabriz in 2015

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Abstract: Objective: Depression is an important health problem due to its prevalence and associated consequences. The lifetime prevalence of depression ranges between 10 and 21% in population and 20-61% in students. According to the precipitation of the WHO, depression is estimated to become the second leading cause of dysfunction and the leading cause of burden of disease in developing countries. Therefore preservation and care of mental health especially among medical students have special importance. This study designed to determine prevalence and related factors of depression among medical students of Tabriz Azad University, Iran. It is hoped that this study will help to adopt proper solutions toward reducing depression among students. **Methodology:** In this cross-sectional descriptive-analytic study, 300 medical students in the academic year of 2015-2016 of three sections (physiopathology, extern, Intern), were enrolled with randomized method. Data were collected by a questionnaire with two parts containing demographic information of students in the first part and depression Beck test in the second part. Data were analyzed by means of SPSS version 23 at the significant level of $p < 0.05$. **Results:** In this study 45% of students have different ranges of depression. Depression in students of physiopathology course (68%), were significantly more than extern (385) and intern students (29%). 17.7% of students have clinical depression (score number > 17). 45.2% of 135 depressed students were male and 54.8% were female. 85.1% of depressed students of depressed students were single and 14.8% were married. 60% of depressed students were native and 40% were from other regions. 92.5% of depressed students didn't have proper exercise program in their life. The mean age of depressed students was 22.94 ± 1.58 . 75% of depressed students were dormitory residents. **Conclusions:** The prevalence of depression among medical students was higher than as compared to all population and in female exceed to male students. Prevalence of depression was significant reversely with higher educational course. There wasn't any significant relationship between gender, marriage, history of chronic and mental disease, addiction to cigarette, parent's death and divorce, native status and depression. But marriage was a protective factor against clinical depression. Between age, number of family members, educational section, stay in dormitory, proper exercise activity and depression were significant relationship.

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Keywords: Depression, related factors, BDI (Beck Depression Inventory), medical students

1. Introduction

Depression is a broad and ambiguous term (1) and as defined in DSM-5, depression can be a sign or a set of symptoms secondary to an underlying disorder or a specific mental disorder (2). Due to its prevalence and related complications, depression is one of the most important health problems. The prevalence of depression over time is variable from 10 to 21 percent among communities. According to the forecasts by WHO, it is estimated that by 2020

depression will become the second leading cause of manpower efficiency loss. It was also reported that by 2020, depression will be the most common complication in developing countries (4). Maintaining and considering the mental health is of great importance, particularly among students. Because they are in adolescence and young adulthood and at this time, as a special period of life, a person is faced with many problems. The lack of understanding of this huge human resource and lack of proper use of it not

only would be a great economic tragedy, but also may become a destructive force with an unpredictable scope of destruction and damage (5). stressors during this period include being away from home for the first time, a household with other students, experiencing loss of family's economic support, education-related stresses such as failing to pass some lessons successfully, vague future and dealing with social problems during the curriculum (4). Therefore, the underlying factors need to be identified among students, particularly medical students, and suitable solutions should be taken, because these groups of people are directly associated with the physical and mental health of the society and limitation of their performance in any form and for any reason directly causes adverse impact on society's health (4). The studies indicate high rates of psychological problems, including depression and anxiety among medical students, especially medical students around the world. In Malaysia, it has been reported that 8.41% of medical students assessed by General Health Questionnaire, suffered from mental disorders (10). Therefore, the diagnoses of depression in this population as quickly as possible and trying to understand the underlying cause and fix them and providing the appropriate medical and consultative treatment is essential to those in need. Unfortunately, a small percentage of depressed medical students use mental health and counseling services (7).

In this study, the differences in the prevalence and severity of depression were evaluated in different levels of education, including pathophysiology, externship, and internship courses of medical students. During the studies conducted, researchers found that exercise helps to reduce depression and other psychiatric disorders such as anxiety. Today, there is also considerable evidence that regular exercise is also effective in the prevention of depression and can be one of the most affordable and easiest approaches to prevent depression and reduce its symptoms, and from the psychological point of view, it is known as a valid and effective therapeutic measure. But it seems that most students are not aware of the positive impact of regular exercise and the minimum risk of physical inactivity, i.e. depression. Therefore, in this study, the effect of this factor was also considered among the students. In order to prevent this disorder (depression), particularly the second type prevention and lack of accurate information about the prevalence of depression among medical students of Islamic Azad University of Tabriz, during this research, the prevalence of depression among the medical students and the need for their introduction to specialized treatment was taken into consideration. Given that the medical students, as the pre-eminent students of medical

sciences, are part of the national capital, and on the other hand, due to the stressful nature of their involvement with humans' suffering and certain educational conditions, including the length of the curriculum and breadth of the course material and permanent stress of tests, assessment of the effects of demographical variables on their mental health seems essential. Hence, the prevalence of depression among medical students was investigated.

2. Material and Methods

In a cross-sectional descriptive-analytical study in the Department of Psychiatry, Islamic Azad University of Tabriz in 2015, the prevalence of depression and associated factors was examined on the medical students of Islamic Azad University of Tabriz.

To investigate the prevalence of depression and its related factors in medical students of Islamic Azad University of Tabriz in 2015, referring to the presence site of students of different levels of medical education, including the school of Medicine, Islamic Azad University of Tabriz and associated medical-educational centers, the sample size of students was determined as 100 for Science students, 100 for the externship students, and 100 or internship students, and the data of a total of 300 individuals were collected via three-stage cluster sampling. The medical students of Islamic Azad University of Tabriz were the first to be selected, then, the academic levels were distinguished, and finally, 100 people were randomly selected and studied from each school.

In this study, 300 medical students selected from 3 levels of physiopathology, externship and internship (100 random cases from each level) studying during 2015 were assessed by a pre-configured questionnaire. The questionnaire consisted of two parts. The first part contained 15 questions about students' demographic information, such as age, sex, level of education, nativity, marital status, place of residence, number of household, parents' death and separation, history of smoking, history of chronic diseases, history of mental disorders, existence of premenstrual dysphonic and use of Consultation Services. The second part consists of 21 questions measuring depression based on Beck standard questionnaire that its validity and reliability have been proven in numerous studies. The scale is from zero to 63 points and the questions are scored by A, B, C, D and the value of each question is from 0 to 3, where 0 represents lack of depressive symptoms and score of 3 indicates severity of the complication. Each question has four parts and each student chooses and marks the one most closely fit the individual states. If in one or more categories, more than one answer is marked, only one answer of that category with the highest

score is counted. Since the highest score in each category is 3, the total score is between 0-63. The rate of depression in this test is based on 100. The percentage obtained is available in the test key and is used as the guidance. Finally, based on this score, the individual's status of depression was classified as 1-10 as natural, 11-16 as minor depression, 17-20 as in need of consultation with a psychiatrist, 21-30 as relatively depressed, 31-40 as severe depression and more than 40 as excessive depression. Questionnaires were completed as self-reported by students. Beck depression scores were used to rank the rate of depression, with a score above 17 considered as clinical depression.

The inclusion criteria:

1. Tabriz Azad University medical students studying in the pathophysiology of the academic year 1394
2. Tabriz Azad University medical students studying in training in the academic year 1394
3. Tabriz Azad University medical students studying in internship in the academic year 1394

Exclusion Criteria

1. Students who had not responded to more than 3/1 of the questionnaire.
2. Students who proceed to fill out the questionnaire days after receipt of the questionnaire.

Ethical considerations:

In order to comply with ethical standards, after explaining the method and purpose of research and the importance of the issue, and if they feel that the answers to each of the questions may lead to disclosure of their identity, they could avoid responding that question. The questionnaire was available for the students with the full consent, anonymously and coded.

3. Results

Of the 300 students studied, 158 cases (52.7%) were female and 142 (47.3%) were male. The mean age of the study group was 23.74 ± 2.39 years.

194 cases (64.7%) were native and 244 cases (81.3%) were single.

Demographics finding of studied medical students were shown in Table 1:

Of the 300 cases, 165 (55%) were in a natural state of depression, 75 cases (25%) had minor depression, 19 cases (3.6%) needed psychological consultation, 33 cases (11%) were relatively depressed, 8 cases (2.7%) had severe depression. Totally, 45 percent of the students are suffering from mild to severe depression.

Of the 300 cases studied, 247 cases (82.3%) had Beck questionnaire score less than 18, 53 cases (17.7%) had a score of 18 and higher and were suffering from clinical depression in need of treatment.

Beck mean score was 10.72 ± 7.57 for male students and 11.77 ± 7.97 for female students ($p=0.247$).

Of the 158 females studied, 74 cases (46.8%) were depressed that 21 (28.4%) of them had premenstrual dysphoric, while 21 cases (25%) of non-depressed females had premenstrual dysphoric ($p=0.631$).

The mean BDI was 14.9 ± 9.89 in students of physiopathology, 10.7 ± 1.51 in externship students, and 8.76 ± 6.79 in Internship students, that mean BDI in the Internship period was significantly less ($P < 0.001$).

Of the 135 cases (45%) with mild to severe depression, 68 (50.3%) were in Pathophysiology course, 38 (28.1%) in the externship course and 29 cases (21.4%) were in internship course ($P < 0.001$).

Of the 135 cases (45%) with mild to severe depression, 115 cases (85.1%) were single and 20 cases (14.9%) were married, that the frequency of depression in married students was lower ($P=0.007$).

The mean age of students with and without depression was 22.94 ± 1.58 and 24.40 ± 2.72 years ($P=0.001$).

Of 135 students with mild to severe depression, 81 (60%) were native and 54 (40%) were non-native, 2 (1.4%) had deceased parents, 7 (1.5%) had a history parental separation, 61 (45.2%) were male and 74 (54.8%) were female, 22 (16.2%) were smokers, 8 (5.9%) had chronic diseases, 3 (2.2 %) had a history of obsessive-compulsive disorder, and 33 (24.4%) were living in student accommodation.

Table 1: Demographics finding of studied medical students

		Frequency	Without depression	With depression	P
Sex	Male	158(52.7%)	84	74	0.500
	Female	142(47.3%)	81	61	
Smoking	Yes	248(82.6%)	135	113	0.668
	No	52(17.4%)	30	22	
Residence	Residential	57(19%)	24	33	0.030
	Non-residential	243(81%)	141	102	
	physiopathology	100(33%)	32	68	
Educational sections	Extern	100(33%)	62	38	<0.001
	Intern	100(33%)	71	29	
marital status	Single	344(81.4%)	129	115	0.121
	Married	56(18.6%)	36	20	
Native	Native province	194(64.6%)	113	81	0.126
	Expatriates	106(35.4%)	52	54	
Death of parents	Yes	11	9	2	0.119
	No	289	156	133	
Her parents' divorce	Yes	10	3	7	0.120
	No	290	162	128	

4. Discussions

The present study has limitations, including the issue with collecting information through questionnaires. When collecting data based on the questionnaire, the assumption is that the respondents express the actual information. However, some respondents may not complete the questionnaire honestly. The data for this study is collected from students based on self-report questionnaires. Comparison of the results obtained in this study with the results of studies previously conducted in the country and abroad can be useful. The prevalence of depression in reference books has been reported from 13 to 20 percent and more prevalent among females.

In Iran, the prevalence of depression has been reported between 2.4 to 37 percent among the general population and between 20 to 61 percent among the students. The prevalence of depression among students in studies conducted have been reported 22.1% in Arak, 35.6% in Yasouj, 64.3% in Zabul, 36.6% in Kashan, and 19.5% in Karachi, Pakistan (7). In this study, 45% of students had some degree of depression that shows a prevalence of depression higher than among the general population. In the study by Taheri, the prevalence of depression among new students from families with more than two children (25%) was higher than those from families with one or two children (3%).

In this study, of the 300 students studied, 260 cases had responded to the number of household, that of them, 124 cases had mild to severe depression with a mean number of household of 4.58 people, and 136 cases without depression with the mean number of household of 3.8 people. Statistical analysis showed that the prevalence of depression in people with a less

number of household was significantly lower than in those with bigger family size. In Taheri's study, the prevalence of depression was not significantly different between the two sexes. In Jalilian's study, a statistically significant relationship was found between sex and depression, so that the prevalence of depression in females was significantly higher than males.

In this study, depression among females was higher than males; however, there was no statistically significant difference. In Taheri's study, depression among non-native students living in dorms was higher than non-residential native students; however, the difference was not statistically significant. In Jalilian's study, depression score among dormitory students was significantly higher than non-dormitory students. In this study, depression among students residing in dorms was higher than non-dormitory students; however, this difference was not statistically significant. In Jalilian's study, depression score in single cases was significantly higher than married cases. In this study, the prevalence of depression among single people was higher than married people without significant differences. However, the prevalence of depression (BDI score greater than 18) in singles was significantly more than in married cases. In Jalilian's study, depression score of non-native cases was significantly more than native cases. In this study, 60% of depressed people were native and the remaining 40%, were non-native, which was not significant. This could be due to the majority of students under study (64.4%) were native. In Amani's study, mild depression in female students was 1.7 times higher than male students; however, severe depression was in equal proportions in both sexes. In

this study, mild depression in female students was 1.08 times higher than male students; however, severe depression in male students was 1.6 times higher than in female students. Jalilian showed in their study that there is a significant relationship between elevation of semester and increase in depression. However, in this study the prevalence of depression decreased with increasing semester. This result can be due to an increase in the number of married people in higher semesters, which could be counted as a preventive factor of depression.

Conclusion:

The results of this study showed that of the 300 students assessed, 45% had mild to severe depression, and 17.7% were suffering from clinical depression in need of treatment. Of 100 students in physiopathology course, 68% had mild to severe depression, 31% had clinical depression. Of the 100 students studied at the externship course, totally 38% had mild to severe depression and 12% were clinically depressed. In the internship course, 29% of students had some degree of depression and 10% of students had clinical depression. According to these results, the rate of depression in the lower education levels is higher than the higher education levels, which is statistically significant. Among depressed cases, the number of females was higher than males; however this difference was not significant. Comparing marital status among students with depression, it was shown that married people were less depressed than single people, and this difference was not statistically significant. However, the rate of clinical depression was significantly less in married cases. Comparing the presence of some degree of depression among students based on their age, it was shown that the prevalence of depression in students decreases with increase in their age, that this was not statistically significant. Also according to the results obtained, students with lower household number were less depressed than those with bigger number of household, and the difference was statistically significant. Given that most of the students participating in the study were native, the higher proportion of native students among students with depression was not significant. The history of the death or divorce of parents, a history of smoking, chronic disease, and history of psychiatric disorders (obsessive compulsive and depression) had no significant effect on the incidence of depression among students. With these results, it was shown that residence in dormitories had a significant relationship with higher prevalence of depression. In this study, it was shown that regular exercise is a protective factor against depression. Only 25.2 percent of depressed students had used health counseling. While most of

the remaining 74% not used health counseling had mentioned lack of need for consultation as their reason. Lack of time, lack of other people's ability to understand their problems, lack of access to services, consulting costs, lack of confidentiality, stigma of mental health services and psychological counselling were the other reasons of not using the psychiatric consultation services.

Recommendations:

Due to the limitations of the study by completing questionnaires, and the importance of realization of the nature of the problems, particularly issues relating to mental health, such that very low scores may indicate a denial of the disease, and very high scores may indicate an exaggeration or malingering of the person, it is recommended for future studies, enjoying mutual interview and clinical diagnosis, to determine psychiatric disorders such as depression in students.

It is recommended that additional studies should be conducted with larger sample sizes and longer timeframe, including an evaluation of the effect of other factors such as mother's occupation, education level, household income, economic support and educational status of the student. It is hoped that educational authorities will take procedural measures that strengthen confidence in the students, and provide more and more mental health to students by holding more workshops in the field of familiarity with psychiatric diseases and confidence-building.

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