ORIGINAL ARTICLE

Factors and Prevalence of Depression in Students at Iran's Urmia University of Medical Sciences

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ABSTRACT

Background: Depression is characterized by decreased tendency to work, reduced pleasure from work, increased or decreased weight, increased or decreased appetite, insomnia or narcolepsy, irritability, fatigue, loss of energy, feelings of worthlessness, feelings of guilt, reduced ability to concentrate and think, and thoughts of suicide or actual suicide attempts. In this 2016 study, we examined the factors and prevalence of depression in students at Urmia University of Medical Sciences in Urmia, Iran. **Methods:** This cross-sectional study was conducted on 400 students. Data were collected through the Beck Depression Inventory II (BDI-II): a 21-item standard questionnaire in multiple-choice format to evaluate depression. The questionnaires were distributed randomly by trained students over a period of 5 months. Data were analyzed using SPSS ver. 19 software and by descriptive statistics, independent t-tests, logistic regression models, and the chi-squared test. **Results:** The mean BDI score was 14.67 ± 11.30. Of the study population, 278 (69.8%) were men and 120 (30.2%) were women. In terms of depression, 40.2% of the students were in the normal range and had no depression, 23.6% were slightly depressed, and 18.3% were partially depressed. Also, 6.03% of students had severe depression, and 3.51% of students had very severe depression. No statistically significant relationship was observed between depression and sex ($P = 0.11$). However, significant relationships were observed between depression and education level ($P = 0.001$), smoking history ($P = 0.001$), and age ($P = 0.023$). P values less than 0.05 were considered statistically significant. **Conclusion:** The prevalence of different degrees of depression in the plurality of students at Urmia University of Medical Sciences necessitates the development and institution of psychological training classes.

INTRODUCTION

Depression is characterized by decreased tendency to work, reduced pleasure from work, increased or decreased weight, increased or decreased appetite, insomnia or narcolepsy, irritability, fatigue, loss of energy, feelings of worthlessness, feelings of guilt, reduced ability to concentrate, and thoughts of suicide or actual suicide attempts (1). Worldwide, depression is a leading cause of pathogenicity and disability and is a widespread and harmful disease that can affect any person regardless of age (2). It is a chronic disease that can disrupt work, family, and society (3). Depression can negatively affect people's physical health, mental health, emotions, and behavior. It can also increase the risk of cardiovascular disease and diabetes (4). In 1990, depression was considered the fourth most costly disorder worldwide; by 2015, it was probably the second most costly disorder worldwide (5). Many factors are associated with depression, among which

is beginning to smoke at a young age; however, environmental and genetic factors can affect the relationship between depression and smoking (6). Symptoms such as sadness, feelings of worthlessness, difficulty concentrating, inability to think, feelings of guilt, insomnia, feelings of failure, and many others have been observed in depressed people (7). Depression can lead to impaired job performance and interpersonal relationships (8).

Depression can also be fatal. Recently, the rate and prevalence of suicide have increased in young people especially, and various types of antidepressant drugs are now being prescribed (9). In Iran, a great deal of research has been done on students at different universities. For example, Sharifi et al. conducted a study to determine the prevalence of depression and its related factors in students in Kerman, Iran. They found that 64% of students had different degrees of depression: 22% had borderline depression, 15% had slight

depression, 17% had moderate depression, 5% had severe depression, and 2% had very severe depression (8). Students become depressed for various reasons, such as anxiety about passing the university entrance examination, concerns about future job prospects, separation from family, interaction with students from different cultures, living in dormitories, and having to make new friends (9, 10). Some studies show that in the puberty period, the relevant changes can develop depression such as harmonic changes (11-13).

Depression in students is an important issue because it impairs their academic achievement and prevents them from reaching their full potential. To help reduce the rate of academic failure and to increase their performance in education field, it is necessary to identify the causes and factors of depression in students. The high rate of depressed students in Iran indicates the importance of conducting studies that address this serious socio-medical problem. Therefore, in this 2016 study, we examined the factors and prevalence of depression in students at Urmia University of Medical Sciences.

METHODS

In this cross-sectional study, conducted in 2016 at Urmia University of Medical Sciences, the Cochrane method in a known population was used. The sample size was 400 paticipants. Particpants were randomly selected. The error level was 0.05, $P = 0.6$, and the accuracy was 0.05; these values were obtained according to the following formula: N= Npqz2/pqz2+Nd2≈400.

Data were collected through the Beck Depression Inventory II (BDI-II): a 21-item questionnaire in multiple-choice format to evaluate depression. This standard questionnaire is scored by a simple Likert method from 0 to 3. The minimum score is 0; the maximum score is 63. The range of 0-10 is considered normal, 11-16 indicates minor depression, 17-20 indicates the need for psychiatric consultation, 21-30 indicates average depression, 31-40 indicates severe depression, and more than 40 indicates very severe depression (14).

The BDI evaluates feelings of disappointment, defeat, hopelessness, guilt, worthlessness, dissatisfaction, sinfulness, being punished, being disgusted, being reproached, inclination to suicidal weeping, being touchy, apathy to other people, inability to make decisions, bad feelings about one's appearance, insomnia, fatigue, loss of appetite, loss of weight, anxiety about health, decrease in sexual activities, loss of interest or pleasure in hobbies, and decreased energy (15). The validity and reliability of the Farsi version of BDI-II has been approved for use in Iran (16).

Each participant was informed about the purpose and objectives of the study and, after providing consent, was given a questionnaire. The questionnaires were distributed randomly by trained students in the Faculty of Nursing and Midwifery, the Faculty of Health, the Faculty of Paramedicine, the Faculty of Pharmacy, and the Faculty of Dentistry over a period of 5 months. We asked participating students to answer questions with great patience. This study was approved by the Ethics Committee of Urmia University of Medical Sciences and extracted from approved design (ID code: 1395-2283). Participants were informed that their information would be kept secret and that they could leave the study at any time. Data were analyzed using SPSS ver. 19 software. Descriptive statistics of the variables were classified according to their type in frequency, percentage, mean, and standard deviation. To test the hypothesis of the research, independent t-tests, logistic regression models, and the chi-squared test were performed. *P* values less than 0.05 were considered statistically significant.

RESULTS

In this study, 398 students participated (two students did not answer the questionnaire). The mean age was 22.35 ± 3.81 years. The mean BDI score was 14.67 ± 11.30.

Table 1. Frequency of student demographic variables

Variable	Frequency	Percent
Sex		
Men	278	69.8
Women	120	30.2
Place of residence		
Dormitory	350	87.9
Personal	32	8.1
Rent	16	4
Faculty		
Medicine	142	35.6
Dentistry	4	1
Pharmacy	20	5
Paramedical	94	23.6
Health	49	12.3
Nursing	89	22.3
Major		
Nursing	88	22.1
Anesthesia	24	6
Operating room	37	9.3
Laboratory science	36	9
Medicine	88	22.1
Public health	12	3
Occupational health	12	3
Others	101	25.3
Semester		
1-3	293	73.5
4-6	60	15.07
7-9	45	11.3
10-12	0	0
Alcohol		
Yes	16	4.02
No	382	95.8
Daily sleep		
Less than 6 hours	81	20.35

Table 1. (Continued)

Variable	Frequency	Percent
6-8 hours	268	67.3
More than 8 hours	49	12.3
Age		
18-23	293	73.6
24-29	85	21.3
30-35	12	3.01
>36	8	2.01
Semester		
1-3	293	73.5
4-6	60	15.07
7-9	45	11.3
10-12	0	0
Marital status		
Single	362	91
Married	36	9
Native status		
Native	65	16.3
Non-Native	333	83.4
Grade		
Associate	0	0
Undergraduate	240	60.3
Postgraduate	90	22.6
Doctorate	68	17.08
Smoking		
Yes	65	16.3
No	333	83.7

Table 2. Frequency of depression among students

Depression	Frequency	Percent
Normal	160	40.2
Slight depression	94	23.6
Need to consult with a psychiatrist	33	8.3
Partial depression	73	18.3
Severe depression	24	6.09
Very severe depression	14	3.51

As shown in Table 1, 278 (69.8%) participants were men and 120 (30.2%) were women. Three hundred fifty students (88%) lived in on-campus dormitories. A plurality of participants (35.6%) were from the medical faculty; 362 participants (91%) were single; and 333 participants (83.4 %) were non-native. (Actually students are divided into native or non-native who non-native students need dormitory to be placed.) Of the participants, 4% and 16.3% reported histories of alcohol use and smoking, respectively. Most students (73.6%) were in the 18-32 age group. Regarding college semester, 73.5% of students were studying during 1-3 semester.

In terms of depression, 40.2% of the students were in the normal range and had no depression, 23.6% were slightly depressed, 18.3% were partially depressed, 6.03% were severely depressed, and 3.51% were very severely depressed.

As shown in Table 3, 30% of women were normal, 40% were slightly depressed, 20% were severely depressed, and 10% were very severely depressed. Of the men, 41% were normal, 21.6% were slightly depressed, 20.5% were partially depressed, 4.5% were severely depressed, and 3.5% were very severely depressed. No statistically significant relationship was observed between depression and sex ($P = 0.11$).

Of students who lived in dormitories, 23% were partially depressed, 5.8% were severely depressed, and 4.7% were very severely depressed. Also, 39.1%, 55.5%, and 23.5% of undergraduate, postgraduate, and doctoral students were normal. A significant relationship was observed between depression and education level ($P = 0.001$), so that 18.75% of undergraduate students were partially depressed. 12.7% were severely depressed, and 7.44% were very severely depressed.

Of single students, 20.1% were partially depressed, 4.42% were severely depressed, and 3.86% were very severely depressed. Of married students, 22.2% were severely depressed. However, no significant relationship was observed between marital status and depression ($P = 0.335$). In terms of age, 18% of students aged 18-23 years were partially depressed, 6.8% were severely depressed, and 3.75% were very severely depressed. A statistically significant difference was observed between participant age and degree of depression ($P = 0.023$).

DISCUSSION

In our study of the factors and prevalence of depression in students at Urmia University of Medical Sciences, we found that approximately 40% of the students were in the normal range and had no depression, 23.6% were slightly depressed, 18.3% were partially depressed, 6.03% were severely depressed, and 3.51% were very severely depressed. No statistically significant relationship was observed between depression and sex ($P = 0.11$). However, a significant relationship was observed between depression and education level ($P = 0.001$), smoking history ($P = 0.001$), and age ($P = 0.023$).

In 2012, Hadavi and Rostami conducted a study of Rafsanjan students in the Nursing and Paramedical Faculties at Shahid Beheshti University of Medical Sciences (9). In this study, 400 students were enrolled. They found that 142 men (35.5%) and 203 women (50.7%) suffered from different degrees of depression. The frequency of depression in terms of grade were 44% in the laboratory sciences, 39.3% in the operating room, 39.1% in radiology, 35.2% in anesthesia, 31.6% in medical emergencies, 25% in nursing, and 24% in midwifery. A significant relationship was observed between depression and sex ($P <0.008$), mother's occupation ($P <0.002$), father's occupation ($P <0.001$), and maternal education ($P <0.001$) (9). Their results were inconsistent with ours in terms of the relationship between sex and depression.

Table 3. Prevalence and relationship of depression according to studied variables

Variable	Very severe	Severe	Partial	Need to consult	Slight	Normal	P value
Sex							
Men	10 (3.5%)	12 (4.5%)	57 (20.5%)	25 (9.1%)	60 (21.6%)	114 (41%)	0.11
Women	12 (10%)	24 (20%)	0	0	48 (40%)	36 (30%)	
Place of residence							
Dormitory	18 (4.7%)	20 (5.8%)	73 (23%)	32 (9.3%)	73 (23%)	134 (38.4%)	0.95
Personal	0	4 (12.5%)	0	0	12 (37.5%)	16 (50%)	
Rent	0	0	0	0	8 (50%)	8 (50%)	
Faculty							
Medicine	2 (1.4%)	0	24 (17%)	8 (5.7%)	40 (28.6%)	68 (48%)	0.679
Dentistry	0	0	0	0	4 (100%)	0	
Pharmacy	0	4 (20%)	0	0	12 (60%)	4 (20%)	
Paramedical	7 (7.44%)	10 (10.6%)	24 (25.5%)	4 (4.3%)	16 (17.4%)	33 (35%)	
Health	5 (10.2%)	4 (8.16%)	8 (16.3%)	8 (16.7%)	8 (17%)	16 (33%)	
Nursing	0	8 (9%)	16 (18%)	12 (13.6%)	12 (13.6%)	41 (45.5%)	
Marital Status							
Single	14 (3.86%)	16 (4.42%)	73 (20.1%)	33 (9.11%)	82 (22.6%)	144 (40%)	0.335
Married	0	8 (22.22%)	0	0	12 (33.33%)	16 (44.4%)	
Grade							
Associate	0	0	0	0	0	0	0.001
Undergraduate	7 (7.44%)	12 (12.7%)	45 (18.75%)	25 (9.6%)	57 (23.7%)	94 (39.1%)	
Postgraduate	4 (4.44%)	4 (4.44%)	12 (13.3%)	4 (4.44%)	16 (17.7%)	50 (55.5%)	
Doctorate	5 (7.35%)	8 (11.7%)	16 (23.5%)	4 (5.88)	19 (28%)	16 (23.5%)	
Smoking							
Yes	7 (10.7%)	12 (18.4%)	5 (7.7%)	16 (24.6%)	17 (26.1%)	8 (12.3%)	0.001
No	7 (2.1%)	12 (3.6%)	68 (20.4%)	17 (5.1%)	77 (23.1%)	152 (45.6%)	
Alcohol							
Yes	0	0	0	0	12 (75%)	4 (25%)	0.262
No	14 (3.66%)	24 (6.3%)	73 (19.1%)	33 (8.6%)	82 (21.4%)	156 (40.8%)	
Age							
23-18	11 (3.75%)	20 (6.8%)	53 (18%)	28 (9.55%)	73 (25%)	108 (36.8%)	0.023
29-24	3 (3.52%)	4 (4.7%)	16 (18.8%)	5 (5.88%)	12 (14.11%)	45 (53%)	
35-30	0	0	4 (33.3%)	0	8 (66.7%)	0	
36<	0	0	0	0	0	8 (100%)	

However, regarding the high prevalence of depression in students, the results were consistent.

Another study conducted by Rostamzadeh and Khalilzadeh in 2007 on 3,023 high school girl students in Urmia analyzed the prevalence of depression using the BDI questionnaire (17). Overall, 68.1% of students had depression; of these, 19.3% had mild depression, 32.5% had moderate depression, and 16.4% had severe depression. The prevalence of depression in students was significantly related to age, parental education, parent's job, financial status, field of study, family income, and emotional behavior of parents with children ($P < 0.05$) (17). The percentage of students with severe depression in this study (16.4%) was higher than the percentage of students with severe depression in our study

(6.09%). This may be due to differences of the two population samples in terms of age, because in the study of Rostamzadeh and Khalilzadeh, girls were of the menstruation age, which can affect mood and increase depression (18). In addition, they were closer to the age of puberty, which can be associated with dizziness, confusion, and pain resulting in hatred, which can affect mood and increase the probability of depression (19).

In 2013, Mortazavi et al. studied factors affecting depression, perceived stress, and perceived social support and their relationship with students living in dormitories at Shahid Beheshti University of Medical Sciences (10). Three hundred ninety men and women were randomly assigned to this study. Of these, 49.7% had different degrees of depression,

which was significantly related to parent occupation and education status ($P < 0.001$). The mean depression score was 12.10±9.02 (10). Our results showed a higher mean depression score (14.67 ± 11.30), but the percentage of depression in students was consistent with our study.

In 2004, Ildarabady et al. studied the prevalence of depression in students in Zabul (20). A total of 240 students were evaluated by the BDI questionnaire. They found that 64.3% of students had different degrees of depression: 19.1% had mild depression, 13.4% had borderline depression, 24.2% had moderate depression, 6.4% had severe depression, and 1.3% had very severe depression (20). These results were consistent with our study.

CONCLUSION

We observed a high prevalence of different degrees of depression in most students at Urmia University of Medical Sciences, which can be influenced by age, education level, and smoking history. We recommend that psychological training classes be offered and precise plans be made to reduce student stress and psychological problems.

Study Limitation

One of the limitations of this study was the weak cooperation of students to participate. To resolve this problem, we explained the importance of the study.

AUTHOR CONTRIBUTION

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