A study on depression among paramedical students and the contributing factors in 2010-2011

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ABSTRACT

Depression in university students can be considered as an indicator of mental health. Therefore, it is highly important to be concerned about their mental health. The present research was conducted for the purpose of investigating the depression level in paramedical students and the contributing factors.
This research is a cross-sectional study. The examined population included the students of a paramedical faculty and the sampling was done through census, selecting all the available students in the current semester. The questionnaire contained demographic questions and the Beck Depression Inventory (BDI), which were filled out by the students. Then, the depression level of students was determined with regard to the demographic questions and how each one associated with depression. For data analysis, an independent T-test, analysis of variance (ANOVA), and a correlation test were employed. In this research, the mean value and standard deviation score of students were 14.76 and 13.84 respectively. BS students scored 15.6, while MS and PhD students scored 7.7, which showed a significant difference between the two groups ($p<0.001$). The findings indicated that 20.6% of the students suffered from mild to moderate depression, while 9.9% of the students suffered from moderate to severe depression. The depression scores had no significant correlation with living place, marital status, gender, employment status, religious practice, previous semester GPA, and whether parents were alive. However, it had significant correlation with age($p=0.048$), number of family members($p=0.004$), satisfaction with study field($p=0.005$), religious beliefs($p=0.028$), extracurricular activities($p<0.001$),, future career prospects($p=0.002$), financial problems($p<0.001$), satisfaction with relationships between family members($p<0.001$), satisfaction with relationships between friends and classmates($p=0.003$), satisfaction with relationships between university and faculty authorities($p=0.003$),, as well as professors($p=0.022$).
Although some of the factors contributing to depression including age, number of family members and unpleasant life events cannot be prevented, most other factors or its results significantly leading to depression in students including extracurricular activities, satisfaction with relationships between family members, friends, classmates, university and faculty authorities, professors, and future career prospects can be controlled.

Keywords:depression, University Students; Medical Sciences; Beck Depression Inventory

INTRODUCTION

Depression is one of the most common mental disorders. It is characterized by disappointment and sadness, loss of interest and motivation in life, negative thoughts, and physical symptoms include sleep disturbances, fatigue and changes in appetite as well as psychomotor retardation or sluggish cognitive tempo, lack of energy, feelings of guilt and worthlessness, difficulty in thinking or concentrating, recurrent thoughts of death, suicidal ideation or even suicide attempts.I [1, 2, 3, 4] . The prevalence of depression in foreign societies has been reported to be 13 to 20 percent, observed in women more than men. [5, 6] According to the studies done in Iran, the prevalence of depression was estimated to be 4.2 to 31 percent. [8, 9] Depression in individuals

busy with intellectual activities, particularly students, would lead to educational and occupational failures, having trouble completing tasks, lack of enthusiasm in carrying out new projects, and generally lack of interest in work and daily activities. [18, 20] The major factors contributing to student depression include stress from studies, exam anxiety, severe social and emotional problems, and general issues of young adults, field of study, age, gender, forcibly chosen field of study and deceased parents [11, 14, 17, 25] .

Considering that students are among the most intelligent strataof every society and future potentials of every nation, depression can be regarded as the main indicator of mental health in university students. It is highly important to be concerned about their mental health, because depression may have unpleasant and destructive effects on life and performance of young adult students. Accordingly, the present research was conducted in order to determine the depression level of paramedical students and figure out the contributing factors. Ultimately by the help of these findings, university authorities will be able to take serious measures so as to treat depression and prevent it from becoming more intense.

FallahiKhoshknab (1990) conducted a research titled "A Comparative Study on Depression in local students and those non-local students living at dormitory of Tehran universities of medical sciences" The results showed that 27.7% of local students and 72.3% of non-local students living at dormitories suffered from depression. Moreover, there was a significant correlation between the type of accommodation and depression at confidence level of 95%. Depression was observed in 25.5% of female students, while it was observed in 22% of the male students, which indicated there was a significant correlation between gender and depression [14] .

The results obtained from the study done by Ahmadi (1991) titled "Depression in Students of Medical Sciences" showed that the mean value of the total male students was lower than that of the female students (9.1 versus 10.45). It was not, however, a significant difference. Instead, there was a significant difference between the mean depression scores for male students of clinical science and that of female students in the same major (7.58 versus 10.23) [23]. The results obtained by Estifani and colleagues (1997) in a study titled "Prevalence of Depression and the Predisposing Factors in Students of Kordestan University of Medical Sciences" showed that there was a significant relationship between prevalence of depression, age, accommodation status, field of study, and university admission quotas ($p<0.05$) [16] .

In a research project aimed for investigating a few of factors contributing to depression, the Student Research Committee of Sabzevar University of Medical Sciences and Health Care Services (1999) showed that prevalence of depression among students at universities of medical sciences, Teacher Training centers and Islamic Azad University were 27.4%, 27.1%, and 31.3% respectively. Among the 1143 cases under study, 9.1% had mild depression, 15% had moderate depression, 4.5% had severe depression, and 0.7% suffered from very severe degree of depression. It was observed in female students almost four times more than in male students [13] .

In a descriptive study aimed at investigating the mental health of medical and paramedical intern students at Mazandaran University of Medical Sciences, Hosseini and colleagues (2000) found that depression among students of medical sciences was more prevalent in comparison with the students of paramedical sciences ($p<0.05$) [15] . In a study on prevalence of depression among students at Zabol University of Medical Sciences, the results obtained by Ildarabadi and colleagues (2002) showed that 64.3% of the students suffered from various degrees of depression. The mean value of depression was 16.1±10.5 for nursing students, while it was 19.5±8.9 for midwifery students, 8.7±5.8 for family health students, and 13.6±11.1 for students of fighting diseases. Moreover, the one-way ANOVA test indicated there was a significance difference in depression scores of 4 groups of students ($p=0.004$) [22] .

In 2005, ShahidChamran University of Ahvaz launched a research project aimed at investigating the effects of an eight-week aerobic exercise program on mental health, depression, anxiety, somatization disorder, and social

functioning of male students. The results obtained from multivariate analysis of covariance showed a significant difference between the two examined groups in terms of mental health (p=0.002). Furthermore, aerobic exercise helped improve mental health, depression, and anxiety [18] .

In a study on mental health of new-coming students during 2002-2006 at ShahidSadoughi University of Medical Sciences in Yazd, Lotfi and colleagues (2007) showed that over one-third of the new-coming students during 2002-2006 scored 23≤GHQ in the General Health Questionnaire [12] . In a study on the connection between praying and depression level in students at Ardebil University of Medical Sciences, Mohammadi and colleagues(2008) showed that prevalence of depression among students was approximately 50.8%. Moreover, there was a significant statistical correlation between financial status, living place, and depression (p<0.05). 80.4% of the students expressed a positive attitude toward praying, which was significantly associated with gender, academic degree, marital status, living place, literacy level of mother, and the student GPA in previous semester (p<0.05). [24]

MATERIALS AND METHODS

The population under study included the total of 400 BS, MS, and PhD students at the paramedical school of ShahidBeheshti University of Medical Sciences. This study was conducted through census, and all the students filled out the questionnaires containing demographic items and a depression test. Then, the depression level of students was determined with regard to the demographic questions and how each one associated with depression.

The Beck Depression Inventory (BDI) is one of the useful instruments for evaluating a depressed mood. [7] In order to achieve validity in this research, data collection was carried out using content validity. The data collection forms were prepared and handed to eight faculty members at paramedical school of ShahidBeheshti University, and also two faculty members at the psychology department. Having been completed, the forms were evaluated. Considering the comments and responses given by the professors, necessary adjustments were made in the questionnaire so as to be used as the instrument for data collection. In order to achieve reliability of the instrument, the internal consistency was employed and Cronbach's coefficient was measured to be 0.892. Data analysis was done through the statistical software SPSS 16. In addition, a paired T-test, analysis of variance (ANOVA), and a correlation coefficient test were used.

RESULTS

The population under study included 400 students, 25% of which were male and 75% were female. 90% of them were single, and 10% were married. 90% of them were BS students, and 10% were in higher degrees. 41.9% of them lived with family, 55.6% lived in a dormitory, and 2.5% lived in other kinds of places. Among 222 students living in dormitory, 45.5% of them had a coordinator, and 54.5% did not have any. 13% of them were employed, and 86.3% were busy only with studies. Since a few of the questions were not responded, the total number of individuals in the table is lower than 400.

The depression scores were calculated as a number ranging from 0 to 100, score 0 if a person choose zero's item for every 21 question of BDI, and 100 if a person choose 4 for every 21 question. The mean value and standard deviation of the depression scores achieved by students were 14.769 and 13.84 respectively.

Table 1: Frequency distribution of depression among students at the Paramedical school, Shahhid Beheshti University of Medical Sciences in 2010, based on severity of depression.

Degree of depression	Number of students	Percentage (%)
Normal	251	63.9
Slight depression	61	15.5
Mild depression	42	10.7
Moderate depression	29	7.4
Severe depression	8	2
Serious depression.	2	0.5
Total	393	100

Table 2: The relationbetween depression and demographic factors

Therelation of depression with	Significant level
Gender	0.58
Marital status	0.92
Academic degree	<0.001
Living place	0.28
Dormitory moderator	0.27
Alive father	0.80
Alive mother	0.11
Unpleasant life events in the past	<0.001
Death of a relative last year	0.52
Employment status	0.25
Future career prospects	0.002
Extracurricular activities	<0.001
Religious beliefs	0.028
Religious practice	0.067
Financial problems	<0.001

As seen in the table above, the contributing factors to students' depression or its results include academic degree, unpleasant life events in the past, future career prospects, extracurricular activities, religious beliefs, and financial problems.

As seen in the table 3, the contributing factors to students' depression or its results include satisfaction with field of study, satisfaction with relationships between family members, satisfaction with relationships between friends and classmates, satisfaction with relationships between university and faculty authorities, satisfaction with relationships between professors.

Table 3: The relation between depressionand satisfaction level

satisfaction level	Depression score		Significant level
	Very low and low	Medium to high	
Satisfaction with field of study	20.71	13.67	0.003
Satisfaction with relationships between family members	24.25	14.13	<0.001
Satisfaction with relationships between friends and classmates	27.1	13.33	<0.001
Satisfaction with relationships between university and faculty authorities	17.88	13.38	0.003
Satisfaction with relationships between professors	19.23	13.96	0.022

Table 4: The correlation between depression scores achieved by students at the Paramedical school, ShahhidBeheshti University of Medical Sciences in 2010, based on age, GPA of previous semester, current semester, and the number of family members.

	Depression score		
	Correlation coefficient	Type of correlation coefficient	Significant level
Age	-0.109	Pearson	0.048
GPA in previous semester	-0.106	Pearson	0.090
Current semester	-0.059	Spearman	0.224
Number of family members	0.150	Spearman	0.004

As seen in the table above, there is a significant inverse relationship between depression score and student age. There is, however, a significant direct relationship between depression score and GPA of previous semester and the current semester. Furthermore, there is a significant direct relationship between depression score and number of family members.

DISCUSSION

The mean value and standard deviation of depression scores were 14.76 and 13.84 respectively. BS students averagely scored 15.6, while MS and PhD students scored 7.7, which revealed a significant difference between the two groups ($p<0.001$). Moreover, the findings indicated that 9.9% of the student suffered from moderate to very severe depression, while 20.6%

of them had mild to very severe depression. For comparison, Hashemi Mohammad Abad and colleagues reported depression in 35.6% of the students at Yasuj universities. 57.4% of the students at Ardebil University of Medical Sciences had depression in Amani's study. According to the results obtained by Lotfi and colleagues, 30-45% of the students in 2002-2006 academic years had depression. Foroutani reported depression among 42.5% of the students. The results obtained by the Student Research Committee of Sabzevar University of Medical Sciences and Health Care Services showed that depression was prevalent among 29.2% of the students.

In the present research, depression scores had no significant connection with living place, marital status, gender, employment status, whether parents were alive, and the student GPA in previous semester, which turned out to be consistent with the results obtained by Lotfi and colleagues, Foroutani, Estifani and colleagues, while it was inconsistent with the results obtained by Hashemi, FalahiKhoshknab, and Moradi.

There was a significant relationship between depression and satisfaction with field of study ($p=0.003$). Although there is a significant relationship between depression and student's religious beliefs ($p=0.028$), there was no such relationship between depression and performing religious practice, which was consistent with results obtained by Hashemi, while inconsistent with the results obtained by Mohammadi.

There was a significant relationship between depression and extracurricular activities ($p<0.001$), which is consistent with the results obtained by Hashemi, Alavi and colleagues.

There was a significant relationship between depression scores and future career prospects($p=0.002$), which is consistent which is consistent with the results obtained by Foroutani and colleagues.

Furthermore, there was a significant correlation between depression scores and satisfaction with family relationships ($p<0.001$), satisfaction with relationships among friends and classmates ($p<0.001$), satisfaction with relationships among university and faculty authorities ($p=0.003$), satisfaction with relationships among university professors ($p=0.022$). In addition, there is a significant correlation between depression scores and financial problems ($p<0.001$).

The mean depression scores of students living in dormitories are less than for the other students, but there was no meaningful difference found between the two groups. Falahi Khoshknab founds similar results, however there was a significant difference between the mean depression scores of the two groups. Inversely, Estifani, Hashemi and Foroutani concluded that the mean depression scores of students living in a dormitory were significantly higher than the other students.

CONCLUSION

The results obtained from this research suggest that depression score of students at the Paramedical school has an inverse relationship with number of family members as well as with age. The major factors contributing to depression include dissatisfaction with field of study, and bleak future career prospects. Foroutani also showed the same results.The depression score of students having financial problems was three times higher than that of students with no financial problems. We suggest that the university officials should help improve students' financial situations by either providing them with loans or providing students with jobs.

Religious beliefs and participation in extracurricular activities led to low depression scores, which was consistent with results obtained by Hashemi, while inconsistent with the results obtained by Mohammadi. Generally, satisfaction with relationships among family members, friends, classmates, university and faculty authorities, and professors had great impact on depression score

Due to the inconsistency of the research carried out so far, we suggest that further research is required to provide more conclusive results on the effects of religious beliefs and participation in extracurricular activities on depression.

Considering the importance of students' relations with others and its effect on their degree of depression, it is essential to have a counselor in each department in order to guide and advise students onhow to resolve their social problems.

With regards to the effect of place of residence on the degree of depression, both this study and

other studies have shown that in small cities non-local students who live in university dormitories have a higher degree of depression compared to local students. On the contrary, studies about students in Tehran universities have shown that students who live in dormitories are less depressed than local students from Tehran. One of the reasons for this inconsistency could be due to the lack of social and extra-curricular activities in smaller cities. Students from smaller cities living in dormitories in larger cities where there is more to do, feel happier compared to non-local students living in dormitoriesin smaller cities.It seems more research is required to compare the effect of living in dormitories in Tehran with other cities, especially the smaller cities.

Although some of the factors contributing to depression including age, number of family members and unpleasant life events cannot be prevented, most other factors significantly leading to depression in students including extracurricular activities, satisfaction with relationships among family members, friends, classmates, university and faculty authorities, professors, and future career prospect can be controlled. Therefore, it is recommended that authorities pay more attention to the mentioned issue in order to create a desirably relaxing environment free from any kind of tension for students who make the potentially educated segment of society. By providing them with mental health, students will eventually be able to play their essential role in the future.

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