The Prevalence of Depression and Its Associated Factors among Students at Shiraz University of Medical Sciences In 2012

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Abstract

Background: Depression is one of the mental disorders which have become a public health problem throughout of the world. The objective of this study was to investigate depression and to determine its correlated factors among students at Shiraz University of Medical Sciences (SUMS).

Methods: 358 students of SUMS participated in this cross-sectional study in 2012. The participants were selected by Proportion Partition sampling method. A two-part questionnaire was used as the data collecting tool. In the first part, demographic characteristics and in the second part the Beck Depression Inventory (BDI) were included.

Results: Mean score of depression in the studied population was 10.98. More than half of all the participants (54.7%) were symptomless; 41% of them were in the weak to moderate depression categories, and 4.2% in the strong and very strong categories. The data showed a significant relationship between scores of depression and marital status, academic grade, field content of study, use of psychoactive drugs, job outlook, problem with marriage and religious commitments. The depression scores in the married, religious and postgraduate participants and in those participants with course pleasure and excellent career perspective were lower than those in the other groups.

Conclusion: Taking measures to reduce the factors leading to mental disorders is recommended. The involvement of students in socio-cultural, recreational and sport activities, reinforcement of consultation and clinical psychological services, and promotion of religious beliefs are instrumental in the enhancement of moral values and amelioration of depression among university students.

Introduction

According to the World Health Organization (WHO) definition, health is "the complete physical, mental and social well-being and not merely lack of illness or inability".[1] Depression is one of the mental disorders which have become a public health problem in both developing and developed countries of the world.[2,3] Numerous risk factors contribute to the affliction with this disorder. Deterministic, variable, and demographic parameters are considered to be parts of these risk factors. Deterministic risk factors are exemplified by race, gender and rising age.[4,5] Variable risk factors are represented by inflammation, smoking, physical activity, malnutrition

and use of alcoholic beverages.[6] Demographic variables include education, income level, insurance and poverty.[7]

Depression is a prevalent problem among university students.[8,9] They are a special social group passing from juvenile stage to adulthood. This period could be one of the most stressful times of life. Attempts to get adapted to this change, self-sustenance in an appropriate educational position, curriculum planning and familial segregation are often the causes of anxiety and stress amongst most students.[10] Depression is a reaction to this stress in students. Preliminary studies have indicated that depression is globally present in students.[11-13] It appears that its prevalence is progressively rising.[14]

The results of a group of researchers[15] on students at Qom University of Medical Sciences revealed that 37.2% of the students studied were in mild depression category, 18.8% in moderate, 0.8% in severe, and 2.4% were in very severe depression categories. Also, this study demonstrated that there is a negative association between depression and religious beliefs of students. The results of other researchers[16] showed that 51.6% of students suffer from depression. Also, in another study[17] researchers demonstrated that 30% of students were suffering from mild and severe forms of depression. In a systematic review and meta-analysis study that was conducted by Sarokhani and colleagues[18] in Iran (35 studies from 1995 to 2012 with a sample size of 9743), the prevalence rate of depression in the university students was estimated to be 33%. The prevalence of depression among boys was estimated to be 28%, among girls 23%, single students 39%, and married students 20%. In this study, the meta-regression model showed that the trend of depression among Iranian students was steady.

Students, as a generation of future cast, are regarded one of the basic fortunes in today societies. Attention to their mental health is thus specifically important. In some of Iranian Medical Sciences Universities, few studies were performed on depression and correlated factors. On the other hand, educational conditions (location of city, type of university, relationship of university authorities with students, etc.) are dissimilar in different universities. On the basis of the significance of this subject, the current study was conducted to examine the prevalence of depression and its correlated risk factors among Shiraz University of Medical Sciences (SUMS) students at their graduate or postgraduate levels. The outcome of this research could be used as a baseline for further studies on identification of those parameters predisposing university students to depression and finding appropriate solutions to this problem.

Methods

This was a cross-sectional study and its sample size was determined using the formula of:

$$n = \frac{Z^2_{(1-\alpha/2)}\, p\,(1-p)}{d^2}$$

and considering 43% depression prevalence among medical sciences students based on previous reports[17] and 5% error limit, so the sample size was estimated to be 376 individuals. The subjects were selected from medical sciences students at SUMS in 2012. First, these subjects were selected through Proportion Partition sampling in terms of the field of study categories; then, the subjects were selected by the simple random method by the random number table in these sorts. It should be noted that 358 subjects completed the questionnaires in this study (response rate: 95.2%). All subjects (not by force) participated in the study willingly after receiving oral information about the aims of the study. Students with serious mental disorders such as schizophrenia, bipolar disorder, panic disorder, and obsessive-compulsive disorder were excluded from the study.

Data Collection

Data were collected using two questionnaires, one on the individuals' demographic attributes including questions on age, gender, marital status, year of entry, degree and course, native or resident in student dormitory, etc. The second one was Beck Depression Inventory (BDI) with 21 questions. This was designed and standardized by Beck and colleagues at Pennsylvania State University in 1961.[19] Beck and colleagues invented this questionnaire on the basis of five indicators of depression: 1- pessimism, feel of failure, self-hate, suicidal thoughts, indecision and lack of rapidity, 2- feel of guilt, expecting punishment and humiliation, 3- weeping, self-image change, dissatisfaction and sadness, 4- weight loss, physical complains and fatigue, 5- fast anger, insomnia and anorexia.[20] The validity and reliability of this inventory have been verified by its global implementation on different social groups.[21] The validity and reliability of the Persian version of BDI had been surveyed by Abedini and colleagues (test–retest reliability, r=0.75).[22] Every question in this test was scored on a four point Likert type scale from zero to three so that it showed the best and the worst case scenarios, respectively. The total score ranged from 0-63. If the depression test score of an individual was 0-9, he/she was considered healthy. Scores of 10-16, 17-20, 21-30, 31-40, and 41-63 were taken as weak, borderline, intermediate (moderate), strong and very strong depressions, respectively.[23]

Each participant received the questionnaires in person in his/her own college. The questionnaire was completed by students after the class and they were asked to complete the statements of the

questionnaires precisely.

Data Analysis

Following the completion of all questionnaires, data were analyzed using SPSS software (version 16) and through the Spearmen correlation, Kruskal-Wallis, and Mann-Whitney U tests accordingly. The Kolmogorov-Smirnov test showed that the score of depression was not normal. Therefore, the analysis of data was performed using non-parametric statistical tests. A P value of <0.05 was considered as statistical significance.

Results

Demographic and background variables of participants

are represented in Table 1. Mean ± SD of age was 20.71±2.07 years. Although a larger proportion of female participants compared with males (57.82:42.18%) took part in this study, there was no statistically significant difference between the two groups (P=0.061).

Overall prevalence of depression among the studied subjects was estimated 45.25%. The proportional frequency distributions of various depression groups are displayed in Figure 1. Although more than half of all the participants were symptomless, but about 41% of them were in the weak to moderate depression categories, indicating the severity of this disorder among medical students at Shiraz University of Medical Sciences, south Iran.

The results of Spearman correlation test showed no significant difference between the age of participants

Table 1: The background characteristics and demographics of study participants

| Parameters (unit)	Groups	No. (%)
Gender	Male	151 (42.18)
	Female	207 (57.82)
Marital status	Single	332 (92.73)
	Married	26 (7.27)
Education level	Bachelor	272 (75.97)
	Postgraduate	86 (24.03)
Native	Yes	206 (57.54)
	No	152 (42.46)
Father alive	Yes	338 (94.41)
	No	20 (5.59)
Mother alive	Yes	352 (98.32)
	No	6 (1.68)
Parental status	Together	349 (97.48)
	Divorced	8 (2.52)
Accommodation	Dormitory	297 (82.96)
	Private house	51 (14.24)
	Rented house	10 (2.8)
Dormitory	Boys	128 (35.75)
	Girls	230 (64.25)
Course pleasure	Yes	271 (75.69)
	No	87 (24.31)
Conditional acceptance	Yes	12 (3.35)
	No	346 (96.65)
Drug use	Yes	18 (5.02)
	No	340 (95.98)
Exercise	Yes	141 (39.38)
	No	217 (60.62)
Job outlook	Weak	37 (10.33)
	Moderate	107 (29.88)
	Good	139 (38.82)
	Excellent	75 (20.97)
Marriage problem	Yes	124 (34.63)
	No	234 (65.37)
Family income assessment	Weak	27 (7.54)
	Moderate	178 (49.72)
	Good	135 (37.71)
	Excellent	18 (5.03)
Religious	Yes	286 (79.88)
	No	72 (20.12)
Total	---	358 (100)
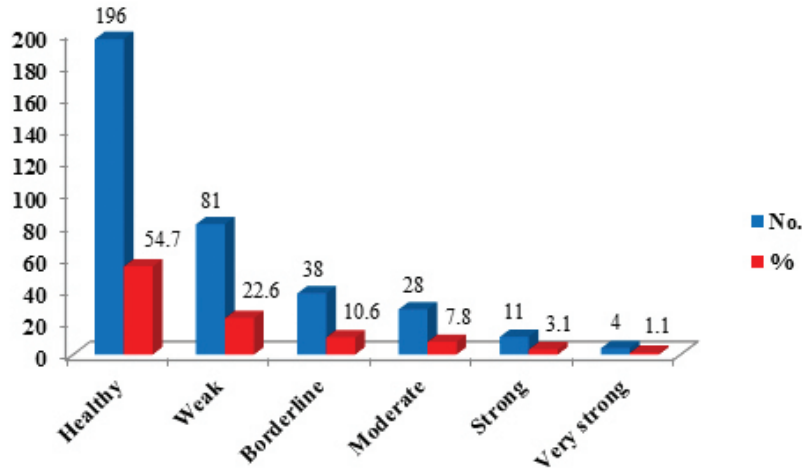
Figure 1: The frequency distribution of participants in each category of depression

and depression scores (P=0.762, r=0.019). The mean depression scores according to the study participants' demographic characteristics and background variables are represented in Table 2. As shown in this table,

the mean depression scores in relation to marital status (P=0.002), educational level (P=0.010), course pleasure (P=0.013), psychoactive drug use (P=0.034), job outlook (P<0.001), marriage problem (P<0.001),

Table 2: Comparison of the mean depression scores based on demographic characteristics and background variables of study participants

Parameters	Groups	Mean depression scores (±SD)	P value
Gender	Male	10.61 (8.42)	0.062*
	Female	11.50 (9.02)	
Marital status	Single	11.37 (8.80)	0.002*
	Married	6.00 (4.68)	
Education level	Bachelor	20.50 (1.59)	0.010*
	Postgraduate	19.67 (10.13)	
Native	Yes	10.86 (8.82)	0.768*
	No	11.18 (8.77)	
Father alive	Yes	11.01 (8.66)	0.820*
	No	10.55 (9.23)	
Mother alive	Yes	10.92 (8.60)	0.444*
	No	13.67 (13.58)	
Parental status	Together	10.86 (8.82)	0.291*
	Divorced	11.18 (8.77)	
Accommodation	Dormitory	11.25 (9.05)	0.073*
	Non-dormitory	9.07 (6.60)	
Dormitory	Boys	11.88 (9.21)	0.392*
	Girls	10.91 (8.65)	
Course pleasure	Yes	9.32 (7.75)	0.013*
	No	15.82 (9.56)	
Conditional acceptance	Yes	15.75 (7.75)	0.055*
	No	10.85 (8.32)	
Drug use	Yes	15.06 (9.45)	0.034*
	No	10.65 (8.47)	
Exercise	Yes	11.60 (10.41)	0.310*
	No	10.64 (8.21)	
Job outlook	Weak	21.44 (1.38)	<0.001**
	Moderate	21.15 (2.11)	
	Good	20.48 (1.93)	
	Excellent	20.07 (2.20)	
Marriage problem	Yes	14.31 (10.09)	<0.001*
	No	9.40 (7.47)	
Religious	Yes	10.09 (7.85)	0.002*
	No	14.33 (10.50)	

*Mann-Whitney independent U test, **Kruskal-Wallis test

and adherence to religious affairs (P=0.002) had a statistically significant difference in various groups. The depression scores in married, religious and postgraduate participants were lower than the other groups. Furthermore, the depression scores in those participants with course pleasure and excellent career perspective were lower than the other groups.

On the contrary, the depression scores of the participants with tendencies to use psychoactive drugs and marriage problems were higher than the other groups. The results of Kruskal-Wallis statistical test also showed that there was no significant relationship between the mean depression scores of participants in different educational courses (P=0.34).

Discussion

The data indicated that depression rate among the students from other cities was more than that of in local students, but this difference was not statistically significant (*P*=0.768). This result was in line with previous reports,[10] and it could partly be due to the students' segregation from other family members.

It was shown that there was a statistically significant relationship between depression and marital status so that depression scores among single participants were more than those among married ones; this conforms to the results of other studies.[18] This could partly be explained by the fact that single students, as compared to married ones, get little or no spiritual support as they have no partners next to them to rely on their moral support.

There was a statistically significant relationship between the education level and depression, i.e. depression level among BSc students was significantly higher than those at postgraduate level. This was in accordance with the findings of others.[24] May be this could be related to the BSc students' judgment about their level of education in comparison with the higher levels of education.

Boys residing at student dormitory suffered greater depression than their female counterparts, but the difference was not statistically significant. This was also the case in another study.[24] But, the results of our study were incompatible with the findings of Montazeri and colleagues' review study (56 articles from 2000 to 2009) that showed the prevalence rate of depression in women was 1.7 times that of men.[25] The difference between the mentioned study's finding and that of the present study could be due to the changes in the male students' views regarding their future career, marriage and family formation.

The results of statistical tests indicated that there was a significant relationship between depression score and course pleasure among participants. This finding was in the same line with the findings of other studies.[26]

The mean depression score was also significantly associated with the use of psychoactive drugs, weak job outlook, marriage problems and religious beliefs; all being in line with the findings published by others.[18,27]

The present results showed that the prevalence rate of depression in students of health information technology, speech therapy, nursing, environmental health and occupational health was higher than the others, but there was no significant relationship between depression and field of education. This finding was in accordance with Ahmari Tehran and colleagues' study.[15]

One of the main limitations of the present study was that it was restricted to medical sciences students at Shiraz University of Medical Sciences, Shiraz, Iran, in 2012 and its findings could not thus be extrapolated to the general population or students at other universities.

Conclusion

It is concluded that some parameters such as marital status, education level, course consent, use of psychoactive drugs, job outlook, marriage problems and adherence to religious affairs could remarkably affect the degree of depression among university students. Improvement of student counseling centers and psychiatric services in the dormitory (especially in the boys' dormitory) and college and also periodic checkups as to mental health for the recognition and treatment of these disorders can reduce the psychological problems in the students. On the other hand, precise planning of student advisors to provide consultation to them can be helpful in identifying the students at risk or those suffering from depression. Also, the student's parents must pay attention to the improvement of academic failure. In the light of the current findings, certain approaches are needed to lower the amount of depression among this social class. The involvement of students in socio-cultural, recreational and sport activities, reinforcement of consultation and clinical psychological services, and promotion of religious beliefs are of significance in the enhancement of moral values and amelioration of depression among university students.

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